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The World Psychiatric Association (WPA)

The WPA is an association of psychiatric societies aimed to increase knowledge and skills necessary for work in the field of mental health and the care for the mentally ill. Its member societies are presently 123, spanning 106 different countries and representing more than 150,000 psychiatrists. The WPA organizes the World Congress of Psychiatry every three years. It also organizes international and regional congresses and meetings, and thematic conferences. It has 55 scientific sections, aimed to disseminate information and promote collaborative work in specific domains of psychiatry. It has produced recently several educational programmes and series of books. It has developed ethical guidelines for psychiatric practice, including the Madrid Declaration (1996). Further information on the WPA can be found in the website www.wpanet.org.

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The Declaration of Madrid and its implementation. An update

AHMED OKASHA

President, World Psychiatric Association

The Declaration of Hawaii (1) was the first positional statement of the psychiatric profession concerning ethical questions. It was prepared by Clarence Blomquist and was adopted by the General Assembly of the World Psychiatric Association in Hawaii in 1977. Its primary aim was to encourage psychiatrists in conflicts of loyalty in contemporary societies and to help them in conflicts of psychiatric decision-making. A major trigger was the political misuse of psychiatry in countries such as the former Soviet Union, Romania and South Africa, that came to public awareness during the early 1970s. The very first paragraph of the Declaration is concerned with the ethical problem of the political misuse of psychiatric concepts, knowledge and techniques (2).

The Declaration of Hawaii explicates the ethical principles of respect for autonomy and of beneficence, by formulating the components of informed consent, by calling to mind the obligation of confidentiality, by stating rules for forensic evaluation and compulsory interventions, by demanding the possibility of independent proof of compulsory measures and by obliging psychiatrists not to misuse their professional possibilities and particularly to abstain from any compulsory intervention in the absence of a mental disorder.

The efforts of psychiatrists and health politicians initiated in many countries continued to achieve fundamental improvement of care for the mentally ill. A growing recognition of their fundamental rights led to the United Nations (UN) Resolution 46/119 for the Protection of Persons with Mental Illness and the Improvement of Mental Health Care (Principles for Policy on Mental Health) in 1991 (3). In this resolution, human rights of the mentally ill and their right to treatment were codified for the first time in a UN document. Psychiatrists were meant to use these regulations as a reference vis-à-vis the authorities and governments of their countries. The national governments, for their parts, were to promote the principles of this resolution by means of appropriate legislative, juridical, administrative, educative and other provisions.

THE DEVELOPMENT AND CONTENTS OF THE MADRID DECLARATION

Against this background, at the 1993 World Congress in Rio, the WPA gave its Ethics Committee the

mandate to update the Hawaii Declaration and to develop guidelines for specific situations.

The process involved the collection of data on the issue of professional ethics in the field of medicine and psychiatry from all WPA societies. The literature on ethical codes was complemented in 1994, upon the recommendation of the WPA Long Range Planning Committee, by a mail survey of the different societies, aiming to identify the existence of codes of ethics for psychiatrists in the different countries. Responses were received from 21 countries, of which six followed the general medical code, 13 had a special code for psychiatrists and two were preparing a code of ethics for psychiatrists at the time of the survey.

Furthermore, in order to obtain a survey on the rights of mental patients, all WPA member societies were requested to answer a checklist prepared by Dr. Bertolote of the Division of Mental Health of the World Health Organization in Geneva for the assessment of the human rights conditions of the mentally ill. In 70% of the countries there was a legislation governing mental health care and a specific government body responsible for promoting and maintaining the quality of mental health care. In about half of the countries there were available resources (human, financial and material) for mental health facilities that were comparable to those for other health facilities. Regarding the rights of mental patients, in about half of the countries patients were always asked for an informed consent prior to the beginning of a treatment, and in 57% of the countries there was a policy regarding the guidelines for restraining mental patients. Patients could access their medical records upon request in 74% of responding countries. However, only 43 countries had explicit laws prohibiting discrimination against persons with a mental disorder, and in 30% of countries prisons and jails were sometimes used to house people with mental disorders.

The first section of the Madrid Declaration (4) outlines the ethical commitments of the profession and the theoretical assumptions upon which these are based. It acknowledges that medical professionals are facing new ethical dilemmas resulting from increasingly complex medical interventions, new tensions between the physician and the patients, new social expectations

from the physician, development of new research modalities, and rapid advancement of research technology with prospects for possible technological interventions especially in the field of genetic research and counseling. However, it also stresses that, despite cultural, social and national differences, the need for ethical conduct and continual review of ethical standards remains universal. It states that as a practitioner of medicine, the psychiatrist must be aware of the ethical implications of being a physician, and of the specific ethical demands of the specialty of psychiatry. As members of society, psychiatrists must balance professional obligations with their responsibilities for the common good. Furthermore, the Declaration emphasizes that ethical behavior is based on the individual psychiatrist's sense of responsibility towards the patient and his/her judgment in determining what is correct and appropriate conduct.

The second section of the Declaration contains seven general guidelines that focus on the aim of psychiatry. It states that:

1. Psychiatry is a medical discipline concerned with: the provision of the best treatment for mental disorders, the rehabilitation of individuals suffering from mental illness and the promotion of mental health. Psychiatrists serve patients by providing the best therapy available consistent with accepted scientific knowledge and ethical principles. They should devise therapeutic interventions that are the least restrictive to the freedom of the patient and seek advice in areas of their work about which they do not have primary expertise. While doing so, they should be aware of and concerned with the equitable allocation of health resources.
2. It is the duty of psychiatrists to keep abreast of scientific developments of the specialty and to convey updated knowledge to others.
3. The patient should be accepted as a partner by right in the therapeutic process. The therapist-patient relationship must be based on mutual trust and respect to allow the patient to make free and informed decisions.
4. When the patient is incapacitated and unable to exercise proper judgment because of a mental disorder, the psychiatrist should consult with family and, if appropriate, seek legal counsel, to safeguard the human dignity and the legal rights of the patient. No treatment should be provided against the patient's will, unless withholding treatment would endanger the life of the patient and/or those who surround him or her. Treatment must always be in the best interest of the patient.
5. When psychiatrists are requested to assess a person, it is their duty to inform the person being assessed about the purpose of the intervention.
6. Information obtained in the therapeutic relationship should be kept in confidence and used, only and exclusively, for the purpose of improving the mental health of the patient. Breach of confidentiality may only be appropriate when serious physical or mental harm to the patient or to a third person would ensue if confidentiality were maintained.
7. Research that is not conducted in accordance with the canons of science is unethical. Because psychiatric patients are particularly vulnerable research subjects, extra caution should

be taken to safeguard their autonomy as well as their mental and physical integrity.

SPECIFIC GUIDELINES

The third section of the Madrid Declaration deals with guidelines on specific issues. Five of those specific guidelines, addressing euthanasia, torture, death penalty, sex selection and organ transplantation, were endorsed by the WPA General Assembly in Madrid in 1996. Three further guidelines on psychiatrists addressing the media, psychiatrists and discrimination on ethnic or cultural grounds, and psychiatrists and genetic research were endorsed by the WPA General Assembly in Hamburg in 1999. Ethics of psychotherapy, conflict of interest in relationship with the industry, conflict with third party payers and violating the clinical boundaries were endorsed in Yokohama 2002. Ethical positions on those issues are complementary to the Madrid Declaration.

Euthanasia. On the issue of mercy killing or euthanasia, the Madrid Declaration stresses that the physician's duty is, first and foremost, the promotion of health, the reduction of suffering, and the protection of life. The psychiatrist should be aware that the views of a patient might be distorted by mental illness such as depression. In such situations, the psychiatrist's role is to treat the illness.

Torture. The Madrid Declaration states that psychiatrists should not take part in any process of mental or physical torture, even when authorities attempt to force their involvement in such acts. It also states that psychiatrists should not under any circumstances participate in legally authorized executions nor participate in assessments of competency to be executed for convicts receiving the death penalty.

Sex selection. Aware that preference of male offspring in some societies may lead to a termination of pregnancy assisted by a psychiatric certificate, the Madrid Declaration stresses that under no circumstances should a psychiatrist participate in decisions to terminate pregnancy for the purpose of sex selection.

Involvement of psychiatrists in organ transplantation. The Declaration states that the psychiatrist should not act as a proxy decision maker for patients or use psychotherapeutic skills to influence the decision of a patient in these matters.

Psychiatrists and discrimination on ethnic or cultural grounds. Discrimination by psychiatrists on the basis of ethnicity or culture, whether directly or by aiding others, is unethical. Psychiatrists shall never be involved or endorse, directly or indirectly, any activity related to ethnic cleansing.

Psychiatrists and genetic research and counseling. At its 30th session 1999, UNESCO's General Conference endorsed the Guidelines for the Implementation of the Universal Declaration of the Human Genome and Human Rights drawn up by the International Bioethics Committee and approved by the Intergovernmental Bioethics Committee (5). This Declaration affirms that in a symbolic sense the human genome is the heritage of humanity and underlies the recognition of people's inherent dignity and diversity, which is why it is imperative not to reduce individuals to their genetic characteristics and to respect their uniqueness and diversity. It stresses the imperative of rigorous and prior assessment of

the potential risks and benefits pertaining to research, treatment or diagnosis affecting an individual's genome and the right of each individual to decide whether or not to be informed of the results of genetic examination. The Madrid Declaration emphasizes that with the increasing pace of research in the genetic basis of mental disorders and the increasing participation of psychiatric patients and their families in genetic research, psychiatrists are under the ethical obligation to follow the guidelines of good practice, and to avoid the risks associated with premature disclosure, misinterpretations or misuse of genetic information. Psychiatrists should therefore ensure satisfactory quality assurance procedures for such testing and adequate and easily accessible resources for genetic counseling.

Ethics of psychotherapy. Like any other treatment in medicine, the prescription of psychotherapy should follow accepted guidelines for obtaining informed consent prior to the initiation of treatment as well as updating it in the course of treatment if goals and objectives of treatment are modified in a significant way. If clinical wisdom, long standing and well-established practice patterns (this takes into consideration cultural and religious issues) and scientific evidence suggest potential clinical benefits to combining medication treatment with psychotherapy, this should be brought to the patient's attention and fully discussed. Under no circumstances shall the psychotherapist use this relationship to personal advantage or transgress the boundaries established by the professional relationship.

Conflict of interest in relationship with industry. The practitioner must diligently guard against accepting gifts that could have an undue influence on professional work. Psychiatrists conducting clinical trials are under an obligation to disclose to the Ethics Review Board and their research subjects their financial and contractual obligations and benefits related to the sponsor of the study. Psychiatrists conducting clinical trials have to ensure that their patients have understood all aspects of the informed consent.

Conflicts arising with third party payers. Psychiatrists should oppose discriminatory practices which limit patients' benefits and entitlements, deny parity, curb the scope of treatment, or limit patients' access to proper medications. Professional independence to apply best practice guidelines and clinical wisdom in upholding the welfare of the patient should be the primary considerations for the psychiatrist.

Violating the clinical boundaries and trust between psychiatrists and patients. The psychiatrist-patient relationship may be the only relationship that permits an exploration of the deeply personal and emotional space, as granted by the patient. Within this relationship, the psychiatrist's respect for the humanity and dignity of the patient builds a foundation of trust that is essential for a comprehensive treatment plan. The relationship encourages the patient to explore deeply held strengths, weaknesses, fears, and desires, and many of these might be related to sexuality. Knowledge of these characteristics of the patient places the psychiatrist in a position of advantage that the patient allows on the expecta-

tion of trust and respect. Taking advantage of that knowledge by manipulating the patient's sexual fears and desires in order to obtain sexual access is a breach of the trust, regardless of consent. In the therapeutic relationship, consent on the part of the patient is considered vitiated by the knowledge the psychiatrist possesses about the patient and by the power differential that vests the psychiatrist with special authority over the patient. Consent under these circumstances will be tantamount to exploitation of the patient. The latent sexual dynamics inherent in all relationships can become manifest in the course of the therapeutic relationship and if they are not properly handled by the therapist can produce anguish to the patient. This anguish is likely to become more pronounced if the therapist uses seductive statements and inappropriate non-verbal behavior. Under no circumstances, therefore, should a psychiatrist get involved with a patient in any form of sexual behavior, irrespective of whether this behavior is initiated by the patient or the therapist.

THE IMPLEMENTATION OF THE MADRID DECLARATION

The Madrid Declaration has been translated into many languages and constitutes the ethical codes and principles by which WPA member societies should abide.

In 1998 the WPA conducted a survey among its member societies to assess the relevance of the Madrid Declaration to the promotion of ethical principles in the practice of psychiatric profession. The survey was repeated again in 2001 and showed an increased use of the Declaration. In 1998, 65% of members societies believed that the WPA statutory purpose of promoting the highest ethical standards in psychiatric work was fulfilled. The figure rose to 76% in the 2001 survey. In 1998, 73% of member societies rated the Declaration between good and excellent. That percentage rose to about 77% in 2001. Over a span of 3 years, 57.6% of societies had functioning ethical committees as opposed to 47% in the earlier survey.

Currently almost all member societies of the WPA (123) have adopted the Madrid Declaration. Abiding by the Declaration is a prerequisite for new applications for membership.

References

1. World Psychiatric Association. Declaration of Hawaii. WPA General Assembly, Hawaii, 1977.
2. Helmchen H, Okasha A. From the Hawaii Declaration to the Declaration of Madrid. *Acta Psychiatr Scand* 2000;101:20-3.
3. United Nations. Principles for policy in mental health. UN General Assembly, December 17, 1991.
4. World Psychiatric Association. Madrid Declaration on Ethical Standards for Psychiatric Practice. WPA General Assembly, Madrid, 1996.
5. UNESCO. The Universal Declaration on the Human Genome and Human Rights: from theory to practice. UNESCO's General Conference, 1999.

Bipolar disorder and schizophrenia: not so distant relatives?

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Bipolar disorder (BPD) and schizophrenia (SZ) may have some susceptibility genes in common, despite the fact that current nosology separates them into non-overlapping categories. The evidence for shared genetic factors includes epidemiologic characteristics, family studies and overlap in confirmed linkages. Review of these data indicates that there are five genomic regions which may represent shared genetic susceptibility of BPD and SZ. As the genes underlying these confirmed linkages are identified, the current nosology must be changed to reflect the new knowledge concerning the shared etiologies of BPD and SZ.

Key words: Bipolar disorder, schizophrenia, genetics, linkage

Epidemiological, family and molecular genetic linkage studies of bipolar disorder (BPD) and schizophrenia (SZ) will be reviewed. BPD and SZ share multiple epidemiological characteristics, consistent with the hypothesis that the two groups of disorders share some risk factors. Consideration of the family and genetic linkage studies indicates that BPD and SZ share some genetic susceptibility.

EPIDEMIOLOGY OF BIPOLAR DISORDER AND SCHIZOPHRENIA

If narrow diagnostic criteria are employed, lifetime risks for SZ and BPD are estimated at about 1% (1). Recent evidence suggests that broader diagnostic criteria, especially for hypomania, will yield much higher estimates of lifetime risk for BPD (2,3), especially the BPD II subtype, which may be the most common form of BPD. Both syndromes affect men and women equally. Although BPD and SZ are common in young adulthood (onset of illness typically occurs between ages 15-25), these disorders are uncommon in the prepubertal period, and it is unusual for either disorder to arise *de novo* after age 50. Therefore, these groups of disorders have similar age-at-onset distributions. BPD and SZ are lifelong conditions: once diagnostic thresholds for BPD or SZ are met, the disorder persists through life. Spontaneous, lifelong remissions in either type of disorder are uncommon. Increased risk for suicide is another epidemiologic characteristic shared by BPD and SZ.

While acute symptoms and course of illness may distinguish these groups of disorders in more classical cases, there are no pathognomonic signs or symptoms on which the clinician can rely. Treatments for BPD and SZ now show overlap in the case of atypical antipsychotics, which represent the first choice treatment for SZ, as they improve both positive and negative symptoms. Clozapine, the prototype of atypical antipsychotics, may have mood

stabilizing properties (4-6). Olanzapine showed efficacy among BPD patients in preventing recurrences of both mania and depression (7). These data suggest that atypical antipsychotics may be mood stabilizers. In addition, atypical antipsychotics may treat depressive symptoms in schizophrenia and reduce risk for suicide, thereby (8). If SZ and BPD share some genetic susceptibility (see below), one might predict that some medications for one group of these disorders might be therapeutic for the other category of illness.

Twin, family and adoption studies of BPD and SZ are consistent with substantial genetic influences; estimates of heritability are about 50% for SZ and about 65% for BPD (for review see 9). With this evidence for heritability, it can be expected that gene mapping techniques will lead to identification of alleles which increase risk for BPD and SZ. However, this process of risk allele identification has been slow and difficult, as with other common complex traits (such as alcoholism, asthma, cardiovascular disease and diabetes). The difficulty is mostly due to the small effect sizes of individual BPD and SZ susceptibility genes and to genetic heterogeneity. Identification, from confirmed linkage regions, of susceptibility genes in non-insulin dependent diabetes mellitus (10) and inflammatory bowel disease (11,12) suggests that identification of disease risk alleles from confirmed linkage regions for complex traits can be accomplished.

SCHIZOPHRENIA AND BIPOLAR DISORDER FAMILY STUDIES

If BPD and SZ share some of the same susceptibility factors, it might be expected that family studies would reveal some overlap in risk for particular diagnostic entities. Among SZ family studies, an increased risk for schizoaffective (SA) and recurrent unipolar (RUP) disorders is found for the first-degree relatives of SZ probands (13-17).

Kendler et al (16) reported increased risk for psychotic affective illness among the relatives of SZ probands.

Increased risks for SA and RUP disorders are found among the first-degree relatives of BPD probands, compared to first-degree relatives of controls (18-20). An important conclusion follows: increased risk for SA disorders and RUP disorders occurs among relatives of BPD or SZ probands. Importantly, there is no increased risk for BPD among first-degree relatives of SZ probands (14,16,21-23), nor is there increased risk for SZ among first-degree relatives of BPD probands (14,18,19,24-28). The family study data are consistent with partial overlap in susceptibility for SZ and BPD, in that relatives of probands with these disorders are at increased risk for SA and RUP disorders.

MOLECULAR STUDIES

If BPD and SZ share some of the same susceptibility factors, it might be expected that molecular linkage studies of BPD and SZ would identify some linkage regions in common. In order to make the process of comparison of BPD and SZ linkage studies less susceptible to false positives, this comparison will be restricted to linkage regions which have been identified at a rigorous statistical level ($P \leq 0.0001$) and confirmed by two or more additional studies ($P < 0.01$). This level of statistical significance is required to limit false positives (29). In the sections which follow, five genomic regions may be implicated in shared genetic susceptibility for BPD and SZ.

SCHIZOPHRENIA AND BIPOLAR DISORDER MOLECULAR LINKAGE STUDIES: 18p11.2

Berrettini et al (30,31) and Detera-Wadleigh et al (32) reported evidence for a BPD susceptibility locus on 18p11 using affected sibling pair (ASP) and affected pedigree member (APM) methods ($P = 10^{-4} - 10^{-6}$). Independent evidence ($0.01 \leq P \leq 0.0001$) for confirmation of this finding was reported by Stine et al (33), Nothen et al (34), Bennett et al (35) and Turecki et al (36). As part of Genetic Analysis Workshop no.10, independent BPD chromosome 18 linkage data sets, including about 1200 samples, were assembled for meta-analyses (37). An affected sibling pair (N=382 sibling pairs) meta-analysis yielded $p = 2.8 \times 10^{-8}$ at marker D18S37 (38).

In light of the family studies suggesting partial overlap in susceptibility for BPD and SZ (see above), it is of interest to determine whether confirmed BPD loci might overlap with reports of SZ susceptibility loci. Schwab et al (39) employed about twenty chromosome 18 markers in a linkage study of 59 multiplex German and Israeli SZ pedigrees, in which there were 24 affective disorder cases (two had BPD). When these data were analyzed by two-point parametric methods, using a broad affection status model (including affective disorders), the maximum LOD score

was 3.1 at D18S53. A multipoint non-parametric analysis revealed $P = 0.002$ at D18S53. Evidence for SZ linkage disequilibrium at an 18p11.2 microsatellite was also noted (39). The data of Schwab et al (39) were most positive when a broad affection status model was employed, including SZ, SA disorders, RUP disorders and BPD.

This is the only SZ linkage report to identify the 18p11 genomic region. However, most SZ linkage reports do not include affective disorders in the affection status model. Thus, there may not be comparable methods in most SZ linkage studies. Given the results of Schwab et al (39), it is reasonable to consider the 18p11.2 region as one of potential susceptibility to both BPD and SZ.

A promising 18p11.2 candidate gene is an inositol monophosphatase gene (IMPA2), whose protein is an enzyme of the phosphoinositol triphosphate second messenger signaling cascade (40). Single nucleotide polymorphisms (SNPs) in IMPA2 were associated with SZ in a Japanese sample (40).

SCHIZOPHRENIA AND BIPOLAR DISORDER MOLECULAR LINKAGE STUDIES: 13q32

One genomic region of potential overlap in genetic susceptibility for SZ and BPD is 13q32. Lin et al (38) observed a LOD score of 2.58 ($P = \text{about } 0.001$) at 13q32 markers (D13S122 and D13S128) in a linkage study of SZ. In a genome scan of 54 SZ families, Blouin et al (41) reported a P value of 0.00002 (LOD = 3.6) at the 13q32 marker D13S174. Subsequently Brzustowicz et al (42) confirmed these reports in 21 Canadian SZ families, with a maximal LOD score of 3.92 at the 13q marker D13S793. Thus, there are several independent reports, with substantial statistical significance, consistent with a 13q32 SZ susceptibility locus.

Detera-Wadleigh et al (32) described linkage ($P = 0.00003$) to 13q32 markers (D13S1271 and D13S779) in 22 BP kindreds of European ancestry. One may be concerned that these kindreds were misclassified. However, they reveal evidence for linkage to 18p11.2 and 21q21 (32), which are confirmed BPD susceptibility loci. Kelsoe et al (43) reported linkage of BPD to 13q32 markers, with LOD = 2.4 at D13S154. Thus, in the 13q32 region, a confirmed SZ susceptibility locus, there are statistically impressive reports of linkage in BPD.

A promising candidate gene in this region is G72 (44), a gene of uncertain function. The G72 protein interacts with D-amino acid decarboxylase. SNPs in the G72 gene are associated with SZ (44) and BPD (45).

SCHIZOPHRENIA AND BIPOLAR DISORDER MOLECULAR LINKAGE STUDIES: 22q11

The velocardiofacial syndrome (VCFS) presents in childhood with variable clinical manifestations, including cardiac anomalies, typical facies, learning disabilities and, in about 30% of cases, psychosis. The form of the psy-

chosis is affective according to some authorities (46,47), although others describe it as schizophrenia-like (48). The VCFS is caused by microdeletions in 22q11. Although the exact boundaries of the critical region remain uncertain, most deletions are about 3 Mb in size. Stemming from an initial report by Pulver et al (49), a substantial multicenter effort to confirm a SZ susceptibility locus in this region resulted in evidence for linkage, at D22S278 (50).

Lachman et al (51) first reported evidence for BPD linkage in the VCFS region. Subsequent weakly positive reports include those by Detera-Wadleigh et al (32) and Edenberg et al (52). Kelsoe et al (43) report a LOD score of 3.8 at D22S278, while, at this same microsatellite locus, Majaheed et al (53) reported evidence for linkage disequilibrium in BPD Arab Palestinian kindreds. Thus, this 22q11 region may be a locus for susceptibility to SZ and BPD.

Several promising candidate 22q11 genes have been described as explanations for the 22q11 linkage results in BPD and SZ. Proline dehydrogenase (PRODH2) variants are in linkage disequilibrium with SZ in some populations (54). A second candidate is a G-protein coupled receptor kinase (GRK3), whose gene is markedly upregulated in rat brain during chronic amphetamine exposure (55). A third promising candidate is catechol-O-methyltransferase (COMT), which has been associated with cognitive difficulties in SZ (56) and with SZ diagnosis (57).

SCHIZOPHRENIA AND BIPOLAR DISORDER MOLECULAR LINKAGE STUDIES: 8p22

There have been several reports of SZ susceptibility mapped to 8p22-24. In 54 extended SZ kindreds, Blouin et al (41) reported evidence for a SZ locus at 8p22: the heterogeneity LOD score was 4.5, and non-parametric analysis yielded $P = 0.0001$. Brzustowicz et al (42), in 21 extended Canadian SZ pedigrees with 8p markers, reported a maximum multipoint LOD score of 2.1 at D8S136. Levinson et al (58), in a multicenter collaborative effort, reported independent results (that did not include the pedigrees of Blouin et al [41]), yielding $P = 0.00018$ in this same region of 8p22. Gurling et al (59), in a study of 13 extended European SZ kindreds, reported a LOD of 3.6 for 8p22 markers. Thus, these reports constitute a confirmed SZ linkage.

Recently, Stefansson et al (60) described evidence from both mouse and human studies that neuregulin 1 (NRG1) is an 8p susceptibility gene for SZ. They found linkage disequilibrium with NRG1 haplotypes in Icelandic individuals with SZ. This has been confirmed in a Scottish SZ sample (61).

Recently Ophoff et al (62) described a linkage disequilibrium signal at 8p22 in distantly related BPD persons from a population isolate in the Central Valley of Costa Rica. Greater than expected sharing of a 5 cM three marker haplotype at D8S503 was observed. The significance

level reported was 0.000057. Thus there is a statistically impressive report of BPD susceptibility mapped to this region.

SCHIZOPHRENIA AND BIPOLAR DISORDER MOLECULAR LINKAGE STUDIES: 10p14

A fifth region of potential BPD/SZ susceptibility is found at 10p14. Faraone et al (63), Straub et al (64) and Schwab et al (65) reported evidence for linkage of SZ to 10p14 markers. Faraone et al (63) reported $P = 0.0004$ for marker D10S1423 and $P = 0.0006$ for D10S582, in a study of 43 American SZ kindreds of European ancestry. Straub et al (64), in a study of Irish SZ kindreds, reported $P = 0.006$ for this region in a multipoint analysis. For marker D10S582, Schwab et al (65) reported $P = 0.0058$ for German SZ kindreds. These three groups of investigators studied independent sets of kindreds which were of general European ancestry.

Foroud et al (66) studied BP kindreds from the National Institute of Mental Health (NIMH) Genetics Initiative. They found $LOD = 2.5$ ($P = 0.001$) for marker D10S1423. Thus, the 10p14 region may represent another genomic region at which there is shared susceptibility for BPD and SZ.

META-ANALYSES

Badner and Gershon (67) analyzed complete genome scans for BPD and SZ. There were 11 BPD genome scans (about 1250 affected) and 18 SZ genome scans (about 1900 affected). The most promising regions of the genome for BPD were 13q32 and 22q11, while the most promising SZ regions were 8p24, 13q32 and 22q11. All of these regions have been implicated in shared BPD/SZ susceptibility, as noted above.

A rank-sum type of meta-analysis (68) was applied to SZ linkage data by Levinson et al (69). They concluded that 8p and 22q were among the most promising regions for SZ.

CONCLUSION

Family and linkage studies are consistent with the concept that SZ and BPD share some genetic susceptibility. Multiple regions of the genome, including 18p11, 13q32, 22q11, 10p14 and 8p22, represent areas with potential BPD/SZ shared genetic susceptibility. As susceptibility genes in these regions are identified, through the application of linkage disequilibrium mapping methods to large sample sizes, it will be necessary to develop a new, genetically-based nosology, in which this overlap is accurately represented.

References

1. Nurnberger JL Jr, Berrettini WH. Psychiatric genetics. London: Chapman and Hall, 1998.

2. Angst J, Gamma A, Benazzi F et al. Toward a re-definition of sub-threshold bipolarity: epidemiology and proposed criteria for bipolar-II, minor bipolar disorders and hypomania. *J Affect Disord* 2003;73:133-46.
3. Akiskal HS. Validating 'hard' and 'soft' phenotypes within the bipolar spectrum: continuity or discontinuity? *J Affect Disord* 2003;73:1-5.
4. Zarate CA, Tohen M, Banov MD et al. Is clozapine a mood stabilizer? *J Clin Psychiatry* 1999;60(Suppl. 12):43-6.
5. Suppes T, Webb A, Paul B et al. Clinical outcome in a randomized 1-year trial of clozapine versus treatment as usual for patients with treatment-resistant illness and a history of mania. *Am J Psychiatry* 1999;156:1164-9.
6. Ciapparelli A, Dell'Osso L, Pini S et al. Clozapine for treatment-refractory schizophrenia, schizoaffective disorder and psychotic bipolar disorder: a 24-month naturalistic study. *J Clin Psychiatry* 2000;61:329-34.
7. Tohen M. Personal communication, 2003.
8. Meltzer HY, Alphas L, Green AI et al. Clozapine treatment for suicidality in schizophrenia: International Suicide Prevention Trial (InterSePT). *Arch Gen Psychiatry* 2003;60:82-91.
9. Berrettini WH. Bipolar disorders: review of molecular genetic studies. In: Davis KL, Charney D, Coyle JT et al (eds). *Neuropsychopharmacology, the fifth generation of progress*. Philadelphia: Lippincott, 2002:1027-38.
10. Horikawa Y, Oda N, Cox NJ et al. Genetic variation in the gene encoding calpain-10 is associated with type 2 diabetes mellitus. *Nature Genet* 2000;26:163-75.
11. Hugot JP, Chamaillard M, Zouali H et al. Association of NOD2 leucine-rich repeat variants with susceptibility to Crohn's disease. *Nature* 2001;411:599-603.
12. Rioux JD, Daly MJ, Silverberg MS et al. Genetic variation in the 5q31 cytokine gene cluster confers susceptibility in Crohn's disease. *Nature Genet* 2001;29:223-8.
13. Gershon ES, DeLisi LE, Hamovit J et al. A controlled family study of chronic psychoses. *Arch Gen Psychiatry* 1988;45:328-36.
14. Maier W, Lichtermann D, Minges J et al. Continuity and discontinuity of affective disorders and schizophrenia. Results of a controlled family study. *Arch Gen Psychiatry* 1993;50:871-83.
15. Maier W, Lichtermann D, Franke P et al. The dichotomy of schizophrenia and affective disorders in extended pedigrees. *Schizophr Res* 2002;57:259-66.
16. Kendler KS, McGuire M, Gruenberg AM et al. The Roscommon Family Study. IV. Affective illness, anxiety disorders, and alcoholism in relatives. *Arch Gen Psychiatry* 1993;50:952-60.
17. Somnath CP, Reddy YCJ, Jain S. Is there a familial overlap between schizophrenia and bipolar disorder? *J Affect Disord* 2002;72:243-7.
18. Gershon ES, Hamovit J, Guroff JJ et al. A family study of schizoaffective, bipolar I, bipolar II, unipolar, and normal control probands. *Arch Gen Psychiatry* 1982;39:1157-67.
19. Weissman MM, Gershon ES, Kidd KK et al. Psychiatric disorders in the relatives of probands with affective disorder. *Arch Gen Psychiatry* 1984;41:13-21.
20. Winokur G, Tsuang MT, Crowe RR. The Iowa 500: affective disorder in relatives of manic and depressed patients. *Am J Psychiatry* 1982;139:209-12.
21. Baron M, Gruen D, Ranier JD et al. A family study of schizophrenia and normal control probands: implications for the spectrum concept of schizophrenia. *Am J Psychiatry* 1985;142:447-55.
22. Coryell W, Zimmerman M. The heritability of schizophrenia and schizoaffective disorder: a family study. *Arch Gen Psychiatry* 1988;42:770-9.
23. Maj M, Starace F, Pirozzi R. A family study of DSM-III-R schizoaffective disorder, depressive type, compared with schizophrenia and psychotic and non-psychotic depression. *Am J Psychiatry* 1991;148:612-6.
24. Baron M, Gruen R, Asnis L et al. Schizoaffective illness, schizophrenia and affective disorders: morbidity risk and genetic transmission. *Acta Psychiatr Scand* 1983;65:253-62.
25. Winokur G, Coryell W, Keller M et al. A family study of manic-depressive (bipolar I) disease. Is it a distinct illness separable from primary unipolar depression? *Arch Gen Psychiatry* 1995;52:367-73.
26. Helzer JE, Winokur G. A family interview study of male manic-depressives. *Arch Gen Psychiatry* 1974;31:73-7.
27. James NM, Chapman CJ. A genetic study of bipolar affective disorder. *Br J Psychiatry* 1975;126:449-56.
28. Johnson GFS, Leeman MM. Analysis of familial factors in bipolar affective illness. *Arch Gen Psychiatry* 1977;34:1074-83.
29. Lander E, Kruglyak L. Genetic dissection of complex traits: guidelines for interpreting and reporting linkage results. *Nature Genet* 1995;11:241-7.
30. Berrettini W, Ferraro T, Goldin L et al. Chromosome 18 DNA markers and manic depressive illness: evidence for a susceptibility gene. *Proc Natl Acad Sci USA* 1994;91:5918-21.
31. Berrettini W, Ferraro T, Choi H et al. Linkage studies of bipolar illness. *Arch Gen Psychiatry* 1997;54:32-9.
32. Detera-Wadleigh SD, Badner JA, Berrettini WH et al. Evidence for a bipolar susceptibility locus on 13q32 and other potential loci on 1q32 and 18p11.2. *Proc Natl Acad Sci USA* 1999;96:5604-9.
33. Stine OC, Xu J, Koskela R et al. Evidence for linkage of bipolar disorder to chromosome 18 with a parent-of-origin effect. *Am J Hum Genet* 1995;57:1384-94.
34. Nothen MM, Cichon S, Rohleder H et al. Evaluation of linkage of bipolar affective disorder to chromosome 18 in a sample of 57 German families. *Mol Psychiatry* 1999;4:76.
35. Bennett P, Segurado R, Jones I et al. The Wellcome trust UK-Irish bipolar affective disorder sibling pair genome screen: first stage report. *Mol Psychiatry* 2002;7:189-200.
36. Turecki G, Grof P, Cavazzoni P et al. Lithium responsive bipolar disorder, unilinearity and chromosome 18: a linkage study. *Am J Med Genet* 1999;88:411-5.
37. Goldin LR, Gershon ES, Berrettini WH et al. Description of the Genetic Analysis Workshop 10 bipolar disorder linkage data sets. *Genet Epidemiol* 1997;14:563-8.
38. Lin JP, Bale SJ. Parental transmission and D18S37 allele sharing in bipolar affective disorder. *Genet Epidemiol* 1997;14:665-8.
39. Schwab SG, Hallmayer J, Lerer B et al. Support for a chromosome 18p locus conferring susceptibility to functional psychoses in families with schizophrenia, by association and linkage analysis. *Am J Hum Genet* 1998;63:1139.
40. Yoshikawa T, Kikuchi M, Saito K et al. Evidence for association of the myo-inositol monophosphatase 2 (IMPA2) gene with schizophrenia in Japanese samples. *Mol Psychiatry* 2001;6:202-10.
41. Blouin J-L, Dombrosky B, Nath SK et al. Schizophrenia susceptibility loci on chromosomes 13q32 and 8p21. *Nature Genet* 1998;20:70.
42. Brzustowicz LM, Honer WG, Chow EWC et al. Linkage of familial schizophrenia to chromosome 13q32. *Am J Hum Genet* 1999; 65:1096-103.
43. Kelsoe JR, Spence MA, Loetscher E et al. A genome survey indicates a susceptibility locus for bipolar disorder on chromosome 22. *Proc Natl Acad Sci USA* 2001;98:585-90.
44. Chumakov I, Blumenfeld M, Guerassimenko O et al. Genetic and physiological data implicating the new human gene G72 and the gene for D-amino acid oxidase in schizophrenia. *Proc Natl Acad Sci USA* 2002;99:13675-80.
45. Hattori E, Liu C, Badner JA et al. Polymorphisms at the G72/G30 gene locus on 13q33 are associated with bipolar disorder in two independent pedigree series. Submitted for publication.
46. Papolos DF, Faedda GL, Veit S et al. Bipolar spectrum disorders in patients diagnosed with VCFS: does a homozygous deletion of chromosome 22q11 result in bipolar affective disorder? *Am J Psychiatry* 1996;153:1541-7.
47. Carlson C, Papolos D, Pandita RK et al. Molecular analysis of VCFS patients with psychiatric disorders. *Am J Med Genet* 1997;60:851-9.

48. Pulver AE, Karayiorgou M, Wolyniec PS et al. Sequential strategy to identify a susceptibility gene for schizophrenia: report of potential linkage on chromosome 22q12-q13.1: part 1. *Am J Med Genet* 1994;54:36-43.
49. Pulver AE, Nestadt G, Goldberg RS et al. Psychotic illness in patients diagnosed with velo-cardio-facial syndrome and their relatives. *J Nerv Ment Dis* 1994;182:476-8.
50. Gill M, Vallada H, Collier D et al. A combined analysis of D22S278 marker alleles in affected sib-pairs: support for a susceptibility locus for schizophrenia at chromosome 22q12. *Am J Med Genet* 1996;67:40-5.
51. Lachman HM, Kelsoe JR, Remick RA et al. Linkage studies support a possible locus for bipolar disorder in the velocardiofacial syndrome region on chromosome 22. *Am J Med Genet* 1996;74:121-8.
52. Edenberg H, Foroud T, Conneally M et al. Initial genomic scan of the NIMH genetics initiative bipolar pedigrees: chromosomes 3,5,15,16,17, and 22. *Neuropsychiatr Genet* 1997;74:238-46.
53. Majaheed M, Corbex M, Lichtenberg P et al. Evidence for linkage by transmission disequilibrium test analysis of a chromosome 22 microsatellite marker D22S278 and bipolar disorder in a Palestinian Arab population. *Am J Med Genet* 2000;96:836-8.
54. Liu H, Abecasis GR, Heath SC et al. Genetic variation in the 2q11 locus and susceptibility to schizophrenia. *Proc Natl Acad Sci USA* 2002;99:16859-64.
55. Niculescu AB III, Segal DS, Kuczenski R et al. Identifying a series of candidate genes for mania and psychosis: a convergent functional genomics approach. *Physiol Genomics* 2000;4:83-91.
56. Egan MF, Goldberg TE, Kolachana BS et al. Effect of COMT Val108/158 Met genotype on frontal lobe function and risk for schizophrenia. *Proc Natl Acad Sci USA* 2001;98:6917-22.
57. Shifman S, Bronstein M, Sternfeld M et al. A highly significant association between a COMT haplotype and schizophrenia. *Am J Hum Genet* 2002;71:1296-302.
58. Levinson DF and the Schizophrenia Linkage Collaborative Group. Additional support for schizophrenia linkage for chromosomes 6 and 8. A multicenter study. *Am J Med Genet* 1996;67:580-94.
59. Gurling HMD, Kalsi G, Blaveri E et al. Initial genome wide parametric genetic linkage analysis of schizophrenia and schizophrenia spectrum disorders finds LOD scores above 3.00 on four chromosomes at 1q22-23, 5q22-35, 8p21-23 and 11q14-24. *Mol Psychiatry* 1999;4(Suppl.):S4.
60. Stefansson H, Sigurdsson E, Steinthorsdottir V et al. Neuregulin 1 and susceptibility to schizophrenia. *Am J Hum Genet* 2002;71:877-92.
61. Stefansson H, Sarginson J, Kong A et al. Association of neuregulin 1 with schizophrenia confirmed in a Scottish population. *Am J Hum Genet* 2003;72:83-7.
62. Ophoff RA, Escamilla MA, Service SK et al. Genomewide linkage disequilibrium mapping of severe bipolar disorder in a population isolate. *Am J Hum Genet* 2002;71:565-74.
63. Faraone SV, Matisa T, Svrakic D et al. Genome scan of European-American schizophrenia kindreds: results of the NIMH Genetics Initiative and Millennium consortium. *Am J Med Genet* 1998;81:290-5.
64. Straub RE, Jiang Y, MacLean CJ et al. Genetic variation in the 6p22.3 gene DTNBP1, the human ortholog of the mouse dysbindin gene, is associated with schizophrenia. *Am J Hum Genet* 2002;71:337-48.
65. Schwab SG, Hallmayer J, Albus M et al. A genome-wide autosomal screen for schizophrenia susceptibility loci in 71 families with affected siblings: support for loci on chromosome 10p and 6. *Mol Psychiatry* 2000;5:638-49.
66. Foroud T, Castelluccio PF, Keller DL et al. Suggestive evidence of a locus on chromosome 10p using the NIMH Genetics Initiative bipolar affective disorders pedigrees. *Am J Med Genet* 2000;96:18-23.
67. Badner J, Gershon ES. Meta-analysis of whole-genome linkage scans of bipolar disorder and schizophrenia. *Mol Psychiatry* 2002;7:405-11.
68. Lewis CM, Wise LH, Levinson DF. Meta-analyses of genome searches: methods. *Am J Med Genet* 2002;114:700.
69. Levinson DF, Lewis CM, Wise LH et al. Meta-analysis of genome scans for schizophrenia. *Am J Med Genet* 2002;114:700-1.

Psychoanalysis today

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The paper discusses the precarious position of psychoanalysis, a therapeutic approach which historically has defined itself by freedom from constraint and counted treatment length not in terms of number of sessions but in terms of years, in today's era of empirically validated treatments and brief structured interventions. The evidence that exists for the effectiveness of psychoanalysis as a treatment for psychological disorder is reviewed. The evidence base is significant and growing, but less than might meet criteria for an empirically based therapy. The author goes on to argue that the absence of evidence may be symptomatic of the epistemic difficulties that psychoanalysis faces in the context of 21st century psychiatry, and examines some of the philosophical problems faced by psychoanalysis as a model of the mind. Finally some changes necessary in order to ensure a future for psychoanalysis and psychoanalytic therapies within psychiatry are suggested.

Key words: Psychoanalysis, psychodynamic therapy, psychotherapy, psychoanalytic theory, empirically validated treatments, review

Psychoanalysis today is an embattled discipline. What hope is there in the era of empirically validated treatments (1), which prizes brief structured interventions, for a therapeutic approach which defines itself by freedom from constraint and preconception (2), and counts treatment length not in terms of number of sessions but in terms of years? Can psychoanalysis ever demonstrate its effectiveness, let alone cost-effectiveness? After all, is psychoanalysis not a qualitatively different form of therapy which must surely require a qualitatively different kind of metric to reflect variations in its outcome? Symptom change as a sole indicator of therapeutic benefit must indeed be considered crude in relation to the complex interpersonal processes which evolve over the many hundreds of sessions of the average 3-5 times weekly psychoanalytic treatment. Most psychoanalysts are sceptical about outcome investigations.

Surprisingly, given this unpropitious backdrop, there is, in fact, some suggestive evidence for the effectiveness of psychoanalysis as a treatment for psychological disorder. The evidence in relation to psychoanalytic outcomes was recently overviewed by Gabbard et al (3), and suggestions for enriching this literature with ongoing naturalistic follow-along investigations were offered. But the absence of evidence is only part of the problem. Indeed, it may be symptomatic of the scientific difficulties that psychoanalysis faces in the 21st century. I will review the evidence base of psychoanalytic treatments and go on to examine in more detail the problems faced by psychoanalysis as a body of ideas rather than as a mode of treatment.

DATA GATHERING AND PSYCHOANALYSIS

Psychoanalysts emulating the founder of the discipline take special pride in discovery. This has led to an abundance of psychoanalytic ideas. Yet this very overabundance of clinically rooted concepts is beginning to threaten the clinical enterprise (4). The plethora of clinical strategies and

techniques that are not all mutually compatible creates almost insurmountable problems in the transmission of psychoanalytic knowledge and skills (5). Sadly, this also leads to resistance to the systematization of psychoanalytic knowledge, since those whose frame of reference depends on ambiguity and polymorphy can be threatened by the systematization of clinical reasoning. The source of the problem of theoretical diversity lies in psychoanalytic methods of data-gathering. As is well known, data is not the plural of anecdote. Psychoanalytic practice has profound limitations as a form of research. Psychoanalytic theory precludes the possibility that psychoanalysts can be adequate observers of their clinical work. The discovery of the pervasiveness of countertransference has totally discredited Freud's clinician-researcher model. In the absence of a genuine research tradition, academic disciplines will appropriately distance themselves from psychoanalytic study, in much the same way that they hold journalism at arm's length.

Progress in disciplines concerned with the mind has been remarkable. Excluding information from these disciplines is a high risk strategy at a time when interdisciplinary collaboration is perceived as the driving force of knowledge acquisition. Modern science is almost exclusively interdisciplinary. Many major universities have been restructured to facilitate interdisciplinary work. The impetus is for the abolition of discipline based departments and the re-configuring of medical faculties in terms of interdisciplinary research groupings (scientists working on similar problems regardless of their discipline of origin). It is likely that many basic questions that psychoanalysts have not been able adequately to answer, such as how psychological therapy cures, will only be illuminated by interdisciplinary (neuroscientific) research.

The last 30 years' advances in all the neurosciences have negated the reasons for the earlier psychoanalytic disregard of this field (6). Neuroscientists are no longer just concerned with cognitive disabilities or so-called organic disorder-

ders (7,8). Recent reviews of neuroscientific work confirm that many of Freud's original observations, not least the pervasive influence of non-conscious processes and the organizing function of emotions for thinking, have found confirmation in laboratory studies (9,10). If Freud were alive today, he would be keenly interested in new knowledge about brain functioning, such as how neural nets develop in relation to the quality of early relationships, the location of specific capacities with functional scans, the discoveries of molecular genetics and behavioral genomics (11) and he would surely not have abandoned his cherished *Project for a Scientific Psychology* (12), the abortive work in which he attempted to develop a neural model of behavior. Genetics has progressed particularly rapidly, and mechanisms that underpin and sustain a complex gene-environment interaction belie early assumptions about constitutional disabilities (13). In fact, for the past 15-20 years the field of neuroscience has been wide open for input from those with an adequate understanding of environmental determinants of development and adaptation.

It may be that the difficulty in pinpointing the curative factors in psychoanalytic treatment is directly related to the limitations of the uniquely clinical basis for psychoanalytic inquiry. The impact of psychoanalysis cannot be fully appreciated from clinical material alone. The repetition of patterns of emotional arousal in association with the interpretive process elaborates and strengthens structures of meaning and emotional response. This may have far-reaching effects, I would argue, even on the functioning of the brain and the expression of genetic potential. A range of studies have already suggested that the impact of psychotherapy can be seen in alterations in brain activity, using brain imaging techniques (14-16). These studies as a group provide a rationale for the hope that intensive psychoanalytic treatment might meaningfully affect biological as well as psychological vulnerability. This field is in its infancy but is progressing so fast that it seems highly likely that many future psychoanalytic discoveries about the mind will be made in conjunction and collaboration with biological science.

HOW PSYCHOANALYSIS WILL (COULD) BENEFIT FROM AN INTERDISCIPLINARY DIALOGUE

Whilst clinical psychoanalysis needs little help in getting to know an individual's subjectivity in the most detailed way possible, when we wish to generalize to a comprehensive model of the human mind, the discipline can no longer exist on its own. A general psychoanalytic model of mind, if it is to be credible, should be aligned with the wider knowledge of mind gained from a range of disciplines. This is already happening, albeit informally. Psychoanalysts cannot help incorporating advances about discoveries relevant to mental function because these are invariably contained in all our intuitive, common sense, folk psychologies or theories of the mind (17,18). Folk psychology develops along-

side scientific discovery. The impact of psychoanalysis on psychiatric disorder over the course of the 20th century offers the best evidence for this. Our culture's acceptances of Freudian discoveries have made it more difficult for individuals to claim dramatic dysfunctions such as blindness, anesthesia, and paralysis. Medicine has advanced to a point where individuals must accept that the absence of a pathophysiological account for a bodily dysfunction implies emotional determinants - thus the disguise function of the physical symptom is lost and the point prevalence of conversion hysteria plummets. Just as common-sense knowledge of medicine and psychology impacts on our patients, so it must unconsciously influence the nature of psychoanalysts' theoretical musings. Thus, 'scientific advances' infiltrate psychoanalytic theory by the backdoor of the analyst's pre-conscious.

Mitchell (19), by contrast, claimed that 'no experiment or series of experiments will ever be able to serve as a final and conclusive arbiter of something as complex and elastic as the psychoanalytic theory'. Indeed, Mitchell writes that "ultimately it is the community of psychoanalytic practitioners who provide the crucial testing-ground in the crucible of daily clinical work". As we have seen, the community has been singularly unsuccessful in definitively eliminating theories, in part because of the loose definitions adopted to define underlying concepts. This is inevitable if the mechanisms or processes that underpin the surface function described are not well understood. The meaning of the construct has to be sensed or intuited. In psychoanalysis, communication, whether in writing or clinical discourse, occurs in terms of its impact upon the reader. As Phillips (20) puts it, paraphrasing Emerson, in psychoanalytic writing there is an attempt to "return the reader to his own thoughts whatever their majesty, to evoke by provocation. According to this way of doing it, thoroughness is not inciting. No amount of 'evidence' or research will convince the unamused that a joke is funny". In psychoanalysis we accept that something has been understood when the discourse about it is inciting. Elusiveness and ambiguity are not only permissible, they may be critical to accurately depict the complexity of human experience. It is here, in the specification of the mental mechanisms whose effects psychoanalytic writings describe and whose nature they allude to, that systematic research using psychoanalytic methods as well as methods from other disciplines will turn out to be so useful. Gill (21), in his discussion of the possible validation of psychoanalytic concepts, adopted a similar approach and suggested that Mitchell underestimated the potential contribution of systematic, not necessarily experimental, research on the psychoanalytic situation.

The above does not constitute an attempt to suggest that psychoanalytic concepts can be 'tested' or 'validated' by the methods of another science. Rather, systematic observations could be used to investigate the psychological processes underpinning clinical phenomena, which psychoanalysts currently use the metaphoric language of

metapsychology to approximate. Inter-disciplinary research cannot test psychoanalytic theory, it cannot demonstrate that particular psychoanalytic ideas are true or false. What it can do is to elaborate the mental mechanisms that are at work in generating the phenomena that psychoanalytic writings describe. It is here, in the specification of the mental mechanisms whose effects psychoanalytic writings describe and whose nature they allude to, that systematic research using psychoanalytic methods as well as methods from other disciplines will be useful. This in turn will help to systematize the knowledge base of psychoanalysis so that integration with the new sciences of the mind becomes increasingly easier. Not only will psychoanalysts be able more readily to show that their treatment works, but they will have new possibilities of communicating with other scientists about their discoveries. It is to this set of opportunities that I would now like to turn. The integration of psychoanalytic ideas with modern science is unlikely to interest investigators from other disciplines unless psychoanalysis can actually contribute to directing or to informing data collection in these disciplines. For psychoanalysis to be taken seriously as a scientific study of the mind, it has to engage in systematic laboratory studies, epidemiological surveys or qualitative exploration in the social sciences.

Of course, methods for such systematic research are still in their infancy. The validation of theory poses a formidable challenge. Even apparently easily operationalisable constructs such as defense mechanisms have rarely been formulated with the kind of exactness required by research studies. Extra-clinical investigations, however, may help to constrain theorizing; for example our growing knowledge of infants' actual capacities may enable us to limit speculation concerning the impact of infancy on adult function. The projective processes of infancy are unlikely to work in the adultomorphic way described by Bion (22-24) and Klein (25-27), but this does not mean that these descriptions do not contain important truths about adult mental function, simply that 'infancy' is used metaphorically in these theorizations about mental process. For example, evidence from infant research provides strong evidence for Bion's containment concept. It uses the more readily operationalizable notion of 'marked mirroring' to denote the mother's capacity to reflect the infant's affect, while also communicating that the affect she is expressing is not hers but the infant's (28-30). Mothers who can 'mark' their emotional expression (add a special set of attributes, such as playfulness, to their expression of the child's affect that makes it clearly different from their own expression of that affect) appear to be able to soothe their baby considerably more rapidly. This may not be all that Bion meant by containment, but it seems to be linked to his hypotheses concerning the subsequent problems faced by individuals whose caregivers were unable to provide this mirroring encounter with emotion regulation. Restricting theory building to the clinical domain is foolhardy in the extreme.

To summarize, psychoanalysis could benefit from inte-

grating its working theories with research findings from other fields by elaborating the psychoanalytic psychological models of the mechanisms involved in key mental processes. This in turn would help to systematize the psychoanalytic knowledge base, so that integration with the new sciences of the mind becomes increasingly easier. Not only will we be able more readily to show that our treatment works, but we will have new possibilities of communicating with other scientists about our discoveries. The integration of psychoanalytic ideas with modern science is unlikely to interest investigators from other disciplines unless psychoanalysis can actually contribute to directing or to informing data collection in these disciplines. Merely reviewing ideas in developmental science or neuroscience for their proximity to psychoanalytic hypotheses has scant relevance to them. For psychoanalysis to take its place at the high table of the scientific study of the mind, it has to show its mettle in the battlefield of systematic laboratory studies, epidemiological surveys or qualitative exploration in the social sciences.

THE EVIDENCE BASE OF PSYCHOANALYTIC TREATMENT

The evidence base for psychoanalytic therapy remains thin. There is little doubt that the absence of solid and persuasive evidence for the efficacy of psychoanalysis is the consequence of the self-imposed isolation of psychoanalysis from the empirical sciences. Few would dispute the assertion that psychoanalytic theory is in a perilous state. The psychoanalytic clinical situation might have yielded all that it can offer to advance our understanding of mind. Yet 'importing' extra-clinical data is often fiercely resisted and those psychoanalysts who have attempted to do so have commonly been subjected to subtle and not so subtle derision.

Psychoanalysts have been encouraged by the body of research that supports brief dynamic psychotherapy. A meta-analysis of 26 such studies has yielded effect sizes comparable to other approaches (31). It may even be slightly superior to some other therapies if long term follow-up is included in the design. One of the best designed randomized controlled trials (RCTs), the Sheffield Psychotherapy Project (32), found evidence for the effectiveness of a 16 session psychodynamic treatment based on Hobson's model (33) in the treatment of major depression. There is evidence for the effectiveness of psychodynamic therapy as an adjunct to drug dependence programs (34). There is ongoing work on a brief psychodynamic treatment for panic disorder (35). There is evidence for the use of brief psychodynamic approaches in work with older people (36).

There are psychotherapy process studies which offer qualified support for the psychoanalytic case. For example, psychoanalytic interpretations given to clients which are judged to be accurate are reported to be associated with relatively good outcome (37,38). There is even tentative evidence from the reanalysis of therapy tapes from the National Institute of Mental Health (NIMH) Treatment of Depres-

sion Collaborative Research Program that the more the process of a brief therapy (e.g. cognitive-behavioural therapy, CBT) resembles that of a psychodynamic approach, the more likely it is to be effective (39).

Evidence is available to support therapeutic interventions which are clear derivatives of psychoanalysis. However, most analysts would consider that the aims and methods of short-term once a week psychotherapy are not comparable to 'full analysis'. What do we know about the value of intensive and long-term psychodynamic treatment? Here the evidence base becomes somewhat patchy.

The Boston Psychotherapy Study (40) compared long-term psychoanalytic therapy (two or more times a week) with supportive therapy for clients with schizophrenia in a randomized controlled design. There were some treatment specific outcomes, but on the whole clients who received psychoanalytic therapy fared no better than those who received supportive treatment. In a more recent randomized controlled study (41), individuals with a diagnosis of borderline personality disorder were assigned to a psychoanalytically oriented day-hospital treatment or treatment as usual. The psychoanalytic arm of the treatment included therapy groups three times a week as well as individual therapy once or twice a week over an 18 month period. There were considerable gains in this group relative to the controls and these differences were not only maintained in the 18 months following discharge, but increased, even though the day hospital group received less treatment than the control group (42). The cost-effectiveness of these treatments is surprisingly impressive, with the cost of psychoanalytic partial hospital treatment comparable to treatment as usual for these patients, and the costs of the treatment mostly recovered in terms of savings in service use within 18 months of the end of treatment (43-46). Trials with similar patient groups using comparisons of outpatient psychoanalytic therapy treatments with extended baselines have yielded relatively good outcomes (47) as did comparisons with treatment as usual (48). Several prospective follow-along studies using a pre-post design have suggested substantial improvements in patients given psychoanalytic therapies for personality disorders (49-51). Uncontrolled studies, however, particularly those with relatively small sample sizes and clinical populations whose condition is known to fluctuate wildly, cannot yield data of consequence concerning what type of treatment is likely to be effective for whom.

A further controlled trial of intensive psychoanalytic treatment of children with chronically poorly controlled diabetes reported significant gains in diabetic control in the treated group which was maintained at one year follow-up (52). Experimental single case studies carried out with the same population supported the causal relationship between interpretive work and improvement in diabetic control and physical growth (53). The work of Heinicke also suggests that four or five times weekly sessions may generate more marked improvements in children with specific learning difficulties than a less intensive psychoanalytic intervention (54).

One of the most interesting studies to emerge recently was the Stockholm Outcome of Psychotherapy and Psychoanalysis Project (55). The study followed 756 persons who received national insurance funded treatment for up to three years in psychoanalysis or in psychoanalytic psychotherapy. The groups were matched on many clinical variables. Four or five times weekly analysis had similar outcomes at termination when compared with one to two sessions per week psychotherapy. However, in measurements of symptomatic outcome using the Short Check List-90 (SCL-90), improvement on three year follow-up was substantially greater for individuals who received psychoanalysis than those in psychoanalytic psychotherapy. In fact, during the follow-up period, psychotherapy patients did not change, but those who had had psychoanalysis continued to improve, almost to a point where their scores were indistinguishable from those obtained from a non-clinical Swedish sample.

A large scale follow-up study of a representatively selected group of psychoanalytically and psychotherapeutically treated individuals was recently reported from the German Psychoanalytic Association's collaborative investigation (56). A selection of patients whose treatments had taken place in a designated time period were interviewed by independent assessors and outcomes assessed by both standardized and interviewer coded instruments. While the group had been quite impaired at the time of referral according to retrospective assessments, on follow-up over 80% showed good outcomes. Follow-up data was favorable in relation to both anxiety and depression and savings were also demonstrated in relation to the use of hospital and outpatient medical treatment of physical symptoms replicating earlier German investigations (57). This carefully conducted study also provided important qualitative data in relation to the experience of psychoanalytic treatment and the relatively common disjunction of psychological changes at the level of self-understanding, and interpersonal-relational and work-related domains.

Another large pre-post study of psychoanalytic treatments has examined the clinical records of 763 children who were evaluated and treated at the Anna Freud Centre, under the close supervision of Freud's daughter (58-61). Children with certain disorders (e.g. depression, autism, conduct disorder) appeared to benefit only marginally from psychoanalysis or psychoanalytic psychotherapy. Interestingly, children with severe emotional disorders (three or more Axis I diagnoses) did surprisingly well in psychoanalysis, although they did poorly in once or twice a week psychoanalytic psychotherapy. Younger children derived greatest benefit from intensive treatment. Adolescents appeared not to benefit from the increased frequency of sessions. The importance of the study is perhaps less in demonstrating that psychoanalysis is effective, although some of the effects on very severely disturbed children were quite remarkable, but more in identifying groups for whom the additional effort involved in intensive treatment appeared not to be warranted.

The Research Committee of the International Psychoanalytic Association has recently prepared a comprehensive review of North American and European outcome studies of psychoanalytic treatment (62). The Committee concluded that existing studies failed to unequivocally demonstrate that psychoanalysis is efficacious relative to either an alternative treatment or an active placebo, and identified a range of methodological and design problems in the fifty or so studies described in the report. Nevertheless, the report is encouraging to psychoanalysts. A number of studies testing psychoanalysis with 'state of the art' methodology are ongoing and are likely to produce more compelling evidence over the next years. Despite the limitations of the completed studies, evidence across a significant number of pre-post investigations suggested that psychoanalysis appears to be consistently helpful to patients with milder (neurotic) disorders and somewhat less consistently so for other, more severe groups. Across a range of uncontrolled or poorly controlled cohort studies, mostly carried out in Europe, longer intensive treatments tended to have better outcomes than shorter, non-intensive treatments. The impact of psychoanalysis was apparent beyond symptomatology, in measures of work functioning and reductions in health care costs.

THE LIMITATIONS OF THE EVIDENCE BASED APPROACH

There are limitations concerning the nature of the evidence base for all psychotherapies. These limitations are well-known and their implications go well beyond the evaluation of the current status of psychoanalysis. The outcomes literature concerns RCTs administered over relatively brief periods (three to six months) with short follow-ups and a failure to control for inter-current treatments over these periods. Most evidence-based treatment reviews have been uniquely based on RCTs. RCTs in psychosocial treatments are often regarded as inadequate because of their low external validity or generalizability (63). In brief, they are not relevant to clinical practice - a hotly debated issue in the field of psychotherapy (64) and psychiatric research (65). There are a number of well publicized reasons: a) the unrepresentativeness of healthcare professionals participating; b) the unrepresentativeness of participants screened for inclusion to maximize homogeneity; c) the possible use of atypical treatments designed for a single disorder; d) limiting the measurement of outcome to the symptom that is the focus of the study and is easily measurable (66).

Belief in the supremacy of RCTs opens the door to treatments which, even if effective, one may not wish to entertain. A recent report in the British Medical Journal on the effects of remote, retro-active intercessory prayer on the outcome of patients with bloodstream infection is salutary. Leonard Leibovici (67) from the Rabin Medical Centre in Israel randomized 3,393 adult patients whose bloodstream infection was detected in the hospital between 1990 and

1996. A list of the first names of the patients in the intervention group was given to a person who said a short prayer for the wellbeing and recovery of the group as a whole. It was argued that as God is unlikely to be limited by linear time, an intervention carried out 4-10 years after the patients' infection and hospitalization was as likely to be effective as one carried out during the infection. Staggeringly, there were significant results on two of the three outcome measures. Length of hospital stay and duration of fever were both shorter in the intervention group. Mortality was also lower in the intervention group but the difference was not statistically significant. As two other independent studies also support intercessory prayer (68,69) by the American Psychological Association's criteria for empirically based treatments, this intervention should be accepted except for the heterogeneity of the medical conditions for which the treatment was used. This finding highlights the risk associated with an atheoretical stance to evidence based practice that reifies and idealises a research design. RCTs unquestionably have the potential to yield clinically relevant data in the absence of an adequate understanding of the underlying process. When James Lind in 1753 determined that lemons and limes cured scurvy, he knew nothing about ascorbic acid, nor did he understand the concept of a nutrient. Yet Leibovici's study demonstrates the absurdity which can be created by bringing the world of rigorous measurement into a domain that is totally unsuited to it.

Most importantly from the standpoint of psychoanalysis, the current categorization in evidence-based psychotherapies conflates two radically different groups of treatments: those that have been adequately tested and found ineffective for a client group, and those that have not been tested at all. It is important to make this distinction, since the reason that a treatment has not been subjected to empirical scrutiny may have little to do with its likely effectiveness. It may have far more to do with the intellectual culture within which researchers operate, the availability of treatment manuals, and peer perceptions of the value of the treatment (which can be critical for both funding and publication). The British psychodynamically oriented psychiatrist Jeremy Holmes (70) has eloquently argued in the British Medical Journal that the absence of evidence for psychoanalytic treatment should not be confused with evidence of ineffectiveness. In particular, his concern was that cognitive therapy would be adopted by default because of its research and marketing strategy rather than its intrinsic superiority. He argued that: a) the foundations of cognitive therapy were less secure than often believed; b) the impact of CBT on long-term course of psychiatric illness was not well demonstrated; c) in one 'real life trial' at least the CBT arm had to be discontinued because of poor compliance from a problematic group of patients who nevertheless accepted and benefited from couples therapy (71); d) the effect size of CBT is exaggerated by comparisons with waiting list controls; e) the emergence of a post-CBT approach (e.g. 72,73) that leans increasingly on psychodynamic ideas.

Whilst the present author is entirely in sympathy with Holmes' perspective, even if his work with Roth (74) was one of the targets of his criticism, it is only fair to expose the shortcomings of his communication. Tarrier (75), in a commentary on Holmes' piece, writes with passion: "Holmes relies on the specious old adage that absence of evidence is not evidence of absence [of effectiveness]. [...] I would have more enthusiasm for this argument if traditional psychotherapy were new. It has been around for 100 years or so. The argument, therefore, becomes a little less compelling when psychotherapy's late arrival at the table of science has been triggered by a threat to pull the plug on public funding because of the absence of evidence". Sensky and Scott (76) were similarly outraged both by Holmes' selective review of evidence and his allegations that some cognitive therapists are starting to question aspects of their discipline. The message from the CBT camp is this: if psychoanalytic clinicians are going to address the issue of evidence based practice, they will have to do more than gripe and join in the general endeavour to acquire data.

Of course, psychodynamic clinicians are at a disadvantage and not simply because they are late starters (after all, many new treatments find a place at the table of evidence based practice). There are profound incompatibilities between psychoanalysis and modern natural science. Whittle (77) has drawn attention to the fundamental incompatibility of an approach that aims to fill in gaps in self-narrative with cognitive psychology's commitment to minimal elaboration of observations, a kind of Wittgensteinian cognitive asceticism. In the former context, success is measured as eloquence (or meaningfulness) which is not reducible to either symptom or suffering. Moreover, psychoanalytic explanations invoke personal history, but behaviour genetics has brought environmental accounts into disrepute. While CBT also has environmentalist social learning theory at its foundations, it has been more effective in moving away from a naïve environmentalist position. To make matters worse, within psychoanalysis there has been a tradition of regarding the uninitiated with contempt, scaring off most open-minded researchers.

Psychoanalysts are not yet fully committed to systematically collecting data with the potential to challenge and contradict as well as to confirm cherished ideas. The danger that must be avoided at all costs is that research is embraced selectively only when it confirms previously held views. This may be a worse outcome than the wholesale rejection of the entire enterprise of seeking evidence, since it immunizes against being affected by findings at the same time as creating an illusion of participation in the virtuous cycle of exploring, testing, modifying and re-exploring ideas.

But the absence of psychoanalytic research raises a related problem that particularly concerns me. A recent study from Luborsky's research team (78) demonstrates that the allegiance of the researcher predicts almost 70% of the variance in outcome across studies, with a remarkable multiple r of .85 if three different ways of measuring allegiance are

simultaneously introduced. This means that 92% of the time we can predict which of two treatments compared will be most successful based on investigator allegiance alone. This becomes a pernicious self-fulfilling prophecy, as investigators who favour less focused more long-term treatment approaches are gradually excluded from the possibility of receiving funding and, if their treatments are subjected to systematic inquiry at all, these studies are performed by those with least interest in such treatments.

CONCLUSIONS

Our aim should be to assist the movement of psychoanalysis toward science. In order to ensure a future for psychoanalysis and psychoanalytic therapies within psychiatry, psychoanalytic practitioners must change their attitude in the direction of a more systematic outlook. This attitude shift would be characterized by several components: a) The evidence base of psychoanalysis should be strengthened by adopting additional data-gathering methods that are now widely available in biological and social science. New evidence may assist psychoanalysts in resolving theoretical differences, a feat which the current database of predominantly anecdotal clinical accounts have not been capable of achieving. b) The logic of psychoanalytic discourse would need to change from its overdependence on rhetoric and global constructs to using specific constructs that allow for cumulative data-gathering. c) Flaws in psychoanalytic scientific reasoning, such as failures to consider alternative accounts for observations (beyond that favored by the author), should be overcome and in particular, the issue of genetic and social influence should be approached with increased sophistication. d) The isolation of psychoanalysis should be replaced by active collaboration with other mental health disciplines. Instead of fearing that fields adjacent to psychoanalysis might destroy the unique insights offered by clinical work, we need to embrace the rapidly evolving 'knowledge chain' focused at different levels of the study of brain-behavior relationship, which, as Kandel (7,79) points out, may be the only route to the preservation of the hard won insights of psychoanalysis.

References

1. Lonigan CJ, Elbert JC, Johnson SB. Empirically supported psychosocial interventions for children: an overview. *J Clin Child Psychol* 1998;27:138-45.
2. Bion WR. Notes on memory and desire. *Psychoanalytic Forum* 1967;2:272-3, 279-80.
3. Gabbard GO, Gunderson JG, Fonagy P. The place of psychoanalytic treatments within psychiatry. *Arch Gen Psychiatry* 2002;59:505-10.
4. Fonagy P. The future of an empirical psychoanalysis. *Br J Psychother* 1996;13:106-18.
5. Tuckett D. The conceptualisation and communication of clinical facts in psychoanalysis. *Int J Psychoanal* 1995;76:653-62.
6. Westen D. The scientific legacy of Sigmund Freud: toward a psy-

- chodynamically informed psychological science. *Psychol Bull* 1998;124:333-71.
7. Kandel ER. A new intellectual framework for psychiatry. *Am J Psychiatry* 1998;155:457-69.
 8. LeDoux J. Emotion: clues from the brain. *Annu Rev Psychol* 1995;46:209-35.
 9. Westen D, Gabbard GO. Developments in cognitive neuroscience: I. Conflict, compromise, and connectionism. *J Am Psychoanal Assoc* 2002;50:53-98.
 10. Westen D, Gabbard GO. Developments in cognitive neuroscience: II. Implications for theories of transference. *J Am Psychoanal Assoc* 2002;50:99-134.
 11. Plomin R. Something about molecular behavior genetics. *Annu Rev Psychol*, in press.
 12. Freud S. Project for a scientific psychology. In: Strachey J (ed). The standard edition of the complete psychological works of Sigmund Freud, Vol. 1. London: Hogarth Press, 1895/1966:281-93.
 13. Plomin R, DeFries JC, McClearn GE et al. Behavioral genetics, 3rd ed. New York: Freeman, 1997.
 14. Baxter LR, Schwartz JM, Bergman DS et al. Caudate glucose metabolic rate changes with both drug and behaviour therapy for obsessive-compulsive disorder. *Arch Gen Psychiatry* 1992;49:618-89.
 15. Schwartz JM, Stoessel PW, Baxter LR et al. Systematic changes in cerebral glucose metabolic rate after successful behavior modification treatment of obsessive-compulsive disorder. *Arch Gen Psychiatry* 1996;53:109-13.
 16. Vinamäki H, Kuikka J, Tiihonen J et al. Change in monoamine transporter density related to clinical recovery: a case-control study. *Nordic J Psychiatry* 1998;52:39-44.
 17. Davis M, Stone T (eds). *Folk psychology: the theory of mind debate*. Cambridge: Blackwell, 1995.
 18. Harris PL. From simulation to folk psychology: the case for development. *Mind and Language* 1992;7:120-44.
 19. Mitchell SA. *Hope and dread in psychoanalysis*. New York: Basic Books, 1993.
 20. Phillips A. On kissing, tickling and being bored: psychoanalytic essays on the unexamined life. London: Faber & Faber, 1993.
 21. Gill MM. Review of 'Hope and Dread in Psychoanalysis by Stephen A. Mitchell'. *Int J Psychoanal* 1994;75:847-50.
 22. Bion WR. Differentiation of the psychotic from the non-psychotic personalities. *Int J Psychoanal* 1957;38:266-75.
 23. Bion WR. *Learning from experience*. London: Heinemann, 1962.
 24. Bion WR. A theory of thinking. *Int J Psychoanal* 1962;43:306-10.
 25. Klein M. A contribution to the psychogenesis of manic-depressive states. In: *The writings of Melanie Klein, Vol. 1*. London: Hogarth Press, 1935/1975:236-89.
 26. Klein M. Some theoretical conclusions regarding the emotional life of the infant. In: *The writings of Melanie Klein, Vol. 1*. London: Hogarth Press, 1952/1975:61-93.
 27. Klein M. On the development of mental functioning. *Int J Psychoanal* 1958;39:84-90.
 28. Fonagy P, Gergely G, Jurist E et al. *Affect regulation, mentalization and the development of the Self*. New York: Other Press, 2002.
 29. Gergely G, Watson J. The social biofeedback model of parental affect-mirroring. *Int J Psychoanal* 1996;77:1181-212.
 30. Gergely G, Watson J. Early social-emotional development: contingency perception and the social biofeedback model. In: Rochat P (ed). *Early social cognition: understanding others in the first months of life*. Hillsdale: Erlbaum, 1999: 101-37.
 31. Anderson EM, Lambert MJ. Short-term dynamically oriented psychotherapy: a review and meta-analysis. *Clin Psychol Rev* 1995;15: 503-14.
 32. Shapiro DA, Rees A, Barkham M et al. Effects of treatment duration and severity of depression on the maintenance of gains after cognitive-behavioral and psychodynamic-interpersonal psychotherapy. *J Consult Clin Psychol* 1995;63:378-87.
 33. Hobson RF. *Forms of feeling: the heart of psychotherapy*. New York: Basic Books, 1985.
 34. Woody GE, McLellan AT, Luborsky L et al. Psychotherapy in community methadone programs: a validation study. *Am J Psychiatry* 1995;192:1302-8.
 35. Milrod B, Busch F, Cooper A et al. *Manual for panic-focused psychodynamic psychotherapy*. Washington: American Psychiatric Press, 1997.
 36. Thompson LW, Gallagher D, Breckenridge JS. Comparative effectiveness of psychotherapies for depressed elders. *J Consult Clin Psychol* 1987;55:385-90.
 37. Crits-Christoph P, Cooper A, Luborsky L. The accuracy of therapists' interpretations and the outcome of dynamic psychotherapy. *J Consult Clin Psychol* 1988;56:490-5.
 38. Joyce AS, Piper WE. The immediate impact of transference interpretation in short-term individual psychotherapy. *Am J Psychother* 1993;47:508-26.
 39. Ablon JS, Jones EE. Psychotherapy process in the National Institute of Mental Health Treatment of Depression Collaborative Research Program. *J Consult Clin Psychol* 1999;67:64-75.
 40. Stanton AH, Gunderson JG, Knapp PH et al. Effects of psychotherapy in schizophrenia: I. Design and implementation of a controlled study. *Schizophr Bull* 1984;10:520-63.
 41. Bateman A, Fonagy P. The effectiveness of partial hospitalization in the treatment of borderline personality disorder - a randomised controlled trial. *Am J Psychiatry* 1999;156:1563-9.
 42. Bateman A, Fonagy P. Treatment of borderline personality disorder with psychoanalytically oriented partial hospitalization: an 18-month follow-up. *Am J Psychiatry* 2001;158:36-42.
 43. Bateman A, Fonagy P. Intensive multi-context psychotherapy for severe personality disorder: a manualized application of a psychoanalytic attachment theory based model. Submitted for publication.
 44. Chiesa M, Holmes J, Drahorad C et al. Residential versus community treatment of personality disorder: a comparative study of three treatment programs. Submitted for publication.
 45. Stevenson J, Meares R. An outcome study of psychotherapy for patients with borderline personality disorder. *Am J Psychiatry* 1992;149:358-62.
 46. Stevenson J, Meares R. Borderline patients at 5 year follow-up. Presented at the Congress of the Royal Australia-New Zealand College of Psychiatrists, Cairns, May 1995.
 47. Clarkin JF, Foelsch PA, Levy KN et al. The development of a psychodynamic treatment for patients with borderline personality disorder: a preliminary study of behavioral change. *J Personal Disord* 2001;15:487-95.
 48. Chiesa M, Fonagy P, Holmes J. An experimental study of treatment outcome at the Cassel Hospital. In: Lees J, Manning N, Menzies D et al (eds). *Researching therapeutic communities*. London: Jessica Kingsley Publications (in press).
 49. Høglend P. Personality disorders and long-term outcome after brief psychodynamic psychotherapy. *J Personal Disord* 1993;7:168-81.
 50. Monsen J, Odland T, Faugli A et al. Personality disorders and psychosocial changes after intensive psychotherapy: a prospective follow-up study of an outpatient psychotherapy project, 5 years after the end of treatment. *Scand J Psychol* 1995;36:256-68.
 51. Monsen J, Odland T, Faugli A et al. Personality disorders: changes and stability after intensive psychotherapy focussing on affect consciousness. *Psychother Res* 1995;5:33-48.
 52. Moran G, Fonagy P, Kurtz A et al. A controlled study of the psychoanalytic treatment of brittle diabetes. *J Am Acad Child Adolesc Psychiatry* 1991;30:926-35.
 53. Fonagy P, Moran GS. Studies of the efficacy of child psychoanalysis. *J Consult Clin Psychol* 1991;58:684-95.
 54. Heinicke CM, Ramsey-Klee DM. Outcome of child psychotherapy as a function of frequency of sessions. *J Am Acad Child Adolesc Psychiatry* 1986;25:247-53.
 55. Sandell R. Long-term findings of the Stockholm Outcome of Psychotherapy and Psychoanalysis Project (STOPPPP). Presented at the Meeting Psychoanalytic Long-Term Treatments: A Challenge

- for Clinical and Empirical Research in Psychoanalysis, Hamburg, October 1999.
56. Leuzinger-Bohleber M, Target M (eds). The outcomes of psychoanalytic treatment. London: Whurr, 2002.
 57. Dührssen A. Katamnestische Ergebnisse bei 1004 Patienten nach analytischer Psychotherapie. *Psychosom Med* 1962;8:94-113.
 58. Fonagy P, Target M. The efficacy of psychoanalysis for children with disruptive disorders. *J Am Acad Child Adolesc Psychiatry* 1994;33:45-55.
 59. Fonagy P, Target M. Predictors of outcome in child psychoanalysis: a retrospective study of 763 cases at the Anna Freud Centre. *J Am Psychoanal Assoc* 1996;44:27-77.
 60. Target M, Fonagy P. The efficacy of psychoanalysis for children: developmental considerations. *J Am Acad Child Adolesc Psychiatry* 1994;33:1134-44.
 61. Target M, Fonagy P. The efficacy of psychoanalysis for children with emotional disorders. *J Am Acad Child Adolesc Psychiatry* 1994;33:361-71.
 62. Fonagy P, Kachele H, Krause R et al. An open door review of outcome studies in psychoanalysis, 2nd ed. London: International Psychoanalytical Association, 2002.
 63. Anonymous. Cross design synthesis: a new strategy for studying medical outcomes. *Lancet* 1992;340:944-6.
 64. Hoagwood K, Hibbs E, Brent D et al. Introduction to the special section: efficacy and effectiveness in studies of child and adolescent psychotherapy. *J Consult Clin Psychol* 1995;63:683-7.
 65. Olfson M. Emerging methods in mental health outcomes research. *J Pract Psychiatry Behav Health* 1999;5:20-4.
 66. Fonagy P. Process and outcome in mental health care delivery: a model approach to treatment evaluation. *Bull Menninger Clinic* 1999;63:288-304.
 67. Leibovici L. Effects of remote, retroactive intercessory prayer on outcomes in patients with bloodstream infection: randomised controlled trial. *Br Med J* 2001;323:1450-1.
 68. Byrd RC. Positive therapeutic effects of intercessory prayer in a coronary care unit population. *South Med J* 1988;81:826-9.
 69. Harris WS, Gowda M, Kolb JW et al. A randomized, controlled trial of the effects of remote, intercessory prayer on outcomes in patients admitted to the coronary care unit. *Arch Intern Med* 1999;159:2273-8.
 70. Holmes J. All you need is cognitive behaviour therapy? *Br Med J* 2002;324:288-94.
 71. Leff J, Vearnals S, Brewin CR et al. The London Depression Intervention Trial. Randomised controlled trial of antidepressants v. couple therapy in the treatment and maintenance of people with depression living with a partner: clinical outcome and costs. *Br J Psychiatry* 2000;177:95-100.
 72. Teasdale JD, Segal ZV, Williams JM et al. Prevention of relapse/recurrence in major depression by mindfulness-based cognitive therapy. *J Consult Clin Psychol* 2000;68:615-23.
 73. Young JE. Cognitive therapy for personality disorder: a schema-focused approach, 3rd ed. Sarasota: Professional Resource Press/Professional Resource Exchange, 1999.
 74. Roth A, Fonagy P. What works for whom? A critical review of psychotherapy research. New York: Guilford Press, 1996.
 75. Tarrier N. Yes, cognitive behaviour therapy may well be all you need. *Br Med J* 2002;324:288-94.
 76. Sensky T, Scott J. All you need is cognitive behaviour therapy? Critical appraisal of evidence base must be understood and respected. *Br Med J* 2002;324:1522.
 77. Whittle P. Experimental psychology and psychoanalysis: what we can learn from a century of misunderstanding. *Neuro-psychoanalysis* 2000;2.
 78. Luborsky L, Diguier L, Seligman DA et al. The researcher's own therapy allegiances: a 'wild card' in comparisons of treatment efficacy. *Clin Psychol Sci Pract* 1999;6:95-106.
 79. Kandel ER. Biology and the future of psychoanalysis: a new intellectual framework for psychiatry revisited. *Am J Psychiatry* 1999;156:505-24.

The future of pharmacotherapy for schizophrenia

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Although enormous progress has been made in the treatment of schizophrenia, and the use of existing pharmacologic agents can have a dramatic effect on the short- and long-term management of the disorder, enormous challenges and unmet needs continue to exist. Despite the introduction of a second generation of antipsychotic medications, many patients continue to derive inadequate benefits from available agents. Negative symptoms and cognitive dysfunction, and decrements in psychosocial and vocational functioning, often continue to persist despite our best available treatments. Medication adherence remains a constant challenge and has not been dramatically improved by the new-generation antipsychotic drugs. Since all currently marketed antipsychotic agents possess some degree of dopamine antagonist effects, the role of other neurotransmitters in the primary antipsychotic activity remains largely unclear. It is possible that different domains of disease effects might benefit from different specific classes of medications, yet research in this area is not highly developed. The promise of further discoveries in genetics leading to new treatment targets and better predictors of treatment response (both therapeutic and adverse) is enormously exciting, but these developments will require years of additional research. The field must balance the need to make the most informed and thorough use of available agents with a sense of both excitement and patience as we work toward other approaches.

Key words: Schizophrenia, pharmacotherapy, drug targets, pharmacogenetics

Enormous progress has been made in the treatment of schizophrenia. The introduction of antipsychotic medication has had a profound effect on the short- and long-term management of this disease, yet enormous challenges and unmet needs still exist. We will attempt to review some areas where future progress could occur, ranging from enhancing the effective use of existing medications to strategies for developing the next generation(s) of pharmacologic agents.

WHAT CAN BE DONE TO ENHANCE TREATMENT OUTCOME WITH EXISTING AGENTS?

Although second-generation medications offer some important advantages over conventional antipsychotics, the scope and long-term implications of these advantages still remain somewhat unclear, and cost is an important factor in many settings (1,2). Despite these gains, there are still large numbers of patients who fail to derive adequate benefit from new generation drugs and we do not have a sufficient research data base to guide decisions regarding alternative treatments. Many clinicians will raise dosage, switch to different agents or add adjunctive antipsychotics (first or second generation) or mood stabilizers, yet we do not have a sufficient number of randomized controlled trials to evaluate the effectiveness or to recommend specific timing and duration of such interventions (3). It is easy for clinicians to draw erroneous conclusions based on experience with individual patients. If dosage is raised or another medication is added, subsequent gains could be due to the passage of time, since response in schizophrenia is variable in both degree and time course.

Clozapine remains the only drug with proven efficacy in patients who are poor or partial responders (4-6). However many clinicians are hesitant to utilize clozap-

ine, because of both perceived risks and the burden of blood monitoring. For many patients this clinical reluctance is unfortunate, since the potential benefits might well outweigh the potential risks. There still remains debate as to whether or not clozapine should be a second-line or third-line treatment; however, it is most concerning when it is not used at all in patients who are persistently symptomatic. There is also mounting evidence that clozapine has advantages in the reduction of suicidal behavior in patients with schizophrenia, which provides another important rationale for more widespread utilization (7).

Although new-generation antipsychotic medications have demonstrated more efficacy on measures of negative symptoms and cognitive function, these results are inconsistent and modest (1,8), leaving substantial room for further improvement. As we will discuss in more detail subsequently, it is likely naïve to assume that a single intervention will have the desired effect across the broad range of signs and symptoms (positive, negative, affective, cognitive, behavioral, etc.) associated with schizophrenia.

The use of specific medications targeted to particular domains is beginning to be a focus of research. An example is the use of drugs shown to enhance cognitive functioning in other diseases in trials involving patients with schizophrenia. As yet there is an inadequate data base to draw conclusions and our understanding of the pathophysiology of cognitive dysfunction in schizophrenia is far less well developed than that in Alzheimer's disease.

Another area where further progress must be made is adherence to treatment. Although compliance with medication-taking is a challenge in any disease, the difficulties experienced by patients with schizophrenia add to the challenge. Noncompliance rates have been estimated to be 40% or higher within one or two years of follow-up (9,10). Given a better side effect profile it was hoped that

the new-generation medications would go a long way towards reducing rates of noncompliance. However, the gains in this regard have been modest (11,12).

There have been some positive effects observed with psychosocial strategies to enhance compliance (13), but those strategies are not completely effective and are not widely implemented. Given the established need for continuous pharmacotherapy in preventing relapse and rehospitalization, it is important to first apply available formulations (long-acting injectable antipsychotics) more consistently and also to develop other technological solutions to poor or partial compliance.

In many countries, existing long-acting injectable medications are underutilized. Some clinicians believe that they can detect poor or partial adherence in their patients and reserve long-acting injectable medications only for those patients who have repeatedly demonstrated non-compliance. In reality, it is difficult to identify potentially noncompliant patients in advance, as such behavior is multidetermined and causes vary from patient to patient. Given the potentially serious consequences of relapse (loss of social support and/or job status, emergence of aggressive, violent or self-destructive behavior, increasing family burden, homelessness, greater societal costs), efforts to prevent relapse become critical.

Some physicians perceive long-acting injectable drugs as having more adverse effects, yet there is no evidence that this is the case, and in fact the potential to use doses associated with lower blood levels can actually reduce the risk of adverse effects (14).

Other clinicians assume that patients will not accept long-acting medication and that, even if they do, it by no means assures compliance, since the patient can fail to receive the injection at the appropriate time interval. Many patients will not welcome the suggestion of an injectable medication at first mention (often because of the fear of pain associated with injections). However, if the clinicians are willing to work through this reluctance, even if necessary by asking to administer one 'test' injection, patients often end up agreeing to using these medications. Once they do, they are often pleased with the results (15).

The notion that injectable medication doesn't guarantee compliance is partially true. However, the critical difference is that when a patient fails to receive the appropriate injection the clinical team is immediately aware of this and can initiate appropriate action (phone calls to patient and/or family, home visits, etc.). In addition, since long-acting medication provides a more gradual decline in blood levels than after stopping oral medication, the clinical team has some time to initiate appropriate steps before the patient is in fact without active medication.

Our impression regarding relapse prevention is that this aspect of treatment is often given inadequate attention in comparison to acute care. The course of an illness like schizophrenia will probably be determined more by what

strategies are employed (not just pharmacologic, but also psychosocial and vocational) during periods of relative remission than during periods of acute exacerbation.

Now that a long-acting, injectable, second-generation medication has been developed, one obstacle to the use of this particular strategy should be reduced, since the potential advantages of both can now be combined (16). The use of a new technology (a biodegradable microsphere encapsulation of an active drug) is also welcome in being water (not oil) based and therefore associated with less pain and local reaction at the injection site. It is hoped that other technological advances will increase our options to develop long-acting delivery systems of whatever type.

For some patients, even surgical implantation could be a beneficial alternative and would be consistent with a more widely accepted 'medical model' of managing a devastating illness like schizophrenia (17).

Some clinicians continue to argue that autonomy in medication-taking is a critical ingredient in disease management. However, when there are so many risks associated with covert noncompliance and the latter is so frequent, it would seem that other areas of autonomy and self care should be the focus while eliminating as many risks for relapse as possible.

THE DEVELOPMENT OF NEW AGENTS

There continues to be debate as to what factors account for the 'atypicality' of second-generation drugs, and as yet we do not have a clear understanding of why clozapine continues to display some relatively unique advantages. Therefore, questions remain as to what neuropharmacologic properties should be sought after in ongoing drug development. Have we taken the existing paradigm as far as it can go? And if so, what other strategies should be brought to bear?

Other dopaminergic drugs

Even within the traditional goal of optimal dopamine antagonism, new approaches are being developed. There has been considerable interest for many years in the use of agonists to modify dopaminergic function in a variety of ways. The idea is to combine antagonist and agonist effects in a way which could 'normalize' dopamine function rather than risk excessive blockade in some brain areas as the price for necessary blockade in other areas (18).

The development of a clinically effective and well-tolerated partial agonist (aripiprazole) has demonstrated that this strategy could be successful. It is the first of this class to demonstrate clinical efficacy comparable to conventional antipsychotics (19).

So far clinical data suggest few adverse effects. The very low rate of extrapyramidal side effects and lack of pro-

lactin elevation support the value of the partial agonist property. The extent to which this and other such compounds will provide significant advantages in terms of efficacy in general or in specific symptom domains remains to be seen. Theoretically, such compounds can 'normalize' or 'modulate' dopamine function by reducing dopaminergic transmission without completely blocking it when dopaminergic activity is excessive, or on the other hand stimulating dopamine transmission when it is reduced.

Compounds have also been developed as selective dopamine antagonists at receptors other than the dopamine D2 receptor. None of these compounds as yet has been shown to be clinically effective as an antipsychotic agent, but issues of appropriate dose finding remain potential concerns (20).

Serotonergic agents

Serotonergic receptor subtypes, particularly the 5-HT_{2A} receptor, have received considerable attention as playing a role in the 'atypicality' of second-generation antipsychotic medications (21,22). Attempts have been made to develop compounds with specific 5-HT_{2A} antagonist effects without also acting at dopamine receptors. However, the results to date with one such compound have not demonstrated adequate antipsychotic effects (23).

It has also been speculated that, since clozapine has an agonist effect at 5-HT_{1A} receptors, this might contribute to its novel effects (22). However, as yet attempts to develop medications combining 5-HT_{1A} agonist effects with other receptor binding activities have not replicated clozapine's clinical profile.

Muscarinic agents

Since some cholinesterase inhibitors seem to be active on psychotic symptoms (as well as on cognitive dysfunction) in patients with Alzheimer's disease (24), it has been hypothesized that such agents might have potential for treating cognitive and/or psychotic symptoms in schizophrenia. As yet there are insufficient data from clinical trials to draw conclusions.

Muscarinic agonists or partial agonists might also have some useful clinical effects in schizophrenia based on animal models (25).

Glutamatergic agents

The observation that N-methyl-D-aspartate (NMDA) receptor antagonists can produce a range of schizophrenia-like symptoms has led to the hypothesis that some deficiency in NMDA function might play a role in the pathophysiology of schizophrenia (26). This has led to the development of animal models and the testing of relevant agents in man. If NMDA function is reduced in schizophrenia, then the hypothesis follows that drugs which

facilitate or enhance NMDA function might have some therapeutic potential. Glycine, in effect, serves as an agonist at the NMDA receptor and has been employed in clinical trials with some success, particularly on negative symptoms (26,27). D-cycloserine is a partial agonist at the glycine regulatory site on the NMDA receptor which has shown some efficacy on negative symptoms either alone or in combination with antipsychotic medications (28). The effects of these agents, however, are modest and not entirely consistent.

A variety of other strategies are currently being explored to modify NMDA receptor function or related glutamate release, including inhibition of glycine uptake and inhibition of glutamate release.

Other agents

Other potential classes of agents which might modify psychotic symptoms or the evolution of such symptoms include protein kinase C inhibitors, steroidal agents, agents intended to correct hypothesized abnormalities in membrane phospholipid composition and function, and agents which might have direct or indirect neurotrophic effects.

The evolution and pathophysiology of schizophrenia is no doubt complex, involving genetic risk and possible environmental factors contributing to problems in neurodevelopmental plasticity, connectivity and/or integration. The involvement of a varied and complex array of factors in determining appropriate neural development and ongoing functional capacity could provide opportunities for interventions (perhaps even prevention) as a better understanding of these possibilities emerge.

THE PROMISE OF GENETICS

The sequencing of the human genome and subsequent identification of common genetic variants in the form of single nucleotide polymorphisms (SNPs) provide another avenue for progress in the pharmacotherapy of schizophrenia. Comprehensive genomic information may pave the way for the identification of new drug targets, as well as provide the tools to identify biological predictors of response to currently available and newly developed antipsychotic drugs.

Identification of new targets

For the past three decades, intensive effort has been placed on genetic strategies to identify susceptibility genes for schizophrenia. For the most part, these studies have utilized 'linkage' analysis strategies that involve the ascertainment of families with multiple affected relatives or of sibling pairs in which both members of the pair are affected with schizophrenia. When successful, these studies suggest chromosomal regions that harbor susceptibility

genes, and positional cloning efforts may ensue to precisely localize the candidate gene. To date, there have been many linkage studies with nominally positive results, but the limitations of linkage analysis have hampered the actual identification of a susceptibility gene (29). A major problem with linkage analysis is that, although powerful for the detection of genes of major effect, it is less useful when genes of relatively modest effect interact to contribute to disease pathophysiology (30). Therefore, positive results have been difficult to replicate. Moreover, the chromosomal region implicated by a positive result may contain hundreds, if not thousands of genes, and identifying the actual genetic contribution may be difficult with current technology.

The new genomic information, however, may provide new means to identify susceptibility genes. It is now possible to fine map candidate regions more comprehensively with the new SNP information in order to better localize linkage regions. Moreover, genetic association approaches utilizing unrelated cases provide enhanced power to detect genes of modest effect (31), as well as to assess SNPs located within genes implicated in linkage analyses. For example, Straub et al (32) have recently reported that dysbindin, a gene located on the short arm of chromosome 6 identified in a linkage study completed in 1994, is associated with schizophrenia in a family-based case-control design using recently identified SNPs in the region. Several other groups are utilizing similar strategies and it is likely that multiple genes increasing risk for schizophrenia may soon be detected.

As these genes are identified, many of the proteins that they code for may represent new targets for drug development. Moreover, treatment strategies with new agents can be focused on subgroups of schizophrenia patients with specific susceptibility alleles, potentially enhancing the power of these treatment strategies. Finally, although an individual gene product may not be readily amenable to pharmacological intervention, it may be located within an anatomic or functional pathway that may suggest additional directions for new drug discovery.

Pharmacogenetics

Pharmacogenetic strategies may also enhance treatment strategies for schizophrenia by providing easily accessible biological, or molecular, predictors of antipsychotic drug response. A priori identification of the patients who respond well to a particular antipsychotic drug, or who are at increased risk for development of adverse side effects, may reduce lengthy ineffective medication trials and limit patient's exposure to adverse drug effects. Moreover, enhanced predictability of treatment response early in the course of a patient's illness may result in improved patient compliance and willingness to rapidly seek treatment upon symptom exacerbation or recurrence.

Pharmacogenetic studies in psychiatry have almost

exclusively utilized the candidate gene 'case-control' association design - an approach that is particularly well suited for pharmacogenetic studies in which unrelated individuals may be all that are available (29).

The candidate gene pharmacogenetic strategy has been successful in complex diseases such as asthma. For example, Kotani et al (33) found that the beta2-adrenergic receptor (B2AR) polymorphism Arg16Gly was significantly associated with the airway responsiveness of Japanese asthma patients (n=92) treated with the B agonist salbutamol. Similarly, Drazen et al (34) examined the association between improvements in forced expiratory volume in the first second (FEV1) in a placebo-controlled trial (n=221) of the anti-asthma drug ABT-761 and a polymorphism in the 5-lipoxygenase (ALOX5) gene. ALOX5 genotype was not associated with overall disease severity, but patients who were homozygous for the rare allele failed to respond to ABT-761. In fact, these patients' response to active drug treatment was indistinguishable from the patients who received placebo treatment.

The majority of pharmacogenetic studies of antipsychotic drug efficacy have focused on clozapine. These studies have primarily utilized SNPs within the genes for the neurotransmitter receptors to which clozapine has affinity. These include the dopamine D2, D3 and D4 receptor genes, as well as the serotonergic 5-HT2A, 5-HT2C, and 5-HT6 receptor genes (35,36). Thus far, the associations between SNPs in the 5-HT2A-receptor gene and clozapine response have been the strongest. Several studies have yielded weakly positive results and a meta-analysis of all of the published studies of the two 5-HT2A polymorphisms T102C and His452Tyr indicates that this gene may have a significant, albeit small, effect on the variation in clozapine response (37).

Another application of pharmacogenetic techniques has been in the domain of adverse effects. A dopamine D3 receptor SNP, Ser9Gly, which may alter dopamine-binding affinity (38) has been reported to alter susceptibility to tardive dyskinesia (TD). Moreover, there have been a number of reports suggesting that polymorphisms within the cytochrome p450 enzyme CYP2D6, a major enzyme in the oxidative metabolism of many antipsychotic drugs, are associated with development of TD (39-41), as well as reports indicating that an intronic polymorphism in the CYP1A2 gene may contribute to TD risk (42,43).

Clozapine-induced agranulocytosis is another side effect that has been studied in a number of populations. The high incidence of recurrence of agranulocytosis following clozapine rechallenge has suggested that genetic factors play a role in this adverse effect. To date, the focus of investigation has been the major histocompatibility complex (MHC) and human leukocyte antigen (HLA) variants, with specific HLA haplotypes being associated with agranulocytosis in Ashkenazi Jewish and in non-Jewish populations (44,45). These studies are limited by the infrequency of clozapine-induced agranulocytosis and

resultant small sample sizes for examination. Nevertheless, with the preponderance of data suggesting a link between HLA alleles and this important side effect, further work in this area could have significant clinical implications.

Finally, as discussed above, relapse following noncompliance with treatment is a critical limitation in the treatment of patients with schizophrenia. Molecular genetic approaches may be useful by providing the means to identify patients at especially high risk for rapidly relapsing following drug discontinuation. In a preliminary study of 41 schizophrenia patients, we found that serotonin transporter genotype predicted rapid relapse following antipsychotic drug discontinuation (46). 56% (9/16) of patients who were homozygous for the long allele (II) of a serotonin transporter polymorphism (5-HTTLPR) reported significant increases in psychotic symptoms within four weeks of drug discontinuation, in comparison to 16% (4/25) of subjects with the other two genotypes (Is and ss). These preliminary data suggest that it may be feasible to utilize molecular genetic techniques to provide individualized risk-benefit information to patients with schizophrenia and, perhaps, provide specialized interventions for those patients at higher risk of relapse.

With the increased interest in molecular genetics, many groups in academia and in industry are currently pursuing pharmacogenetic studies. The next generation of studies will employ markedly greater number of genes and SNPs and, with the concomitant reductions in genotyping costs, the potential to screen large portions of the genome for genes that influence response to antipsychotic agents may soon be feasible. Positive results may result in diagnostic tests to enable the individualization of treatment, or may point to the underlying molecular substrates of antipsychotic efficacy and thus present new targets for antipsychotic drug development.

References

- Leucht S, Pitschel-Walz G, Abraham D et al. Efficacy and extrapyramidal side-effects of the new antipsychotics olanzapine, quetiapine, risperidone, and sertindole compared to conventional antipsychotics and placebo. A meta-analysis of randomized controlled trials. *Schizophr Res* 1999;35:51-68.
- Geddes J, Freemantle N, Harrison P et al. Atypical antipsychotics in the treatment of schizophrenia: systematic overview and meta-regression analysis. *Br Med J* 2000;321:1371-6.
- Kinon BJ, Kane JM, Johns C et al. Treatment of neuroleptic resistant schizophrenic relapse. *Psychopharmacol Bull* 1993;29:309-14.
- Kane JM, Honigfeld G, Singer J et al. Clozapine for the treatment-resistant schizophrenic: a double-blind comparison versus chlorpromazine/benzotropine. *Arch Gen Psychiatry* 1988;45:789-96.
- Wahlbeck K, Cheine M, Essali MA. Clozapine versus typical neuroleptic medication for schizophrenia. *Cochrane Database of Systematic Reviews* 2000;CD000234.
- Chakos M, Lieberman J, Hoffman E et al. Effectiveness of second-generation antipsychotics in patients with treatment-resistant schizophrenia: a review and meta-analysis of randomized trials. *Am J Psychiatry* 2001;158:518-26.
- Meltzer HY, Alphas L, Green et al. Clozapine treatment for suicidality in schizophrenia: International Suicide Prevention Trial (InterSePt). *Arch Gen Psychiatry* 2003;60:82-91.
- Keefe RS, Silva SG, Perkins DO et al. The effects of atypical antipsychotic drugs on neurocognitive impairment in schizophrenia: a review and meta-analysis. *Schizophr Bull* 1999;25:201-22.
- Kramer JA, Rosenheck R. Compliance with medication regimens for mental and physical disorders. *Psychiatr Serv* 1998;49: 196-201.
- Fenton WS, Blyler CR, Heinssen RK. Determinants of medication compliance in schizophrenia: empirical and clinical findings. *Schizophr Bull* 1997;23:637-51.
- Dolder CR, Lacro JP, Dunn LB et al. Antipsychotic medication adherence: is there a difference between typical and atypical agents? *Am J Psychiatry* 2002;159:103-8.
- Mahmoud RA, Engelhart LM, Oster G et al. Risperidone versus conventional antipsychotics: a prospective randomized naturalistic effectiveness trial of outcomes in chronic schizophrenia. Presented at the American College of Neuropsychopharmacology Annual Meeting, Kamuela, December 1997.
- Kemp R, Kirov G, Everitt B et al. Randomized controlled trial of compliance therapy: 18 month follow up. *Br J Psychiatry* 1998; 172:413-9.
- Glazer W, Kane JM. Depot neuroleptic therapy: an underutilized treatment option. *J Clin Psychiatry* 1992;53:426-33.
- Walburn J, Gray R, Gournay K et al. Systematic review of patient and nurse attitudes to depot antipsychotic medication. *Br J Psychiatry* 2001;179:300-7.
- Kane JM, Eerdeken M, Lindenmayer J-P et al. Long-acting injectable risperidone: efficacy and safety of Risperdal Consta. A long acting injection risperidone formulation. Presented at the American College of Neuropsychopharmacology Annual Meeting, Waikoloa, December 2001.
- Siegel SJ, Winey K, Lenox RH et al. A surgically implantable long term antipsychotic delivery system. Presented of the American College of Neuropsychopharmacology Annual Meeting, San Juan, December 2000.
- Lawler CP, Prioleau C, Louis MM et al. Interactions of the novel antipsychotic aripiprazole (OPC-14597) with dopamine and serotonin receptor subtypes. *Neuropsychopharmacology* 1999;20:612-67.
- Kane JM. Efficacy and safety of aripiprazole and haloperidol vs placebo in patients with schizophrenia and schizoaffective disorder. *J Clin Psychiatry*, in press.
- Bristow LJ, Kramer MS, Kulagowski J et al. Schizophrenia and L-745,870, a novel dopamine-D4 receptor antagonist. *Trends Pharmacol Sci* 1997;18:186-8.
- Schmidt CJ, Sorenson SM, Kehne JH et al. The role of 5-HT2A receptors in antipsychotic activity. *Life Sci* 1995;56:2209-22.
- Meltzer HY. Pre-clinical pharmacology of atypical antipsychotic drugs: a selective review. *Br J Psychiatry* 1996;168(Suppl. 29): 23-31.
- Carlsson A. Focusing on dopaminergic stabilizers and 5-HT2A receptor antagonists. *Curr Opin CNS Invest Drugs* 2000;2:22-4.
- Cummings JL, Back C. The cholinergic hypothesis of neuropsychiatric symptoms in Alzheimer's disease. *Am J Geriatr Psychiatry* 1998;6:S64-S78.
- Sauerberg P, Jeppesen L, Olesen PH et al. Muscarinic agonists with antipsychotic-like activity: structure-activity relationships of 1,2,5-thiadiazole analogues with functional dopamine antagonist activity. *J Med Chem* 1998;41:4378-84.
- Javitt DC, Zukin SR. Recent advances in the phencyclidine model of schizophrenia. *Am J Psychiatry* 1991;148:1301-8.
- Javitt DC, Zylberman I, Zukin SR et al. Amelioration of negative symptoms in schizophrenia by glycine. *Am J Psychiatry* 1994;151: 1234-6.

28. Goff DC, Tsai G, Manoach DS et al. D-cycloserine added to clozapine for patients with schizophrenia. *Am J Psychiatry* 1996; 153:1628-30.
29. Malhotra AK, Goldman D. Benefits and pitfalls encountered in psychiatric genetic association studies. *Biol Psychiatry* 1999;45: 544-50.
30. Risch N, Merikangas K. The future of genetic studies of complex human diseases. *Science* 1996;273:1516-7.
31. Risch N, Teng J. The relative power of family-based and case-control designs for linkage disequilibrium studies of complex human diseases I. DNA pooling. *Genome Res* 1998;8:1273-88.
32. Straub RE, Jiang Y, MacLean CJ et al. Genetic variation in the 6p22.3 gene DTNBP1, the human ortholog of the mouse dysbindin gene, is associated with schizophrenia. *Am J Hum Genet* 2002;71:337-48.
33. Kotani Y, Nishimura Y, Maeda H et al. B2-adrenergic receptor polymorphisms affect airway responsiveness to salbutamol in asthmatics. *J Asthma* 1999;36:583-90.
34. Drazen JM, Yandava CN, Dube L et al. Pharmacogenetic association between ALOX5 promoter genotype and the response to anti-asthma treatment. *Nature Genet* 1999;22:168-70.
35. Malhotra AK, Goldman D, Ozaki N et al. Lack of association between polymorphisms in the 5-HT2A receptor gene and the antipsychotic response to clozapine. *Am J Psychiatry* 1996;153: 1092-4.
36. Masellis M, Basile VS, Ozdemir V et al. Pharmacogenetics of antipsychotic treatment: lessons learned from clozapine. *Biol Psychiatry* 2000;47:252-66.
37. Arranz MJ, Munro K, Birkett J et al. Meta-analysis of studies on genetic variation in 5-HTA receptors and clozapine response. *Schizophr Res* 1998;32:93-9.
38. Lundstrom K, Turpin MP. Proposed schizophrenia-related gene polymorphism: expression of the Ser9Gly mutant human dopamine D3 receptor with the Semliki Forest Virus System. *Biochem Biophys Res Comm* 1996;225:1068-72.
39. Andreassen OA, MacEwan T, Gulbrandesen A-K et al. Non-functional CYP2D6 alleles and risk for neuroleptic-induced movement disorders in schizophrenic patients. *Psychopharmacology* 1997;131:174-9.
40. Kapitany T, Meszaros K, Lenzinger E et al. Genetic polymorphisms for drug metabolism (CYP2D6) and tardive dyskinesia in schizophrenia. *Schizophr Res* 1998;32:101-6.
41. Ohmori O, Suzuki T, Kojima H et al. Tardive dyskinesia and debrisoquine 4-hydroxylase (CYP2D6) genotype in Japanese schizophrenics. *Schizophr Res* 1998;32:107-13.
42. Odzemir V, Basile VS, Masellis M et al. Pharmacogenetic assessment of antipsychotic-induced movement disorders: contribution of the dopamine D3 receptor and cytochrome P450 1A2 genes. *J Biochem Biophys Methods* 2001;47:151-7.
43. Basile VS, Odzemir V, Masellis M et al. A functional polymorphism of the cytochrome P450 1A2 (CYP1A2) gene: association with tardive dyskinesia in schizophrenia. *Mol Psychiatry* 2000;5:410-7.
44. Lieberman JA, Yunis J, Egea E et al. HLA-B38, DR4, DQw3 and clozapine-induced agranulocytosis in Jewish patients with schizophrenia. *Arch Gen Psychiatry* 1990;47:945-8.
45. Yunis JJ, Corzo D, Salazar M et al. HLA associations in clozapine-induced agranulocytosis. *Blood* 1995;86:1177-83.
46. Malhotra AK. Pharmacogenetics and schizophrenia: clinical implications. *Pharmacogenom J* 2001;1:109-14.

Psychiatry and the general hospital in an age of uncertainty

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General hospitals have had an illustrious role in the evolution of psychiatry. They have provided a rich soil for the growth of inpatient psychiatric units, consultation-liaison psychiatry, psychosomatic medicine, med-psych units, outpatient psychiatric clinics, emergency services and a whole spectrum of resources for the communities in which they dwell. In some respects, whether attached to universities or not, they have functioned as small colleges for the education and training of scores of health professionals. In the setting of the general hospital, psychiatry has had opportunities to become remedicalized and integrated into the mainstream of medicine. However, recent trends in health care run the risk of jeopardizing these accomplishments. Managed care has had a profound impact on the way psychiatry is practiced, taught, and reimbursed. Concerns about cost-containment have raised questions about whether the general hospital will remain the best and most economical setting for psychiatric services. If the primacy of the patient is lost, psychiatry's role in the general hospital will be uncertain. The need to safeguard psychiatry's achievements must be a worldwide endeavor.

Key words: General hospital psychiatry, psychiatric units, consultation-liaison psychiatry, integration, managed care

The general hospital has played a pivotal role in the history of psychiatry, but current economic, political and ideological changes make predictions about its future role uncertain. In this paper, I will: a) review the history of psychiatry's entry into the general hospital setting, and describe the changes that have occurred in its role over the past century; b) examine the current status of general hospital psychiatry compared to the recent past decades; and c) assess problems, promises and perspectives for the 21st century.

HISTORICAL REVIEW

The first general hospital in Great Britain to announce provision for 'lunatics' is said to be Guy's Hospital of London in 1728 (1). In the United States, a Quaker almshouse, later to become the Philadelphia General Hospital, cared for the 'insane' in the early 1700s, followed soon in 1755 by the Pennsylvania Hospital, whose charter designated a number of beds 'for the cure and treatment of lunatics' (2). Other general hospitals in all likelihood offered safe haven for some mentally ill patients, but probably more by default than by design. Most hospitals did not proclaim a clear psychiatric presence until well into the 20th century.

In the meantime, during the 19th

century, large asylums for the 'care' (or, more shamefully correct, 'warehousing') of the insane were being built (3). Psychiatrists, or 'alienists', lived on the grounds and practiced in these asylums, far removed from large cities and most of the population. Therapy was mostly primitive or non-existent. This was the status of American psychiatric treatment in the beginning of the 20th century.

It was not until 1902 that psychiatry declared its first entry into an American general hospital, with a 12-bed 'pavilion' established by James Mosher at Albany General Hospital (New York) (4), specifically designed for acute psychiatric patients requiring triage, treatment of drug addiction, emergency care of delirium and 'sudden and often dangerous forms of mental disorder which occur in the course of general diseases or after the shock of surgical operations and anaesthesia'; this latter function may have antedated the formal beginnings of consultation-liaison (C-L) psychiatry. He saw general hospitals supplementing rather than replacing treatment at home, in private institutions, or in custodial facilities like psychiatric hospitals.

With this formal entry of psychiatry into a general hospital began a period characterized by Lipowski (5) as 'one of the most far-reaching developments in psychiatry's history'. Gradually,

more psychiatric units were established in general hospitals. Attracted back to the 'mainstream of medicine' (6), many psychiatrists left asylums for the general hospital, and began to think differently about their work. There, psychiatrists would work alongside other doctors and nurses and, even though stigma remained a major barrier to collaboration, they began to feel more comfortable with each other.

The 1930s saw a major advance of psychiatry in the general hospital, largely attributed to the commitment of Alan Gregg (7), an internist appointed as Director of the Medical Sciences Division of the Rockefeller Foundation. With his interest in integrated medicine he was able to direct developmental grants to several US general hospitals, establishing a platform for the rapid development of general hospital psychiatry in the US. The number of psychiatric units in general hospitals swelled from about 10 in the late 1920s to 153 in the mid- and later 1930s, reaching its peak in 1998 with about 1700 units (8). Gregg's philanthropic initiative also laid the foundation for the early expansion of C-L programs. Prompted by these new developments, leaders in American psychiatry predicted a tendency toward decentralization from psychiatric hospital care to local general hospitals (9). The advantages

were many: patients could be treated in more humane settings, there would be less stigma involved in being in a general hospital, and they would remain close to their families and communities so that they could have their support and be more quickly rehabilitated.

Such predictions would take at least 30 more years to begin to be a reality. Rising objections to the quality of asylum care, the rapid emergence of psychopharmacologic treatments, deinstitutionalization and the community mental health movement contributed to a migration of patients from psychiatric hospitals to general hospitals and community centers through the 1950s and 1960s (10).

It has been a prevailing notion amongst some that the term 'general hospital psychiatry' is equivalent to inpatient psychiatric beds only, but the growth of psychiatry in the general hospital setting was not by beds alone (11). The ensuing years have seen a robust development of other psychiatric services located in the general hospital setting: outpatient clinics, C-L services, emergency psychiatric services, partial day and night programs, children's psychiatric services, psychopharmacology clinics, walk-in clinics, behavioral medicine programs, substance abuse programs, geropsychiatric care and other specialized programs (12).

It was observed by some (13) that the location of inpatient units in the general hospital enabled the expansion of C-L programs to proceed more rapidly (14). However, excellent C-L programs have certainly flourished in settings where no inpatient unit existed. In fact, Bibring (15), one of the early pioneers of psychiatry's role in the general hospital, opposed inpatient psychiatric beds in the belief that their presence would have encouraged physicians to transfer responsibility for their patients, thus undermining the teaching leverage psychiatrists had by the absence of beds. Debate over the appropriateness of inpatient units in the general hospital has persisted (16).

The growth of C-L services in general medical hospitals has been well documented since its formal beginnings in 1929, attributed to Henry (17). Psychiatry's long tradition of trying to reintegrate itself with medicine seemed enhanced by the development of both inpatient units and C-L services throughout the 20th century (18). Indeed, almost 30 years ago, Lipowski optimistically wrote: "The entry of psychiatry into the mainstream of medicine has fostered changes in medical education and in the management of the physically ill in the direction of comprehensive medicine" (19). The optimism of this statement was tempered by the curtailment of major funding by federal agencies as they threw C-L and other psychiatric programs on the mercy of administrative or third-party support. Nonetheless, in spite of major barriers, C-L psychiatry has persevered and grown during the ensuing years and has come to represent a major component of general hospital psychiatry. Reflecting this breadth of interest, the journal *General Hospital Psychiatry*, in its premier 1979 issue, defined its scope as "building upon ... liaison-consultation and psychiatric services which have burgeoned in the general hospital ... to encourage new contributions to the understanding and treatment of illness in inpatient, ambulatory and community settings" (20).

A number of other developments in the 20th century contributed to the rise of general hospital psychiatry, perhaps less visibly than the evolution of inpatient units and C-L psychiatry. They included the following.

'*Common sense psychiatry*' of *Adolf Meyer*. Meyer recognized that his nonpsychiatrist colleagues could not readily apply psychoanalytic concepts of the day to patients in medical-surgical practice. He proposed a psychobiological 'common sense' psychiatry to counteract what he regarded as the 'useless contrast of mental and physical' in hospital treatment and medical education (21). Thus did Meyer provide a setting in which a

more integrated psychiatry might find a home in the general hospital.

Psychoanalysis. Psychoanalysis was not considered a part of medicine, but Freud's theories about the unconscious in symptom formation, and psychodynamic interplay of physical and emotional disorders were relevant to an understanding of illness and its treatment. The nature of the patient-doctor interaction was much better understood in the context of theories of transference, countertransference and negative therapeutic reaction. Psychoanalysis contributed in another serendipitous way: when war broke out in Europe, many psychoanalysts emigrated to the US and became attached to major medical schools and hospitals, where they embarked on psychosomatic research. Their rich contributions helped create the foundations of psychosomatic medicine in the US and established the general hospital as a proper setting for the research and practice of psychoanalytically-informed medicine.

Psychophysiology. Psychosomatic medicine research was accelerated in 1915 by the seminal work of Cannon on 'flight or fight' responses of the body to threatening stimuli. In the same year, Pavlov's experiments on conditioning offered the scientific tools required to examine mind-body connections. Relevance of both lines of research to mind-body dilemmas in the practice of general hospital psychiatry is apparent.

World War II. Many psychiatrists learned to work closely with surgeons, internists and others on the battlefield and, because of their effectiveness there, won many friends in medicine and government. The American Psychiatric Association grew rapidly from just a few thousand doctors to about 20-25,000. Many physicians returned with a strong social conscience growing out of the horrors of war. The general hospital became the locus for psychiatrists wanting to help patients returning with traumatic neuroses and other medical-psychiatric conditions and for internists with psychiatric interest wishing to

enter educational programs in general hospitals.

National Institute of Mental Health (NIMH). After the war, the federal government put a great deal of money into mental health. NIMH was the first Institute founded and psychiatric training programs were supported in practically every university medical school in the country. Perceiving the application of 'battlefield psychiatry' to emergency, preventive and community health care, the federal government provided generous funding for training in psychiatry, residency programs, and C-L services in general hospitals. Programs were site-visited regularly to assure high quality educational content; training in psychotherapy and long-term treatment was encouraged. This developmental phase of general hospital psychiatry may well be regarded as its heyday.

Psychopharmacology and deinstitutionalization. In the mid-1950s, moral opposition to the 'warehousing' of patients gave rise to a movement in the US to try to close, or at least to make smaller, the large state psychiatric hospitals. The state hospitals had already begun to look toward the general hospital as a preferred treatment facility when psychopharmacologic drugs began appearing in the 1950s, making it possible for many of the most chronic patients to be discharged home or into residential settings in the community. Unfortunately, this began happening before the start of the community mental health movement, with many patients remaining sick and homeless, and being returned to state hospitals or incarcerated in jails.

Community mental health movement. When President John Kennedy signed the Community Mental Health Centers Construction Act in 1963, the general hospital, as the hub of community programs, became the major resource for episodic treatment, maintenance and monitoring of patients discharged from psychiatric hospitals. Additional financial support became available for the con-

struction of psychiatric beds in general hospitals. Government insurance programs, Medicare and Medicaid, provided expanded health insurance coverage for mental illness. Although administrative, political, and organizational problems left many gaps, patients were generally offered greater continuity of service, support systems to help them remain in their communities, and the back-up of general hospital care closer to home. This movement also made use of many nonmedical professionals like social workers, psychologists and psychiatric nurses, so that the authority of the psychiatrist in this new system was diminished. There was concern that psychiatrists and psychiatry were being devalued, reflected in decreased numbers of medical students choosing psychiatry for specialty training.

Med-psych units. With increasing psychiatric experience and research in the general hospital setting, it was evident that medical and psychiatric illnesses were more often comorbid than they were independent. Consequently, in the 1980s and 1990s, med-psych units began to supplement or to replace more traditional psychiatric units (22). Revised target populations, treatment goals and staffing influenced philosophy of care, structural requirements, and funding of such units.

'Remedicalizing' psychiatry. Psychiatry has long sought reintegration with medicine (23). The general hospital setting would appear to be the most logical place for this to occur, although many obstacles have stood in the way. New opportunities have appeared on the horizon in the latter decades of the 20th century. The new discoveries in brain sciences, immunology, imaging, genetics, molecular biology and psychopharmacology have enhanced psychiatry's acceptability to 'mainstream' medicine. Inpatient units have shifted away from the 'therapeutic community' and 'milieu' models and adopted more 'medical' or 'somatic' models of treatment. The evolution of standardized

psychiatric diagnostic systems has contributed in some measure to the medicalization process.

CURRENT STATUS OF GENERAL HOSPITAL PSYCHIATRY

Today the general hospital provides a relatively secure home to the large spectrum of educational, therapeutic and research programs in psychiatry. Traditional inpatient, outpatient, emergency, and C-L services have been supplemented with specialized programs in geropsychiatry, substance abuse, eating disorders, med-psych units, psychopharmacologic clinics and so on.

The general hospital in the past has served as a small university (24) to educate physicians, medical students, nurses, social workers, other health professionals and volunteers, but recent changes in the health care landscape have posed a threat to some of the general hospital's essential functions.

Perhaps managed care, introduced about two decades ago to try to control rising costs in health care delivery, has had the greatest impact on general hospital psychiatry, resulting in a number of changes and potential threats (25). It has imposed rigorous guidelines, restrictions, regulations, and reimbursement schedules on health care professionals ('providers'), patients ('consumers'), and hospitals. In its wake, hospital stays have been reduced from an average of 30 days two decades ago to a current average of 5-7 days. Reimbursement to hospitals and practitioners has been markedly 'discounted', and physicians' authority and control of their patients' care have been severely compromised. Physicians have decried the moral and ethical implications of a trend they describe as substituting stockholder profits for patient care. While lip-service is paid to the importance of integration of care, continuity of service and cost-effective treatment, insurance companies until recently had shown a preference for 'carved out' mental health services; in such arrangements, treatment previously

covered as part of medical insurance is contracted out to separate facilities, and managers try to reduce costs while still maintaining quality of care. What may be lost in the process is the highly sought after desire to integrate a patient's medical and psychiatric treatment in the same facility.

Because managed care companies require pre-admission approval, patients may be denied access to inpatient care. Only those patients considered by an external reviewer to be too sick or too dangerous to be treated in outpatient settings are allowed by insurance companies to be admitted to the hospital (26). While previously locked doors in state hospitals were subsequently opened, now inpatient units in general hospitals that had previously been 'open' units must be locked to accommodate 'involuntary' patients.

Short stays have resulted in what has been referred to as the 'revolving door' phenomenon. Patients previously hospitalized in a single admission until sufficiently improved for discharge are now transferred to less restrictive settings as quickly as possible and readmitted when necessary. The milieu model of older inpatient units, with a psychodynamic focus on therapy, has been replaced with a medical model where decisions are made by staff. The goal is stabilization more than remission or resolution of problems, with extensive use of day programs and partial hospitalization rather than residential therapeutic communities. The impact on training and education has been significant. With much briefer hospitalizations, there is less opportunity for extended contact with patients, hastier treatment, and minimal observation of the course of illness.

Managed care has introduced many new problems: legal, ethical, clinical, financial and administrative. Nonetheless, our system of general hospital psychiatric care has come close to what Mosher had proposed at the beginning of the 20th century: it is quite comprehensive, less restrictive for most patients, and more humane

than that experienced by patients in the large custodial institutions of the 19th century. In 1998, there were more than 261,000 psychiatric inpatient beds in the US, 54,200 of these in general hospitals. Although general hospitals account for only 20% of total beds, they provide care for more than twice as many episodes of care than psychiatric hospitals (8). In addition, the general hospital offers biopsychosocial evaluation, brief medical-psychiatric intervention and psychopharmacological management to many thousands of non-psychiatric patients in the general medical setting, both inpatient and outpatient.

Case-finding of comorbid conditions like substance abuse and combined medical/psychiatric illness is an important function of the C-L psychiatrist. Emergency psychiatric consultation, ambulatory services, substance abuse programs, services for the elderly, neuropsychological assessment, and child psychiatric services round out the spectrum of general hospital psychiatric services (28).

PROMISES, PROBLEMS AND PERSPECTIVES FOR THE 21ST CENTURY

While the above characterizes general hospital psychiatry over the past 100 years as it has evolved in the United States, the future of mental health care around the world faces similar problems and many uncertainties. There is much interest in other countries in the role of general hospitals in their mental health networks, but the timing and extent of developments have varied widely, depending on different interests, attitudes, professional availability, needs, economies, health care systems, cultures and so on (28-40). Perhaps Great Britain's experience most closely resembles that of the US (41). Italy in 1978 responded to a new law requiring the closing of all large psychiatric hospitals in favor of the general hospital as a source of mental health resources (42). Japan was still building large state institutions when the US was beginning to

close theirs (43). Germany, with its unique psychosomatic hospitals, has had no special need for med-psych units (44). But in spite of such differences, there appears to be a universal quest for greater integration of mental and physical health care and a high degree of consensus that this is most likely to be achieved in the setting of the general hospital (18).

There continues to be a great need for research into models of care, best practices, professional roles, and treatment outcomes. Innovations are needed to account for ethnocultural diversity and to provide refugee mental health programs. Treatment facilities for children and adolescents are woefully inadequate, as are programs for treatment of substance abuse and the psychosocial sequelae of AIDS. Inadequate funding is a constant problem and requires persistent lobbying, public education, and creativity. In times when government budgets are continually stretched, the fate of general hospital psychiatric services often hangs in the balance. Psychiatric services are always being expected to 'prove' themselves by justifying their costs. Some psychiatry departments, caught in the web of serious hospital financial difficulties, have been downsized or totally cut.

Although C-L psychiatry has demonstrated its value to effective whole-person care, it is constantly under threat because of poor reimbursement and funding (45). Even inpatient units in some hospitals have not been spared. Many general hospitals have been under siege in recent years; many have merged, some have collapsed; in several instances, patients have been deprived of essential services. Questions are repeatedly raised about the most suitable location of mental health services: in the community, the smaller general hospital, or the larger state institution? (16,46,47). One author (48), 40 years ago, assessing the rapid rise of general hospitals between 1920 and 1960, questioned the 'absolute certainty' with which psychiatry was relocated to general hospitals at that time; simi-

lar questions are posed today as the most suitable model for mental health services is constantly reassessed (49).

Attempts to marry 'psyche' and 'soma' over the years have been arduous (50); if integration is to be successful, it is most likely to happen in the general medical setting, where opportunities for a biopsychosocial approach to medicine are most prevalent (51). It is here that future explorations of collaborative care between psychiatry and primary medicine are most likely to take place; C-L psychiatry will play a major part as it finds new ways to collaborate with primary care colleagues in innovative health care delivery systems. With the prospect of C-L psychiatry (psychosomatic medicine) becoming an approved specialty, its cachet in the general hospital will be enhanced. But it will still need to 'market' itself in this competitive climate, so that administrators, politicians, and health policy experts will appreciate and support its essential role in biopsychosocial medicine. And I believe that whatever form mental health services ultimately take, the general hospital will be pivotal in its development (52); some aspects of general hospital psychiatry will endure while others perpetually change. In the future, with better economic analysis, we may see a realignment of the spectrum of facilities that accommodate both acute and chronic psychiatric patients, since no one 'unit' can comfortably attend to very heterogeneous populations. As long as inpatient services continue to 'follow the money' and are subject to 'bottom line' planning, decisions about what services stay and which must go will depend more on which service has the greatest revenue-producing ability at any particular time than on patients' health needs. Psychiatrists will need to be aware not only of the latest developments in psychiatry, medicine, and neuroscience but will also need to attend more to the 'business' aspects of their profession (indeed, it is becoming more common for physicians to obtain advanced

degrees in business administration). It might be said that the role of the general hospital in delivery of mental health care is a work in progress (53).

References

1. Mayou R. The history of general hospital psychiatry. *Br J Psychiatry* 1989;155:764-76.
2. Sederer LI, Katz B, Manschreck TC. Inpatient psychiatry: perspectives from the general, the private and the state hospital. *Gen Hosp Psychiatry* 1984;6:180-90.
3. Bachrach LL. General hospital psychiatry: overview from a sociological perspective. *Am J Psychiatry* 1981;138:879-87.
4. Mosher JM. The insane in general hospitals. *Am J Insanity* 1900;57:325-9.
5. Lipowski ZJ. Holistic-medical foundations of American psychiatry: a bicentennial. *Am J Psychiatry* 1988;138:888-95.
6. Hackett TP. The psychiatrist: in the mainstream or on the banks of medicine? *Am J Psychiatry* 1977;134:432-4.
7. Summergrad P, Hackett TP. Alan Gregg and the rise of general hospital psychiatry. *Gen Hosp Psychiatry* 1987;9:439-45.
8. Statistics from Survey and Analysis Branch, Division of State and Community Systems Development, Center for Mental Health Services, 2000.
9. Geller JL. Issues in American psychiatry reflected in remarks of APA presidents. *Hosp Commun Psychiatry* 1994;45:993-1004.
10. Bachrach LL. The effects of deinstitutionalization on general hospital psychiatry. *Hosp Commun Psychiatry* 1981;32:786-90.
11. Lipsitt DR. General hospital psychiatry: not by beds alone. Presented at the 137th Annual Meeting of American Psychiatric Association, Los Angeles, May 1984.
12. Olfson M. The array of psychiatric services in general hospitals. *Gen Hosp Psychiatry* 1993;15:277-83.
13. Greenhill MH. Psychiatric units in general hospitals: 1979. *Hosp Commun Psychiatry* 1979;30:169-82.
14. Lipowski ZJ. Consultation-liaison psychiatry: the first half century. *Gen Hosp Psychiatry* 1986;8:305-15.
15. Bibring GL. Psychiatry and medical practice in a general hospital. *N Engl J Med* 1956;254:366-72.
16. Goldman HH, Sharfstein SS. Are specialized psychiatric services worth the higher cost? *Am J Psychiatry* 1987;144:626-8.
17. Henry GW. Some modern aspects of psychiatry in general hospital practice. *Am J Psychiatry* 1929;86:481-99.
18. Lipsitt DR. From fragmentation to integration: a history of comprehensive patient care. In: Haber JD, Mitchell GE (eds). *Primary care meets mental health: tools for the 21st century*. Tiburon: Centralink Publications, 1997:3-12.
19. Lipowski ZJ. Consultation-liaison psychiatry: an overview. *Am J Psychiatry* 1974;131:623-30.
20. Lipsitt DR. Psychiatry and the general hospital. *Gen Hosp Psychiatry* 1979;1:1-2.
21. Lief A. *The commonsense psychiatry of Adolf Meyer*. New York: McGraw-Hill, 1954.
22. Summergrad P. Medical psychiatry units and the roles of the inpatient psychiatric service in the general hospital. *Gen Hosp Psychiatry* 1994;16:1-3.
23. Lipsitt DR. The remedicalization of psychiatry. *Medical and health annual*, 1981. Chicago: Encyclopedia Britannica, 1981;291-5.
24. Lipsitt DR. The general hospital as a small university. *Jap J Gen Hosp Psychiatry* 1989;1:9-14.
25. Sabin JE. General hospital psychiatry and the ethics of managed care. *Gen Hosp Psychiatry* 1995;17:293-8.
26. Lansing AE, Lyons JS, Martens LC et al. The treatment of dangerous patients in managed care. Psychiatric hospital utilization and outcome. *Gen Hosp Psychiatry* 1997;19:112-8.
27. Lefkowitz PM. The continuum of care in a general hospital setting. *Gen Hosp Psychiatry* 1995;17:260-7.
28. Frame AH, McInroy DC. Psychiatry in the general hospital. *Scott Med J* 1967;12:284-8.
29. Ban TA, Klingner A, Warnes H. Comparing facilities in a psychiatric unit of a general hospital and an admission unit of a psychiatric hospital. *Can Psychiatr Assoc J* 1973;18:159-62.
30. Burvill PW. Psychiatric units in general hospitals. *Med J Aust* 1977;2:57-9.
31. Maksimowska M, Rut E. Niektóre korzyści ekonomiczne tworzenia oddziałów psychiatrycznych przy szpitalach ogólnych. (Economic advantages deriving from attaching psychiatric wards to general hospitals). *Psychiatr Pol* 1977;11:335-7.
32. Nomura S, Shigemura J, Nakamura M et al. Evaluation of the first medical psychiatry unit in Japan. *Psychiatry Clin Neurosci* 1996;50:305-8.
33. Scheytt D, Kaiser P, Priebe S. Behandlungsdauer und Fallkosten in unterschiedlichen stationären psychiatrischen Einrichtungen in Berlin. (Duration of treatment and case cost in different inpatient psychiatric facilities in Berlin). *Psychiatr Prax* 1996;23:10-4.
34. Barbato A. Psychiatry in transition: outcomes of mental health policy shift in Italy. *Aust N Zeal J Psychiatry* 1998;32:673-9.
35. Bocker FM. *Der Beitrag psychiatrischer*

- Abteilungen zur Umgestaltung der stationären Versorgung: Das Beispiel Sachsen-Anhalt. (Contribution of psychiatric departments to restructuring inpatient management: the Saxony-Anhalt example). *Psychiatr Prax* 1998; 25:179-82.
36. Burti L. Italian psychiatric reform 20 plus years after. *Acta Psychiatr Scand* 2001;104(Suppl. 410):41-6.
 37. De Jonge P, Huyse FJ, Herzog T et al. Referral patterns of neurological patients to psychiatric consultation-liaison services in 33 European hospitals. *Gen Hosp Psychiatry* 2001;23:152-7.
 38. Hildebrandt LM, Alencastre MB. A insercao da psiquiatria no hospital geral. (The integration of psychiatry services in the general hospital). *Rev Gaucha Enferm* 2001;22:167-86.
 39. Botega NJ. Psychiatric units in Brazilian general hospitals: a growing philanthropic field. *Int J Soc Psychiatry* 2002;48:97-102.
 40. Gebhardt RP, Schmidt-Michel PO. Anlasse zur Krankenhausbehandlung psychisch Kranker vor und nach der Eröffnung einer Satellitenstation. (Reasons for hospital treatment of psychiatric patients before and after the opening of a satellite ward). *Fortschr Neurol Psychiatrie* 2002;70:192-7.
 41. Freeman HL. The general hospital and mental health care: a British perspective. *Milbank Q* 1995;73:653-76.
 42. De Salvia D, Barbato A. Recent trends in mental health services in Italy: an analysis of national and local data. *Can J Psychiatry* 1993;38:195-202.
 43. Kudo Y. Psychiatric service in the general hospital in Japan. *Int Soc Psychiatry* 1970;16:216-20.
 44. Von Rad M, Sellschopp A. The integrated psychosomatic inpatient unit. A new approach to hospital medical care. *Psychother Psychosom* 1987;48:101-9.
 45. Lipowski ZJ. Consultation-liaison psychiatry: past failures and new opportunities. *Gen Hosp Psychiatry* 1979;1:3-10.
 46. Mechanic D. The future of inpatient psychiatry in general hospitals. *New Dir Ment Health Serv* 1997;73:103-8.
 47. Goldberg RJ. Financial management challenges for general hospital psychiatry 2001. *Gen Hosp Psychiatry* 2001;23:67-72.
 48. Schulberg HC. Psychiatric units in general hospitals: boon or bane? *Am J Psychiatry* 1963;120:30-6.
 49. Morreim EH. The new economics of medicine: special challenges for psychiatry. *J Med Philos* 1990;15:97-119.
 50. Lipsitt DR. Psyche and soma: struggles to close the gap. In: Menninger RW, Nemiah JC (eds). *American psychiatry after World War II: 1944-1994*. Washington: American Psychiatric Press, 2000:152-86.
 51. Engel GL. The biopsychosocial model and the education of health professionals. *Gen Hosp Psychiatry* 1979;1:156-65.
 52. Lipsitt DR. General hospital psychiatry: looking toward the 21st century. In: Matsushita M, Fukunishi I (eds). *Cutting edge medicine and liaison psychiatry*. Amsterdam: Elsevier, 1999:231-9.
 53. Lipsitt DR, Summergrad P. General hospital psychiatry: the dawn of a new century. *Psychiatric Times* 1994 (Dec):18-20.

Consultation-liaison psychiatry worldwide

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Don Lipsitt provides a historical view of psychiatry in the general hospital in USA and concludes on a cautionary note reflecting the severe funding difficulties faced by consultation-liaison (C-L) psychiatrists in USA over recent years. What is the relevance of this to the rest of the world?

The evidence regarding the prevalence of psychiatric disorders around the world is now clearer than ever. In Australia, UK and USA, for example, population-based studies indicate that 20-27% of adults have suffered from affective, anxiety or substance misuse disorder in the last year, whereas 0.4% had psychosis (1). A minority of these people receives specific mental health treatment, reflecting the fact that most present to general medical facilities, where psychiatric disorders may not be detected and treated (2). In developing countries there is a much higher prevalence of depressive and other disorders and only a tiny proportion receive treatment (3). In most countries the principal source of help is primary care, and the global World Health Organization study confirmed that depressive, anxiety, neurasthenic and alcohol misuse disorders are the most common disorders seen in this setting (2). These psychiatric disorders are closely associated with the presence of physical illness and have a profound effect on occupational functioning.

By contrast, the development of psychiatric services in many countries has not been guided by these epidemiological findings. There has been a strong emphasis on services for people with schizophrenia and other severe

psychiatric disorders and the mental hospital dominated services during the last century. This emphasis on services for the seriously mentally ill continues in many Western countries, at the expense of C-L services in those countries where they were most developed, principally USA. In many other countries, where C-L services had not previously developed, they are struggling to do so against a tide of concern to provide intensive community services based in community mental health centres, rather than in the general hospital.

Set against this background, the future of C-L psychiatric services may appear bleak, but there is another body of evidence that is gradually having impact on the planners of general medical services. Reports of unmet need for psychiatric treatment among the patients of general hospitals are increasingly accompanied by evidence that effective treatments are available. A large European study indicated that C-L services are still developed according to the energy and persuasiveness of individual C-L psychiatrists rather than according to need (4). Reports are now emerging that call for better developed C-L services, which are funded by the acute medical services (5).

The development of C-L services should be encouraged by the increasing importance being placed on health economics and cost-effectiveness studies. Psychiatric disorders, most commonly depressive and anxiety disorders and neurasthenia, impair health-related quality of life and lead to greater healthcare costs (6,7). Cost-effectiveness studies demonstrating the advantages of developing psychiatric treatments in primary care (8,9) are now being performed in general

hospital patients with equally beneficial effect (10). The importance of these studies to C-L psychiatry lies in the fact that these results can only be achieved if psychiatric treatments are delivered at the site to which the patients present, since such patients will not attend specialised psychiatric treatment facilities.

As our understanding of the biological and social basis of common psychiatric disorders increases, the evidence supporting the delivery of appropriate psychiatric care within general medical care becomes more compelling. As evidence-based medicine begins to influence health planning, we should see the growth of C-L psychiatric services, though these are likely to be linked more closely to primary care rather than be confined to general hospitals, as has been the case to date. C-L psychiatry, as Lipsitt concludes, is work in progress.

References

1. Andrews G, Henderson S, Hall W. Prevalence, comorbidity, disability and service utilisation. *Br J Psychiatry* 2001;178:145-53.
2. Ustun TB, Sartorius N. *Mental illness in general health care: an international study*. Chichester: Wiley, 1995.
3. Husain N, Creed F, Tomenson B. Depression and social stress in Pakistan. *Psychol Med* 2000;30:395-402.
4. Huyse F, Herzog T, Lobo A et al. Consultation-liaison psychiatric service delivery: results from a European study. *Gen Hosp Psychiatry* 2001;23:124-32.
5. Royal Colleges of Physicians and Psychiatrists. *The psychological care of medical patients*. London: Royal College of Physicians, 2003.
6. Creed F, Morgan R, Fiddler M et al. Depression and anxiety impair health-related quality of life and are associated with increased costs in general medical inpatients. *Psychosomatics* 2002;43:302-9.
7. Reid S, Wessely S, Crayford T et al. Frequent attenders with medically unexplained symptoms: service use and costs in secondary care. *Br J Psychiatry* 2002;180:248-53.
8. Simon GE, Manning WG, Katzelnick DJ et al. Cost-effectiveness of systematic depression treatment for high utilizers of general medical care. *Arch Gen Psychiatry* 2001;58:181-7.
9. Patel V, Chisholm D, Rabe-Hesketh S et

al. Efficacy and cost-effectiveness of drug and psychological treatments for common mental disorders in general health care in Goa, India: a randomised, controlled trial. *Lancet* 2003;361:33-9.

10. Creed F, Fernandes L, Guthrie E et al. The cost-effectiveness of psychotherapy and paroxetine for severe irritable bowel syndrome. *Gastroenterology* 2003; 124:303-17.

An international perspective on consultation-liaison psychiatry and the general hospital

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Don Lipsitt's review and preview of the relationship between psychiatry and the general hospital in the USA raises issues that resonate with those in other countries, albeit modified by history and culture. Differences in the organization of health services and in attitudes towards patients with disorders occurring at the interface of the psyche and the soma colour the method and context of delivery of care to such patients (1). These differences permit a refreshing opportunity to re-examine the ways in which patients with physical/psychiatric comorbidity and somatization can be helped. The International Organization for Consultation-Liaison Psychiatry (2) was formed to facilitate this process. It is an umbrella organization for all psychiatrists and physicians who specialize in clinical work, teaching and research at the medical/psychiatry interface. It aims to facilitate development of the field in all parts of the world.

The challenges identified by Lipsitt are universal. How can these best be met? The interface between medicine and psychiatry is a no-man's land, somewhat alienated from both. It is a difficult position from which to argue, let alone expect protection. However, there are some examples of successful strategies. The Academy of Psychosomatic Medicine in the USA has lobbied successfully for the setting of standards for integrated care. In Australia, similar lobbying was successful in obtaining acknowledgement that the National Mental Health Plan had the unforeseen consequence that funding agencies had erroneously equated severity with diagnosis rather than level of need and disability (3).

The arguments that can be put in such lobbying concern the prevalence and seriousness of disorders at the psyche/soma interface, and the availability of effective treatments that can make a difference in patients' general health outcome (4). Physical/psychiatric comorbidity and somatization are the commonest forms of psychiatric presentation in the community, and are chronic. These disorders matter. Depression is a risk factor for the major physical disorders of coronary artery disease and stroke. It also increases the morbidity and mortality of those who already suffer from these disorders. Treatment helps. Psychological interventions are very effective for somatization, and for outcomes in coronary heart disease, cancer and diabetes. Antidepressants are relatively safe and effective in the physically ill.

Psychiatry, with its dependence on the biopsychosocial model, must be aware of the fact that other disciplines using other paradigms have a strong interest in work at the psyche/soma interface. The paradigms of complexity, patient-centredness, quality of life and demoralization are some of these (5,6). Psychiatry must learn to work with those who use them. The studies

of Wells et al (7) and Simon et al (8) have shown quite clearly that new (to the USA) models of care involving a seamless web of pre-admission/admission/post-discharge functions delivered in a flexible structure and location, with integration with primary care and use of case management principles, are required in future. Risk factor screening for psychiatric caseness and complexity of care would be an important part of such a program. The European Consultation Liaison Workgroup has developed appropriate instruments (1,9). Psychiatry needs to be involved in policy making at all levels. In particular, it needs much greater involvement with consumers than has previously been the case. Finally, it must produce better evidence of its efficacy (10).

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References

1. Huyse FJ, Herzog T, Malt UF. International perspectives on consultation-liaison psychiatry. In: Wise MG, Rundell JR (eds). *Textbook of consultation-liaison psychiatry*, 2nd ed. Washington: American Psychiatric Press, 2002: 203-233.
2. International Organization for Consultation-Liaison Psychiatry. <http://www.med.monash.edu.au/psychmed/ioclp>.
3. Australian Health Ministers. *Second National Mental Health Plan*. Canberra: Commonwealth of Australia, 1998.
4. Smith GC. The future of consultation-liaison psychiatry. *Aust N Zeal J Psychiatry* (in press).
5. Smith GC, Strain JJ. George Engel's contribution to clinical psychiatry. *Aust N Zeal J Psychiatry* 2002;36:458-66.
6. Clarke DM, Smith GC, Dowe DL et al. An empirically derived taxonomy of common distress syndromes in the medically ill. *J Psychosom Res* 2003;54:323-30.
7. Wells K, Sherbourne C, Schoenbaum M et al. Impact of disseminating quality improvement programmes for depression in managed primary care: a randomised controlled trial. *JAMA* 2000;283:212-30.
8. Simon GE, von Korff M, Rutter C et al. A randomised trial of monitoring, feedback, and management of care by telephone to improve depression treatment in primary care. *Br Med J* 2000;320:550-4.
9. Huyse FJ, Lyons JS, Stiefel F et al. Operationalizing the biopsychosocial model. *Psychosomatics* 2001;42:5-13.
10. Borus JE, Barsky AJ, Carbone LA et al. Consultation-liaison offset. Searching for the wrong holy grail. *Psychosomatics* 2000;41:285-8.

The future of consultation-liaison psychiatry: prosper or perish?

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The fragmentary sources before 1700 (1) suggest that hospitals, in the original meaning of the word (i.e., places where people were welcome to stay for rest and "treatment" of their ailments), have existed for several thousand years (2). In the medieval period, general hospitals were established in Europe. The clinical care was based on humoral pathology theories. Mental ill patients were to some extent admitted to these hospitals. Thus 'Psychiatry' started out to be an integrated part of the 'general hospital'.

Inspired by Arab culture, the first 'psychiatric hospitals' in Europe were founded in Spain during the 16th century. In the centuries to come, the number of separate psychiatric institutions increased rapidly in Europe and America, parallel to the increase in general hospitals.

In the 20th century, psychiatry again increasingly integrated in general hospitals. However, in most cultures the integration of mental problems in biomedicine, and thus in general hospitals, has been the rule from a historical point of view, and not the exception as a limited focus on Western hospital history may suggest. Thus, the following threats to the future of general hospital psychiatry may primarily be a Western phenomenon.

- Consultation-liaison (C-L) service is often provided by psychiatric residents on duty. The lack of special knowledge of the interface between biomedicine, psychology and psychiatry (3) decreases quality of service and may reduce future acceptance of C-L within the general hospital.

- Many consultants providing C-L services deal with clinical problems according to their theoretical training and (limited) knowledge. In the European C-L psychiatry and psychosomatics workgroup study, including 56 C-L

services from 11 European countries (4), further analyses showed that treatment prescribed was predicted by the theoretical orientation of the C-L provider and not by patient's diagnosis or need. This incongruence is seen in non-European countries as well. This is a disaster for the reputation and acceptance of general hospital psychiatry in the long run.

- In some countries, psychiatric labels (e.g. 'adjustment disorder') may be used for reimbursement purposes (as done in US), when the patient's response is strong, but normal. Using psychiatric diagnoses for economical or political reasons threatens the credibility and ethics of C-L within the general hospital (5).

- The hospital owners' or health insurance companies' emphasis on cheap short-term services may threaten the professional ethics and standard of C-L psychiatry and thus its continued existence.

- In the future, inpatients will be limited to those needing 24 hr medical supervision. Most patients will be regular outpatients. This development calls for a psychosomatic approach that goes beyond the current narrow psychiatric perspective. A closer collaboration with

primary care is needed (6). But most C-L services are low-staffed and poorly prepared for this shift. This may also weaken the future acceptance of C-L psychiatry.

Approval of C-L psychiatry as a unique sub-speciality is needed. Greater emphasis on clinical research, including cross-national collaborative research along the lines of the pivotal European Union supported study (4), is warranted to meet the above challenges.

References

1. Horden P, Smith ES (eds). The year 1000: medical practice at the end of the first millennium. *Social History of Medicine* 13 (special issue), 2000.
2. Risse GB. *Mending bodies, saving souls: a history of hospitals*. New York: Oxford University Press, 1999.
3. Blomhoff S, Spetalen S, Jacobsen MB et al. Phobic anxiety changes the function of brain-gut axis in irritable bowel syndrome. *Psychosom Med* 2001;63:959-65.
4. Huyse FJ, Herzog T, Lobo A et al. Consultation-liaison psychiatric service delivery: results from a European study. *Gen Hosp Psychiatry* 2001;23:124-32.
5. Malt UF, Schnyder U, Weisæth L. ICD-10 mental and behavioral consequences of traumatic stress. In: *International review of psychiatry*, Vol. 2. Washington: American Psychiatric Press, 1996:151-76.
6. Malt UF, Nerdrum P, Oppedal B et al. Physical and mental problems attributed to dental amalgam fillings. A descriptive study of 99 self-referred patients compared with 272 controls. *Psychosom Med* 1997;59:32-41.

Psychiatry, psychosomatic medicine and the general hospital in Germany

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In many countries, the integration of psychiatric departments in general hospitals has paved the way for psychiatry

as a discipline to be taken increasing notice of by medical-surgical physicians and patients alike. In this commentary, I will discuss aspects of the relationship of psychiatric services and the general hospital in Germany, and comment on peculiarities of the German health care system, regarding the

existence of two separate disciplines, 'psychiatry and psychotherapy' and 'psychotherapeutic medicine', within the training of physicians.

While in the USA the foundation of psychiatric departments as integrated parts of general hospitals started as early as in the 1920s, in the Federal Republic of Germany state mental hospitals have given way to general hospital psychiatric departments only since the 1970s. This was the result of a national inquiry into mental health services, initiated by the German Lower House, well-known as 'Psychiatrie-Enquête' (1). Its aim was to end the discriminating segregation and poor treatment of psychiatric patients.

Apart from initiating the discharge of chronically ill patients from institutions into community mental health services, its overall aim was to integrate psychiatry into the whole of medicine. Since then, there was a tremendous increase in psychiatric departments in general hospitals, from a handful in 1970 to 160 in 2003. Together with 150 stand-alone psychiatric hospitals, these services care for the acutely ill psychiatric patients in Germany (2,3).

While the emphasis of the Psychiatrie-Enquête was on de-institutionalization, it also stated that consultation-liaison (C-L) psychiatric services could provide better treatment opportunities in general hospitals for somatically ill patients with co-morbid psychiatric disorders. Hence, it called for the establishment of a C-L service in every large hospital for the treatment of suicide attempters and suggested that C-L psychiatry be involved with primary prevention in high-risk groups, such as accident victims, dialysis or transplantation patients.

Since 1990, when the number of psychiatric departments in general hospitals rose to more than 100, psychiatrists increasingly began to extend their research to C-L psychiatric topics. The Lubeck General Hospital Study is an excellent epidemiological study of psychiatric co-morbidity of physically ill patients in internal and surgical departments in general hospitals (4). As of today, the integration of psychiatry via

psychiatric departments into the general hospital, or at least close collaboration between stand-alone psychiatric facilities and nearby general hospitals (5), is regarded as standard of care, and psychiatric C-L services are appreciated by medical-surgical doctors.

But, things are not that simple in Germany. It is a very special feature of the German physicians' specialty system that two distinct physician specialties exist for the care of psychologically ill patients: one is called 'psychiatry and psychotherapy' (psychiatry), the other one, in existence since 1992, is called 'physician for psychotherapeutic medicine' (psychosomatics). It is this author's experience that to non-German psychiatrists this development is hardly ever understandable. Do they care, for example, for different groups of patients? Not necessarily, if we look at psychiatric vs. psychosomatic C-L services.

There is a wide overlap in the care of patients with depressive symptoms, with no accepted way of locating patients to one service or the other, if two services exist in one hospital, which is not the usual case, since most of the psychosomatic beds are not in the acute hospital care sector, but in rehabilitation hospitals. Mostly in university hospitals, there may be separate C-L services provided by 'psychiatry and psychotherapy' and 'psychotherapeutic medicine', with a usual ratio of referrals of at least 3 to 1. It is estimated that 95% of existing hospital C-L services are provided by psychiatry, and, due to some overlap, 20% by psychosomatics (6). Plans to increase the number of psychosomatic departments in general hospitals, in addition to psychiatric departments, are controversial.

In the European Consultation Liaison Workgroup study, a cluster analysis on variations in the characteristics of patients referred to 56 C-L services in 11 European countries yielded two types of service provision: one 'psychosomatic' and one 'psychiatric' (7). Genuine psychosomatic service delivery was a German peculiarity, with such services virtually seeing no deliberate self harm patients, only a low percent-

age of substance abuse patients and a very low percentage of patients with organic mental syndromes. Their main focus was on dealing with unexplained physical complaints, which, on the other hand, was an important function of psychiatric C-L services as well (8). Psychosomatic and psychiatric services differ with regard to the amount of psychotropic drug prescription for similar diagnostic groups, but the few comparative studies did not include measures of severity.

Increasing awareness of psychiatric co-morbidity, especially in elderly general hospital inpatients, has led to increasing interest in medical-psychiatric units in this country. As German psychosomatic wards were mainly located in rehabilitation centres with restricted admission of patients with genuine psychosomatic illnesses, and not in acute care hospitals, such psychosomatic wards should not be mistaken for genuine med-psych units. On the other hand, psychiatric wards focusing on geropsychiatric patients and patients with addictive disorders, resembling med-psych units as known in the USA, can be found in general hospitals and psychiatric state hospitals (2).

It is this author's hope that the pivotal role of the general hospital for the improvement of care for physically and psychiatrically ill patients will also bring along combined psychiatric-psychosomatic treatment approaches in the future, just as it led to the successful re-integration of psychiatry into medicine in the past.

References

1. Deutscher Bundestag. Bericht über die Lage der Psychiatrie in der Bundesrepublik Deutschland - Zur psychiatrischen und psychotherapeutisch/psychosomatischen Versorgung der Bevölkerung. Drucksache 7/4200. Bonn: Heger, 1975.
2. Diefenbacher A. Consultation and liaison psychiatry. In: Helmchen H, Henn F, Lauter H et al (eds). Contemporary psychiatry, Vol. 1. Berlin: Springer, 2000:253-67.
3. Diefenbacher A. Liaison and consultation psychiatry. In: Smelser NJ, Baltes PB (eds). International encyclopedia of the social behavioral sciences. Oxford: Perga-

mon, 2001:8779-84.

4. Arolt V. Psychische Störungen bei Krankenhauspatienten - Eine epidemiologische Untersuchung zu Diagnostik, Prävalenz und Behandlungsbedarf psychiatrischer Morbidität bei internistischen und chirurgischen Patienten. Berlin: Springer, 1997.
5. Gebhardt RP, Schmidt-Michel PO. An acute psychiatric ward moves into the community. An empirical test of the satellite model. *Nervenarzt* 2002;73:1088-93.
6. Huysse FJ, Herzog T, Malt UF. International perspectives on consultation-liaison psychiatry. In: Rundell JR, Wise MG (eds).

The American Psychiatric Press textbook of consultation-liaison psychiatry. Washington: American Psychiatric Press, 1996: 228-55.

7. Huysse FJ, Herzog T, Lobo A et al. European consultation-liaison services and their user populations: the ECLW collaborative study. *Psychosomatics* 2000;41:330-8.
8. Knorr C, Diefenbacher A, Paetzmann S et al. Vergleich eines psychosomatischen und psychiatrischen Konsildienstes zweier Universitätskliniken. In: Peters UH, Schifferdecker M, Krahl A (eds). 150 Jahre Psychiatrie, Vol. 1. Köln: Martini-Verlag, 1996:634-8.

Ten years behind 'an age of uncertainty'

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When I read Don Lipsitt's paper, I thought that Japan is standing 10 years behind. Symbolically, the Japanese Journal of General Hospital Psychiatry was first published in 1989, while General Hospital Psychiatry was first published in 1979.

Japan has the highest rate of psychiatric beds per 10,000 people in the world. The total number of beds for the mentally ill in Japan is approximately 340,000, of which general hospitals have only about 20,000 (5.8%) (1). In other words, inpatient mental care in Japan mostly depends upon mental hospitals. According to a survey by the Japanese Society of General Hospital Psychiatry (JSGHP), there are 1,163 general hospitals in Japan, of which 637 (55%) have psychiatric departments (388 general hospitals have only outpatient psychiatric clinics, while 249 also have psychiatric beds) (2).

In 2000, the average length of stay in psychiatric beds in Japan was still 376.5 days, with a trend of length of stay decreasing from 489.6 days in 1990. In mental hospitals, the average length of stay was 439.6 days in 2000. The Health Ministry estimates that more

than 70,000 of those under long-term treatment no longer need it. It is believed that many of the people institutionalized in Japan's psychiatric hospitals are so-called socially hospitalized patients, i.e. people who are kept in such institutions not for medical reasons, but for personal and/or social reasons. This has been partly due to the lack of sufficient welfare facilities, such as sheltered work sites and group homes, which enable psychiatric patients to live outside institutions. Finally, the Japanese government is trying to reform the hospital and community sector payment system so that it encourages community-based treatment wherever possible.

In the near future, two topics will challenge us. First, managed care will be experimentally applied to university hospitals in 2003. I think this would be a good opportunity to raise the clinical significance of psychiatry in general hospitals. A large number of studies over the recent ten years in the US showing benefits such as shortening of hospital stay will be excellent references.

The second topic is that all physicians, whatever their specialty, will have to be trained in psychiatry for 1-3 months during their first two years of residency starting in 2004. In the debate over the appropriateness of

including psychiatry in compulsory training, evidence concerning the prevalence of mental disorders among the physically ill was the most convincing argument (3). Such a post-graduate educational reform would hopefully contribute to the spread of consultation-liaison psychiatry and general hospital psychiatry. Non-psychiatric physicians who have completed a psychiatric education should improve the quality of general hospitals, because they could treat their patients from a bio-psycho-social perspective. Furthermore, they would have a network with psychiatrists that would facilitate frank discussion. Such a network would also be very important for general hospital psychiatrists.

References

1. Hosaka T, Iwasaki Y. Consultation-liaison psychiatry in Japan. In: Rundell JR, Wise MG (eds). Textbook of consultation-liaison psychiatry, 2nd ed. Washington: American Psychiatric Press, 2002:218-20.
2. Kurosawa H, Hosaka T. General concepts of consultation-liaison psychiatry in Japan. In: Fukunishi I (ed). Consultation-liaison psychiatry in Japan. Basel: Karger, 2001:1-16.
3. Hosaka T, Aoki T, Watanabe T et al. Comorbidity of depression among physically ill patients and its effect on the length of hospital stay. *Psychiatry Clin Neurosci* 1999;53:491-5.

General hospital psychiatry: the Italian experience

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It is not a case that Don Lipsitt, in his introductory paper, mentions the Italian experience, as well as the British, the Japanese and the German ones.

In the 1960s, psychiatric care in Italy was almost completely delivered in

psychiatric hospitals and private clinics. There were also University neuropsychiatric departments within general hospitals. In 1976, these were split into neurological and psychiatric departments.

The law 180 of the year 1978 radically changed the organization of psychiatric care in Italy (1). Two subsequent 'national target plans for mental health' underlined the importance of the mental health department as an organizing model aimed to prevention, care and rehabilitation of psychiatric disorders through the integration of activities done in different psychiatric services - community mental health centers (CMHCs), day centers, residences in the community, day hospitals, general hospital psychiatric wards (GHPWs) - and in other services such as the substance abuse services and the child psychiatry services.

The 320 GHPWs have no more than 16 beds each (about 1/10,000 inhabitants) (2). They are just a node in the service network, complementary to community facilities, and not vice versa, as in most European programs (3).

Compulsory admissions, which are aimed to address clinical needs rather than social dangerousness, are proposed by two physicians and decided by the administrative authority (the city mayor), rather than by legal authorities as in most other countries. They are requested initially for seven days. These admissions, representing 50% of total psychiatric admissions in 1975, dropped to 11.8% in 1997. The revolving door phenomenon is more frequent where community care is less efficient (4,5).

GHPWs also carry out consultation-liaison psychiatry (CLP) activities. In smaller hospitals, which do not have a GHPW, these activities are performed by psychiatrists of CMHCs. In some hospitals, mostly University ones, there are specific and independent CLP services, with a full time skilled staff.

Today CLP has several important tasks: to fight some negative tendencies of contemporary medicine (such as sectorialization and commercialization

of health care), to maintain a holistic perspective, and to represent the way by which psychiatry introduces itself to hospital physicians and to primary care physicians (PCPs). Moreover, CLP allows psychiatrists to get in touch with many patients that they would not meet otherwise (alcohol abusers, borderline patients, patients with self-harm behaviors or eating disorders).

CLP for PCPs shares several features with the more traditional general hospital setting. In Italy, the recent creation of primary care departments (where groups of 15-20 PCPs work together) leads the way to new types of cooperation. For example, we can have a CL psychiatrist working with a PCP group to deal with complex clinical needs, representing a filter with respect to referral to CMHCs.

From consultation to integrated health risk assessment

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Don Lipsitt links the heyday of consultation-liaison psychiatry to the positive collaboration that had occurred with medical colleagues during the World War II. By then consultation-liaison psychiatry was strongly supported through National Institute of Mental Health (NIMH) programs, which later also introduced social workers and psychologists into the general hospital. This devalued somewhat the achieved professional authority of consultation-liaison psychiatrists, who were mainly psychoanalysts. The uprise of social sciences led to the development of the biopsychosocial model, which became the conceptual model for consultation-liaison psychiatrists. It was particularly valuable for liaison models on at-risk wards. Liaison psychiatry assumes a preventive integrated collaboration between psychiatric consultants and

References

1. Cazzullo CL, Comazzi M, Guaraldi GP et al. General hospital psychiatry in Italy: on the hospitalization of psychiatric patients and consultation-liaison psychiatry after law 180/1978. *Gen Hosp Psychiatry* 1984; 6:261-5.
2. Piccinelli M, Politi P, Barale F. Focus on psychiatry in Italy. *Br J Psychiatry* 2002; 181:538-44.
3. Tansella M, Williams P. The Italian experience and its implications. *Psychol Med* 1987;17:283-9.
4. Mustacatu C, Ariatti R, Fioritti A et al. Panorama europeo delle legislazioni di interesse psichiatrico. In: Fioritti A (ed). *Leggi e salute mentale: panorama europeo delle legislazioni di interesse psichiatrico*. Torino: Centro Scientifico Editore, 2002: 1-118.
5. de Girolamo G, Cozza M. The Italian psychiatric reform: a 20-year perspective. *Int J Law Psychiatry* 2000;23:197-214.

medical teams serving populations with a high prevalence of psychiatric disorders and distress (1). The DSM system brought psychiatry sound epidemiology, announced the decline of psychoanalysis and brought psychiatry back into the medical model. Epidemiological studies found significant discrepancies between prevalence and service delivery for patients with psychiatric disorders in the general hospital setting (2). These were the arguments for the liaison model. However, its operationalisation was lacking (3). This led to the complex paradox of being both part of the scientific medical world with an empirical diagnostic system and embracing a non-operationalised conceptual model regarded as vague (4). It drifted consultation-liaison psychiatrists into the arms of managed care, which reduced its intellectual knowledge base to 'diagnosable disease', preventing them from fulfilling an intellectual leadership role for patients at risk for psychiatric comorbidity and psychosocial distress seen in medical wards (5).

Recently we reported an empirically derived method for assessment of complexity of care, operationalised in terms of health risks and needs and based on the biopsychosocial model. From the reduced role of consultation-liaison psychiatrists as consultants taking part in a fragmented spectrum of health care provision in the medical setting, this method offers a model for a move to a role in indicator-generated integrated care for complex patients, i.e. modern liaison (6,7). The INTERMED consists of 20 variables (Table 1), rated 0-3, reflecting the risk factors with respect to somatic, psychological and social functioning, and the patients' relation with the health care system. The total score, ranging 0-60, is used as a measure of complexity of care.

The reliability and validity of the INTERMED have been reported elsewhere. In a confirmative factor analysis of 1100 cases, the following underlying factors were found to contribute to the complexity of a patient: physical chronicity, psychological vulnerability, social disruption, dependency (being able to take care for oneself), diagnostic complexity and compliance (8). The interview can be conducted by a trained nurse in about 15 minutes. The scoring, which is visualized, takes another 5 minutes. Currently a semi-automatic computer generated letter describing the risks and needs in a structured way is tested. It will allow a nurse clinician to have a comprehensive report in another 10 to 15 minutes, which will support, when needed, the initiation of coordinated care. The instrument has both psychometric and clinimetric properties and acts both as traditional assessments do as well as a means of coordinated communication amongst health care providers. Therefore it allows a protocolized assessment, being highly supportive for clinical decision making by higher trained nurses who are supervised by a psychiatrist. Thereby an empirical coordination of care can be introduced in the general health sector comparable with case management in the mental health sector.

This, in combination with the new models for integrated care including

Table 1 The INTERMED

| | History | Current state | Prognosis |
|---------------|--|---|-------------------------------|
| Biological | Chronicity Diagnostic dilemma | Severity of symptoms Diagnostic challenge | Complications and life threat |
| Psychological | Restrictions in coping Psychiatric dysfunctioning | Resistance to treatment Psychiatric symptoms | Mental health threat |
| Social | Restrictions in integration Social dysfunctioning | Residential instability Restrictions of network | Social vulnerability |
| Health care | Intensity of treatment Treatment experience | Organisation of care Appropriateness of referral | Coordination |

coordination of care by specialist nurses (9,10) and the recognition of the discipline through subspecialisation status (11), might contribute substantially to the development of formalised integrated care for patients at risk for complexity of care seen in the general hospital setting.

References

1. Strain JJ. Liaison psychiatry. In: Wise MG, Rundell JR (eds). *The American Psychiatric Publishing textbook of consultation-liaison psychiatry: psychiatry in the medically ill*. Washington: American Psychiatric Publishing, 2002:33-48.
2. Huyse FJ, Herzog T, Lobo A et al. Consultation-liaison psychiatric service delivery: results from a European study. *Gen Hosp Psychiatry* 2001;23:124-32.
3. Pincus HA. Making the case for consultation-liaison psychiatry: issues in cost-effectiveness analysis. *Gen Hosp Psychiatry* 1984;6:173-9.
4. Lobo A. Elucidating mental disorder in liaison psychiatry: the Johns Hopkins 'perspectives'. *J Psychosom Res* 1996;41: 7-11.
5. Smith GC. From consultation-liaison psychiatry to psychosocial advocacy: maintaining psychiatry's scope. *Aust N Zeal J Psychiatry* 1998;32:753-61.
6. Huyse FJ, Lyons JS, Stiefel FC et al. The INTERMED. Operationalizing the biopsychosocial model. *Psychosomatics* 2001; 42:5-13.
7. Huyse FJ, Lyons JS, Stiefel FC et al. INTERMED. A method to assess health service needs: I. Development and reliability. *Gen Hosp Psychiatry* 1999;21:39-48.
8. Huyse FJ, De Jonge P, Slaets JPJ et al. INTERMED: its factor structure. *Psychosomatics* 2003;44:135.
9. Kathol RG. Integrating psychiatric treatment into outpatient primary/specialty care: clinical models and economic feasibility. *Primary Psychiatry* 1999;6: 86-90.
10. Unutzer J, Katon W, Callahan CM et al. Collaborative care management of late-life depression in the primary care setting: a randomized controlled trial. *JAMA* 2002;288:2836-45.
11. Kornfeld DS. Consultation-liaison psychiatry: contributions to medical practice. *Am J Psychiatry* 2002;159:1961-3.

General hospital psychiatry: a new sub-specialty?

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Psychiatry has been definitely incorporated and integrated into the rest of medicine and into the general hospital as a medical specialty, fol-

lowing the trend towards community psychiatry and deinstitutionalization, which came hand in hand with the emergence of new therapies and the reduction of stigma, promoting integration with the family and a more effective psychosocial rehabilitation.

General hospital psychiatry covers a wide range of areas, from consultation-

liaison psychiatry to the management of acute psychiatric patients in the general hospital setting.

These developments brought about a very important change in the role and in the identity of the general hospital psychiatrist. The new responsibilities implied the necessary training for an efficient assistance of patients, research activities and teaching functions in all the areas of psychiatry.

The American Board of Psychiatry and Neurology has recommended a sub-specialty status for consultation-liaison psychiatry, under the denomination of 'psychosomatic medicine'. If this is approved, the first certificate would probably be awarded in 2005. Psychosomatic medicine would then become the seventh sub-specialty within psychiatry.

The subject of sub-specialization is a very controversial one. It has its supporters and those who think otherwise. According to Yager (1), sub-specialization is desirable and makes the field stronger. Accredited sub-specialty programs increase focus, scholarship and research, enhance the presence and the influence of the specialist in academic centers, and may influence positive decisions concerning managed care decisions.

On the other hand, McKegey et al (2) point out that consultation-liaison psychiatry should be considered a 'supra-specialty', because it is significantly involved in many of the 'sub-specialty' areas throughout psychiatry.

While sub-specialization is important and accreditation of consultation-liaison psychiatrists will result in increased focus, scholarship and research, we should consider whether renaming it 'psychosomatic medicine' is the most appropriate thing to do. On the one hand, psychosomatic medicine refers to the integrated focus on mind/soul and body, that we know as the holistic conception of medicine, or the 'the biopsychosocial approach'. On the other, the term psychosomatic medicine is linked to the concept of psychosomatic diseases, which is no longer in vogue.

There is no doubt that the new

paradigm for general hospital psychiatry demands a training beyond that of the consultation-liaison psychiatrist, because the psychiatric physician working in the general hospital has to assist not only psychosomatic patients but also patients with all kind of psychiatric and cerebral/organic disorders. Another element to be taken into consideration is the aging of the population, with the increase in age-related neuropsychiatric morbidity associated with dementia, stroke, and Parkinson's disease (3).

In 1978, Denis Hill said that the psychiatrist should be a physician, a scientist, a psychotherapist and a leader. Today, these attributes are not sufficient. The general hospital psychiatrist of the 21st century must be a physician, a scientist, a psychotherapist, a leader, a teacher, a capable and

skilful team worker (4). To this we must add knowledge of forensic medicine, economics and administrative aspects of managed care.

References

1. Yager J. Subspecialization in psychiatry. In: Yager J (ed). *The future of psychiatry as a medical specialty*. Washington: American Psychiatric Press, 1989:33-47.
2. McKegey F, O'Dowd MA, Schwartz C et al. A fallacy of subspecialization in psychiatry. *Psychosomatics* 1991;32:343-5.
3. Fahrner R, Lipsitt D. Integration of psychiatry, medicine and primary care. Its importance for the future of psychiatry. In: Christodoulou GN (ed). *Advances in psychiatry*. Athens: Beta Medical Publishers, 2002:147-52.
4. Fahrner F. Psychiatric training for the primary care physician. The role of a consultation-liaison psychiatrist: a proposal. *New Trends Exper Clin Psychiatry* 1999; 2-3:79-82.

Importance of general hospital in the development of mental health care

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Don Lipsitt summarizes the development of general hospital psychiatry, its current status and its possible future developments. Most of his comments are based on experiences in Western countries. There are significant differences in the development of general hospital psychiatric services between the low-income countries, especially in the South Asian region, and the West. In this commentary I will attempt to highlight some of these.

In most countries of the South Asian region, the development of mental health services during the 20th century has been slow compared to that of general health services.

India was the first country to introduce psychiatry to general hospitals in

1930 (1). The first general hospital psychiatry unit was opened in Sri Lanka at the Colombo General Hospital in 1949 (2).

The introduction of psychiatry to general hospitals in the region was influenced by the development of the general hospital psychiatry movement in Western countries. Psychiatrists who were exposed to Western general hospital psychiatric practices initiated the development of general hospital services in the region. The introduction of psychiatry to general hospitals was not associated with any significant reduction of mental hospital beds.

In Sri Lanka, between 1965 and 1975, general hospital units were established in each of the nine provincial general hospitals. Initially psychiatrists in the provincial hospitals conducted outpatient services in these hospitals, which were expanded subse-

quently to inpatient care. The opening up of general hospital services in provinces and districts gave access to mental health services for the first time to a large number of people suffering from major psychiatric illnesses such as psychosis and mood disorders, living in rural areas. Further, the consultation and liaison services provided by general hospital units contributed a great deal to meet the psychiatric needs of the general hospital patients. Increasingly patients preferred to make use of the facilities in the general hospital rather than those in the mental hospital.

During the last few decades, general hospital psychiatry has become a major force in the overall mental health development in the region and took the leadership in developing clinical care, training and research. The general hospital psychiatry unit at the Colombo National Hospital, established in 1968 by C.P. Wijesinghe, the first Professor of Psychiatry in Sri Lanka, had a profound influence in bringing psychiatry from the mental hospital to the general hospital. The clinical, training and research activities carried out at this unit attracted a large number of people to work in the area of mental health care. Apart from this, psychiatry came to be considered as a medical specialty along with other branches of medicine since then.

The establishment of a Community Mental Health Centre (Sahanaya) in Colombo in 1982 was a major achievement in taking psychiatry from the hospital to the community in Sri Lanka (3). This center, apart from providing rehabilitation, counseling and public awareness activities, also triggered off the development of a number of other initiatives, such as community based services, care givers groups and volunteer movements, thus facilitating the broad basing of mental health services in Sri Lanka.

From 1982 onwards, the general hospital academic unit in Colombo National Hospital also introduced an extensive undergraduate training module in psychiatry, which has influenced the development of similar pro-

grammes in the other five medical schools of the country. A major achievement of this initiative was the introduction of a behavioural stream (4) in the undergraduate medical programme, running throughout the five years of the medical course.

In most countries of the region, general hospital services carry out a disproportionately large amount of clinical work compared to that carried out by the mental hospitals. However, more than two thirds of the beds are still located in the mental hospitals. Short-term inpatient care, outpatient care, outreach and liaison work form the bulk of the general hospital services.

General hospital psychiatric services evolved not only in response to the needs of those with mental disorders, but also on the basis of the framework imposed by the general hospital structure and culture. Consequently, the predominant approach tended to be biomedical. Physical treatment approaches dominated, although there was a significant emphasis on psychological treatment, especially in the early phase of the general hospital movement. The very nature of the culture of the general hospital setting encouraged the development of categorization of illnesses, physical methods of treatment, reliance on medical and nursing staff.

In addition to dealing with serious mental disorders, general hospital psychiatric services had to respond to the mental health problems presenting in the general hospitals. These included providing services to those with suicidal behaviour, somatoform disorders, confused patients, and non-compliant patients. Often the general hospital staff looked upon the psychiatry services as a useful outlet for their difficult patients.

Certain general hospital facilities attempted to develop a much more comprehensive model taking into account the bio-psychosocial approach to mental health care. The establishment of day programs, outreach clinics, psychotherapy services facilitated the development of a more comprehensive

mental health care system. A few general hospital units started providing services for children, people with substance abuse problems, phobic disorders and a range of other mental health problems. In Sri Lanka, beginning from the year 2000, trained medical officers were appointed to most district hospitals to establish psychiatric services. This was the result of a special project undertaken by the National Council for Mental Health, the Ministry of Health and the World Bank (5). Given the shortage of fully trained psychiatrists, this was an attempt to take psychiatric services to secondary level hospitals located in the twenty-four districts. This indeed is a very significant event, as it is the first time that the general hospital psychiatry movement was able to facilitate the extension of mental health care beyond the provincial level in a tangible way. Initial evaluations show that this group of professionals who had a short period of special training has been able to provide a significant range of clinical and community services with the assistance of the provincial psychiatrist. Given the slow development of new initiatives in mental health care, especially in low-income countries, this is indeed a success story, which may be considered for adoption by low-income countries to overcome the shortage of psychiatric services at secondary care levels in districts.

The general hospital psychiatry has played a very influential role in the training of health and mental health professionals. Initially the training was aimed at medical undergraduates, but very soon it was expanded to address the needs of postgraduates and non-medical mental health professionals. As the training has been often based in the general hospital setting, the trainees had little experience in psychosocial, community or psychotherapeutic approaches. This has resulted in the majority of psychiatrists continuing to work in the general hospital setting engaged in biomedical interventions.

In spite of the development of general hospital psychiatry, the mental

hospitals continue to attract most of the mental health funds on the basis of traditional budgeting procedures. Consequently the general hospital mental health care services have to compete with other specialties for funds allocated to general hospitals. In view of the dominant position of the traditional medical specialties, psychiatric services are often considered as a low priority, resulting in minimal allocation of funds.

During the last two decades, the need to make mental health services more accessible to greater numbers of people with a wider range of mental health problems has become a goal which most public health agencies are aspiring to achieve. Moreover, with the increasing understanding and attention to the promotion of mental health, prevention of mental disorders and provision of rehabilitation services, there is a demand to develop services in these areas. A first step in this direction would be to evolve strategies to integrate mental health care services into the community based primary health care delivery systems in these countries. The slow emergence of community-based programmes, mobilization of non-governmental resources, involvement of non-medical mental health professionals and a wider range of agencies in providing preventive, promotional, rehabilitation programmes and services to special groups of people are very significant developments in the region.

During the last fifty years, general hospital psychiatry has played a very important role in delivering mental health care, providing leadership and directing the development of mental health services in the countries of the South Asian region. The general hospital psychiatry has become a powerful and a dominant factor in the organization of mental health care services. In Sri Lanka nearly 75% of psychiatrists work in general hospital psychiatry units. Many psychiatrists working in these units are uncomfortable with the medical model imposed by the hospital, but there is very little they can do

apart from working within the given institutional framework. At the same time, many in general hospital psychiatry find difficult to relate and interact with those working outside the hospital, especially community-based agencies.

In the circumstances, how could the general hospital psychiatry respond to new developments in mental health care?

The general hospital psychiatry will have to recognize the ongoing developments in overall mental health care and assess how best it could utilize its expertise, influence and resources to contribute to the development of a more comprehensive service to the community. The general hospital is likely to continue to play a dominant role in the care of patients with major mental illness in an institutional setting. The challenge is to work in partnership with other agencies and mental health care professionals to provide a service to meet the mental health needs of a wider range of people and communities. In order to achieve this, the general hospital psy-

chiatric services will have to critically evaluate their present role and bring about the necessary changes in attitude, culture, organization and priority setting processes to suit the emerging mental health needs and organization of mental health care services.

References

1. Prakash BB. General hospital psychiatry in India. In: Murthy RS (ed). *Mental health in India*. Bangalore: People's Action For Mental Health, 2000:140-1.
2. Carpenter JS, Mendis N. Mental health care following World War Two. In: Carpenter JS (ed). *The history of mental health care in Sri Lanka*. Colombo: Margga, 1987:52-3.
3. Pereira R. From darkness to light. In: Pereira R (ed). *The epic journey of Sahanaya*. Colombo: Vijitha Yapa, 2002: 13-5.
4. Jayasinghe S. A new curriculum: a shift for innovation. In: Jayasinghe S (ed). *Reforming medical curriculum, lessons from an established medical school in Sri Lanka*. Colombo: Jayasinghe, 2002:21-2.
5. Mendis N. Development of mental health care services in Sri Lanka. Report of the IDA/World Bank Health Services Development Project. Colombo: Smart Media Productions, 2002.

General hospital psychiatry: uncertainty starting from its name

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There is uncertainty even in the name of our sub-specialty: we practiced psychosomatic medicine, then consultation/liaison (C/L) psychiatry, general hospital psychiatry, medical psychiatry, etc., and finally, according to the WPA, we are psychiatrists in medicine and primary care. Do we all agree?

Don Lipsitt's reflection about uncertainty in general hospital psychiatry allows me to compare his vast experience with our Latin American reality, i.e., the practice of C/L psychiatry in developing countries like Mexico.

We were late bloomers, but we are coming. It was the mid 1950s when Alfonso Millán Maldonado, a pioneer of Mexican psychiatry, created the first department of psychiatry in a general hospital affiliated with the Ministry of Health. Years later, in the early 1970s, Mexico, with a population of more than 70 millions at that time, had only five general hospitals that formally included consulting psychiatrists, not all of them with beds available for psychiatric purposes.

For many years, most of our psychiatrists have been trained in an asylum setting, practicing mostly with chronic severe patients. Psychiatrists were considered people using an obscure and incomprehensible terminology

and easily misjudged as 'not really physicians', but mere charlatans excluded from 'real medicine'. Mental health for general hospital patients was not an option to be considered; very few psychiatrists had the opportunity to be trained in a systemic environment. Systemic therapy, mostly with a family therapy approach, started in Mexico in 1972 with Raymundo Macias and did not generalize to other psychiatrists in medical settings. That delay collected its toll and it was not until the early 1980s that people like Javier Sepulveda and Juan Ramón de la Fuente, both trained abroad, came back emphasizing the importance of C/L psychiatry, which is now included in the formal training of all Mexican psychiatrists.

Today Mexico, with a population of 100 million, has only 2200 psychiatrists. This is about two psychiatrists per 100,000 people, much fewer than its North American neighbors. Of those psychiatrists, less than 300 practice in institutional C/L settings, which puts a large demand on these doctors,

approximately 168,000 people for each psychiatrist, with an average of 1500 consultations per psychiatrist every year.

It is obvious that Latin America needs more psychiatrists in general hospitals and primary care settings but, because of the low salaries, most of our psychiatrists, after finishing their residency, start a private practice and seclude in their offices, far from helping with the public health needs.

Moreover, liaison activities in our country have diminished because my colleagues find difficulties in the payment of consultation services, and also because psychosocial issues have been washed away by an avalanche of neuropsychiatric and pharmacologic data.

To deal with the uncertainty, as a sub-specialty of psychiatry, we have to start agreeing on a name that better describes our daily duties and interests, if we want to overcome the mind-body dilemma, or the general hospital vs. psychiatric setting dilemma, etc. It makes sense to me what P.R. Mc Hugh

wrote recently about the crisis of psychiatry, insisting that beside the fight for domination between psychoanalysis and biological psychiatry, the influence of the drug industry and the managed care, the reason we are in trouble is that "we labor under a strange classificatory system (compared to medicine in general), one that insists to define mental disorders by their symptomatic appearance and not by their essential nature". He proposed four perspectives for psychiatry: the perspective of disease (what the patient has), the perspective of dimensions (what the patient is), the perspective of behaviors (what the patient does), the perspective of life story (what the patient encounters) (1).

I think that our task is to develop a language in common with the rest of the medical specialties without losing our own bio-psycho-social identity.

References

1. McHugh PR. Beyond DSM-IV: from appearances to essences. *Psychiatric Research Report*, Summer 2001:2-15.

The worldwide prevalence of ADHD: is it an American condition?

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Attention-deficit/hyperactivity disorder (ADHD) is a behavioral disorder that affects up to 1 in 20 children in the USA. The predominance of American research into this disorder over the past 40 years has led to the impression that ADHD is largely an American disorder and is much less prevalent elsewhere. This impression was reinforced by the perception that ADHD may stem from social and cultural factors that are most common in American society. However, another school of thought suggested that ADHD is a behavioral disorder common to children of many different races and societies worldwide, but that is not recognized by the medical community, perhaps due to confusion regarding its diagnosis and/or misconceptions regarding its adverse impact on children, their families, and society as a whole. In this article we present the available data, with a view to determining the worldwide prevalence of ADHD. A total of 50 studies were identified from a MEDLINE search for the terms ADHD, ADD, HKD, or attention-deficit/hyperactivity disorder and prevalence combined, for the years 1982 to 2001. 20 were studies in US populations and 30 were in non-US populations. Analysis of these studies suggests that the prevalence of ADHD is at least as high in many non-US children as in US children, with the highest prevalence rates being seen when using DSM-IV diagnoses. Recognition that ADHD is not purely an American disorder and that the prevalence of this behavioral disorder in many countries is in the same range as that in the USA will have important implications for the psychiatric care of children.

Key words: Attention deficit disorder (ADD), attention-deficit/hyperactivity disorder (ADHD), hyperkinetic disorder (HKD), prevalence

Attention-deficit/hyperactivity disorder (ADHD) is a behavioral disorder believed to affect up to 1 in 20 children in the USA (1). It is characterized by symptoms of inattention and/or impulsivity and hyperactivity which can significantly impact on many aspects of behavior and performance, both at school and at home. In approximately 80% of children with ADHD, symptoms persist into adolescence and may even continue into adulthood. The effects of ADHD significantly impact on the individual throughout childhood and well into adult life, especially if not managed optimally; people with ADHD tend to have a lower occupational status, poor social relationships, and are more likely to commit motoring offences and develop substance abuse (2). Parents and siblings also suffer as a result of the behavioral problems associated with ADHD; increased levels of stress are common as are depression and marital discord (3,4).

ADHD has been extensively studied in the USA over the past 40 years and this has led to our detailed understanding of the behavioral characteristics of the condition as it is now defined by the American Psychiatric Association (APA)'s DSM. However, this predominance of American research in this field and apparent differences in the prevalence of ADHD, or hyperkinesis, as defined by the World Health Organization (WHO) ICD, has also led to the impression that this is largely an American disorder and is much less prevalent elsewhere. For example, as pointed out by Taylor and Sandberg (5), data from studies in the late 1970s give a 20-fold greater prevalence of childhood hyperactivity in North America compared with England.

Taylor (5,6) addressed this issue in a comparison of factor analyses for seven different studies of children from the USA (3), UK, Australia, New Zealand, and Canada. He found that in all studies, descriptions of being restless and distractable formed a coherent factor corresponding to hyperactivity, which was distinct from antisocial behaviors such as defiance and aggressiveness. When the scores on this hyperactivity factor were compared from the different studies, they were found to be similar across the seven studies. Taylor thus suggested that the prevalence of such hyperactive behavior is probably similar across these different countries and that the apparent 20-fold difference in the prevalence of hyperactivity reflects differences in the definition of the condition rather than real differences in behavior between British and American children. For example, children with hyperactive behavior may be more likely to be diagnosed as having conduct disorder in the UK and ADHD in the USA.

This lack of a true difference in behavior between American and British children was further confirmed in a Scottish study of children referred to a Scottish Child Guidance Service and a group of control children (matched for age, sex, socio-economic status, and ability) (7). All children were scored for hyperactivity using the Conners' 1969 Teacher Rating Scale, as used in the USA. 4.5% of the controls were scored as hyperactive. This figure is similar to the prevalence of hyperactivity in the USA of 3-5% from studies using a similar definition (e.g. 8,9). Of the referred children, 42.7% were scored as hyperactive; this is comparable to the percentage (30-40%) of chil-

dren referred to child guidance clinics in the USA who are diagnosed as hyperactive (10). These data thus also suggest that apparent differences in the prevalence of ADHD reflect differences in diagnostic practice rather than true differences in behavior.

However, the question still remains, whether ADHD is largely an American disorder, perhaps stemming from social and cultural factors which are more common in American society. Alternatively, is this behavioral disorder common to children worldwide, or to a large number of races and societies, but not recognized by the medical community, perhaps due to confusion regarding its diagnosis and/or misconceptions regarding its adverse impact on children and their families and society as a whole, or persistent concerns regarding its treatment with stimulant drugs? This article reviews the available data regarding the prevalence of ADHD in different countries and cultures with a view to answering this question.

Before presenting these data, it is necessary to consider the factors which affect the prevalence figures arrived at in such epidemiological studies. The most obvious of these are probably the diagnostic criteria for ADHD, which have been evolving over the last 20-30 years since the terms 'attention deficit' and 'hyperactivity' were introduced. Terms such as 'minimal brain dysfunction' and 'organic brain dysfunction' have also been used to describe this behavioral disorder but have now largely been superseded. The terms 'hyperkinetic disorder' (HKD) and 'deficits in attention, motor control and perception' (DAMP) are still in use in the UK and a few other European countries (HKD) and Scandinavia (DAMP). (HKD defines a subset of patients with a particularly severe form of ADHD.) Other factors which affect prevalence rates include characteristics of the sample population, methods of diagnosis, and how rigorously diagnostic criteria are applied. Each of these factors will now be considered in detail.

Over the years, the diagnostic criteria for the condition now known as ADHD have evolved as research has furthered our understanding of the distinctive characteristics of the disorder. These developments can be mapped in the series of definitions published by the APA in the updates to their DSM and by the WHO revisions of the ICD. 'Attention deficit disorder with hyperactivity' (ADD-H) was introduced as a defined disorder in the DSM-III in 1980 (11) and this was updated in 1987 with the revised edition (DSM-III-R) (12), in which the disorder was redefined as 'attention deficit hyperactivity disorder' (ADHD). The disorder was redefined again in 1994 in the fourth edition of the DSM (DSM-IV) (1) and named 'attention-deficit/hyperactivity disorder'. The WHO definitions of hyperkinesis have also been revised from the ICD-9 definition published in 1978 to their more recent definition in ICD-10 published in 1992. While the WHO ICD-10 definition is still used in some countries, mainly in Europe, there is now a general move to using the DSM-IV defini-

tion of ADHD, which should make comparison of data between studies much easier.

This move towards a consensus for the definition of ADHD should facilitate the development of a clear picture of the worldwide epidemiology of the condition. However, it is still complicated by differences in how rigorously all the elements of the DSM-IV definition are applied. For example, some researchers omit the requirement for symptoms to be present in at least two settings (e.g. 13), while others omit the requirement for functional impairment resulting from the symptoms (e.g. 14,15). Other factors which affect the diagnosis of ADHD in different studies are: the informants used to assess symptoms, e.g. whether parents and/or teachers and/or subjects; and whether the diagnosis is based on scores on behavior checklists (e.g. 16-18), or from direct interviews (e.g. 15) or both (e.g. 19,20).

Further variations in the apparent prevalence rate arise from differences in the population surveyed. Epidemiological studies of ADHD generally either use representative community samples or school samples. An analysis of epidemiological studies in the USA found that community samples gave higher prevalence rates than school samples (mean prevalence: 10.3% for community samples vs. 6.9% for school samples) (21). It is generally agreed that the prevalence of ADHD is significantly greater in boys than girls, especially in children. Thus the ratio of males:females in the sample population can affect the apparent prevalence and may need to be taken into account. Similarly, the prevalence of ADHD is known to vary with age. For example, three studies have shown decreases in prevalence with increasing age over the age range 10-20 years (22), 8-15 years (23), and 6-14 years (24). Thus, even within studies of children, the age range of the sample is likely to affect the apparent prevalence.

These confounding factors make it difficult to compare the prevalence data for ADHD from one study and from one country to another. It is necessary to take these factors into account when comparing data from different studies.

METHODS

A MEDLINE search for the terms ADHD, ADD, HKD or attention-deficit/hyperactivity disorder and prevalence, combined with screening the reference lists of the obtained studies, identified papers reporting on the prevalence of ADHD. Papers were then checked to ascertain the population studied and the diagnostic criteria used. Only studies sampling from the general population or a well specified non-referred population (e.g., schools) were included in the next stage. This eliminated three studies that reported the prevalence of ADHD in clinic samples. The remaining papers were analyzed according to the diagnostic criteria employed.

In 50 papers, diagnoses of ADHD or ADD-H were based on DSM-III, DSM-III-R or DSM-IV criteria and

these were included in the further analysis. (Two papers employed DSM-III criteria but only presented data for ADD without hyperactivity and were thus excluded.) Of these 50 papers, 20 were studies of US populations and 30 were of non-US populations. A further four papers used ICD-9 or ICD-10 diagnostic criteria (one study each from the following countries: Hong Kong, Germany, France, and India), and another five used other definitions of hyperactivity (one study from each of the following countries: USA, UK, Sweden, Canada, and China). These nine papers were not included in the more detailed analysis. However, the populations studied in these papers were all represented in the 50 papers which were included in the further analysis, with the exception of France. Of note, no studies of ADHD in African populations were identified (except one unpublished study of children in Johannesburg described in Yao et al [25]), nor were there any studies in Eastern Europe. The selected studies cover a period from 1982 to 2001.

RESULTS

DSM-III studies

Thirteen studies were identified which included an assessment of the prevalence of DSM-III ADD-H in children and adolescents. These studies spanned the period from 1982 to 1998 and included four studies of US populations and nine studies of non-US children. Two of the more recent studies (16,26) also included assessments employing the more recent DSM-III-R and DSM-IV diagnostic criteria and are thus valuable for determining the effect of the diagnostic criteria on apparent prevalence, as will be discussed later.

All four studies of US populations (Table 1) involved children with a mean age of 9-11 years and investigated children within a similar age range. The prevalence rates for three of the studies lie within the range 9.1-12%. The one study involving less than 100 children reported a higher prevalence (18%) when teacher reports were used to determine the diagnosis, but gave a lower value (8%) when parent ratings were used (26). Of note, the study of

King and Young (27) only involved boys; the prevalence rate of 12% at the upper end of the range for these studies is consistent with the accepted observation that ADD-H/ADHD is more prevalent in males than females. Shekim et al (28) reported the prevalence of ADD-H, as determined from interviews with subjects, interviews with parents, and the rate of agreement between the two methods. When the assessment was based on the subject's reports of symptoms, a prevalence rate of 4% was reported, and when the diagnosis was dependent on both parent and subject reporting, this yielded a prevalence of only 2%. This suggests that children of this age are poor informants of ADD-H/ADHD symptoms and agreement between parents and subjects is poor, as is well recognized (20,29,30).

Of the nine studies in non-US populations, two were in adolescents (aged 15 years) (31,32) and reported prevalence rates of less than 1%. The remaining seven studies (Table 2) involved children aged 4-16 years and with mean ages of 7-11 years, and thus constitute a homogeneous age range comparable to that of the US studies. These studies reported prevalence rates in the range of 5.8-11.2%, except for the study of Taylor et al (33), which involved only boys and reported a higher prevalence of 16.6%, as might be expected for a totally male sample. The study of Leung et al (34) also involved a totally male population; thus the 6.1% prevalence of hyperactivity in this study may indicate a lower overall prevalence in Hong Kong compared to other countries. The authors suggested that both biological and cultural differences may account for the prevalence rates of hyperactivity in Chinese children. Interestingly, Taylor and Sandberg's study (5) also reported on the prevalence of hyperkinesis for their population of school boys aged 6-8 years. This value, 1.7%, is approximately one-tenth that of the reported prevalence of ADD-H in the same study. This difference in prevalence between hyperkinesis and ADD-H further supports Taylor's suggestion that the apparent difference in prevalence of ADHD/hyperactivity between US and British children stems from the difference in definition of the disorder rather than true behavioral differences between the two countries.

Table 1 Studies assessing prevalence of ADHD symptoms as defined by DSM-III in US children and adolescents

| Author(s) | Sample | Assessment method | Informant | Age mean (years) | Age range (years) | Males in sample (%) | Sample size | Prevalence (%) |
|--------------------------------|-----------------------------------|---|--------------------------|------------------|-------------------|---------------------|-------------|--|
| Bauermeister <i>et al</i> (57) | Children aged 4-16 in Puerto Rico | Interview (parent subject) Report (teacher) | Parent, teacher, subject | 11 | 6-16 | Not specified | 614 | 9.1 |
| King <i>et al</i> (27) | School | Rating scale | Teacher, subject | 9.1 | 7-11 | 100 | 219 | 12 |
| Newcorn <i>et al</i> (26) | School | Rating scale | Parent, teacher | 9.5 | - | 44 | 72 | 18 (teacher) 8 (parent) |
| Shekim <i>et al</i> (28) | School | Interview | Parent, subject | 9 | - | Not specified | 114 | 12 (parent) 4 (subject) 2 (parent and subject) |

Table 2 Studies assessing prevalence of ADHD symptoms as defined by DSM-III in non-US children and adolescents

| Country | Author(s) | Sample | Assessment method | Informant | Age mean (years) | Age range (years) | Males in sample (%) | Sample size | Prevalence (%) |
|-----------------|-------------------------------|---|---|--------------------------|------------------|-------------------|---------------------|-------------|--|
| Canada | Szatmari <i>et al</i> (58) | Representative sample of all children born between 1966 and 1979 living in Ontario School | Rating scale (parent, teacher, subject*) | Teacher, parent, subject | 10 | 4–16 | 50 | 2722 | 5.8 |
| China | Shen <i>et al</i> (59) | School | Rating scale (teacher) Interview (subject) | Teacher, subject | 10.1 | 7–14 | Not specified | 2770 | 5.8 |
| Germany | Baumgaertel <i>et al</i> (16) | School | Rating scale | Teacher | 8.5 | 5–12 | Not specified | 1077 | 6.4 |
| Hong Kong | Leung <i>et al</i> (34) | School | Rating scale (teacher) Interview (parent, teacher) | Teacher, parent | – | 7–8 | 100 | 3069 | 6.1 |
| India | Bhatia <i>et al</i> (60) | Hospital outpatient clinic | Rating scale (parent) Interview (parent, subject) | Teacher, subject | 7.5 | 3–12 | 61 | 1000 | 11.2 (3–4 years: 5.2 11–12 years: 29.2) 9.5 |
| The Netherlands | Verhulst <i>et al</i> (61) | Representative sample of children aged 8 or 11 years living in The Netherlands | Rating scale (teacher, parent) Interview (subject) | Teacher, parent, subject | – | 8 & 11 | 50 | 116 | 9.5 |
| UK | Taylor <i>et al</i> (33) | School | Rating scale | Teacher, parent | 7 | 6–8 | 100 | 3215 | 16.6 |

* Rating scale only administered to subjects aged 12–16 years.

DSM-III-R studies

A total of 22 studies were identified which had assessed the prevalence of ADHD using DSM-III-R criteria. These included 10 studies of US populations and 12 studies of non-US populations and were performed over a 12-year period from 1989 to 2001. As with the DSM-III studies, several have also included diagnosis using DSM-III or DSM-IV criteria and hence allow an estimation of the impact of diagnostic criteria on the apparent prevalence of ADHD/ADD-H.

The details of the 10 US studies are given in Table 3, with the exception of one study, which assessed prevalence in late adolescence and in young adults (age 16–22 years) (35). Five of the remaining studies involved children aged 5–14 years and with a mean age between 8 and 10 years (17,26,36–38). A sixth study (22) presented prevalence data for subjects aged 10–20 years, but reported prevalence figures for three age ranges within the population; the lowest age range (10–13 years) fell within that of the other five studies and thus was included in the analysis. Data from these six studies gave prevalence rates in the range 7.1–12.8%, with the outlier values of 26% based on teacher assessments in the Newcorn *et al* study (26), and 2.8% in the study of August *et al* (37). The Newcorn *et al* study involved less than 100 subjects from an inner city school and thus may not be representative of the general population. Also, the prevalence rate based on parent assessments (11%) in this study does fall within the range for the other studies. The study of August *et al* (37) used an initial screen for disruptive behaviors that employed a rather conservative threshold, so as to minimize false positive identifications, followed by more

detailed screening to diagnose the particular disorders. This use of a conservative initial screening method may have led to an underestimation of prevalence.

A seventh study (39) involved a slightly older population than the other studies (aged 9–17 years, mean age 13 years) and reported a somewhat lower prevalence rate of 4.5% (based on parent reports). This is in keeping with other data (e.g. 22) which indicate a decrease in prevalence with increasing age into adolescence and adulthood. Simonoff *et al* (40) also reported a low prevalence rate (2.4%) for an older population (aged 8–16 years); this was a population of Caucasian twin pairs and thus may not be representative of the general population. Finally, Lewinsohn *et al* (41) studied an adolescent population and reported a particularly low prevalence rate of 0.41%. However, this value was based on subject self reports of symptoms, and adolescents are known to be poor reporters of their own symptoms (42).

Twelve studies of non-US populations were identified which employed DSM-III-R diagnostic criteria. For one of these studies (43) the same data were reported in terms of DSM-IV criteria in a separate paper (44). The earlier paper was therefore excluded from this analysis and the later paper was reviewed with the other papers using DSM-IV criteria. The remaining 11 studies are summarized in Table 4. Four of these studies (23,45–47) involved adolescents (for Gomez-Beneyto *et al* [23] a 15-year age group) and report low prevalence rates (1.8–3.9%) as would be expected for this older population. The remaining eight studies (including the two younger age groups included in study of Gomez-Beneyto *et al* [23]) involved children aged 5–15 years and with a mean age of 6.5–11

Table 3 Studies assessing prevalence of ADHD symptoms as defined by DSM-III-R in US children and adolescents

| Author(s) | Sample | Assessment method | Informant | Age mean (years) | Age range (years) | Males in sample (%) | Sample size | Prevalence (%) |
|-----------------------------|--|--|--------------------------|------------------|--------------------|---------------------|-------------|-------------------------------|
| August and Garfinkel (36) | School | Rating scale | Teacher | 9.79 | 5.33–14.25 | Not specified | 1038 | 8.6 |
| August <i>et al</i> (37) | School | Interview (subject) Rating scale (subject, teacher, parent) | Subject, teacher, parent | 8 | 6–10 | Not specified | 7231 | 2.8 |
| Cohen <i>et al</i> (22) | Children originally sampled in 1975 when aged 1–10 years and living in an upstate New York county, plus sample of children aged 9–12 living in urban low income areas of the original county in 1983 | Interview | Parent, subject | 11.5 | 10–13 | 52 | 541 | 12.8 |
| | | | | 15 | 14–16 | 48 | 508 | 8.9 |
| | | | | 18.5 | 17–20 | 50 | 446 | 6.0 |
| Lewinsohn <i>et al</i> (41) | School | Interview | Subject | - | 16–20 (grade 9–12) | Not specified | 1710 | 0.41 |
| Newcorn <i>et al</i> (26) | School | Rating scale | Parent, teacher | 9.5 | - | 44 | 72 | 26 (teacher) 11 (parent) |
| Pelham <i>et al</i> (38) | School | Rating scale | Teacher | 9.5 | 5–14 | 100 | 931 | 7.1 |
| Simonoff <i>et al</i> (40) | Population white twins | Interview (subject, parent) Rating scale (subject, parent, teacher) | Subject, parent, teacher | - | 8–16 | 46.3 | 2762 pairs | 2.4 |
| Shaffer <i>et al</i> (39) | Sample of children aged 9–17 (details not given) | Interview | Parent, subject | 13 | 9–17 | Not specified | 1285 | 4.5 (parent) 2.2 (subject) |
| Wolraich <i>et al</i> (17) | School | Rating scale | Teacher | 8 | 4–12 | Not specified | 8258 | 7.3 |

Table 4 Studies assessing prevalence of ADHD symptoms as defined by DSM-III-R in non-US children and adolescents

| Country | Author(s) | Sample | Assessment method | Informant | Age mean (years) | Age range (years) | Males in sample (%) | Sample size | Prevalence (%) |
|-----------------|---------------------------------|--|--|---------------------------------------|------------------|-------------------|---------------------|-------------------|--|
| Canada | Breton <i>et al</i> (24) | Representative sample of children aged 6–14 years from throughout Quebec | Interview | Parent, teacher, subject (6–11 years) | 10 | 6–14 | Not specified | 2400 | 8.9 (teacher) 5.0 (parent) 3.3 (subject) |
| Finland | Puura <i>et al</i> (62) | Representative sample of children born 1981–9 and living in three areas in Southern Finland | Rating scale, Interview | Parent, subject | 8.5 | 8–9 | 50 | 3397 | 6.6 (parent) 0.6 (subject) |
| Germany | Baumgaertel <i>et al</i> (16) | School | Rating scale | Teacher | 8.5 | 5–12 | Not specified | 1077 | 10.9 |
| Israel | Zohar <i>et al</i> (45) | Consecutive inductees into the Israeli army | Interview | Subject | - | 16–17 | 67 | 562 | 3.9 |
| Italy | Gallucci <i>et al</i> (63) | School | Rating scale | Teacher | 9 | 8–10 | 50 | 232 | 3.9 |
| Japan | Kanbayashi <i>et al</i> (64) | School | Rating scale | Parent | 8 | 4–12 | 48 | 1022 | 7.7 |
| The Netherlands | Verhulst <i>et al</i> (46) | Representative national sample of children aged 13–18 years | Interview (parent, subject) Rating scale (parent, subject, teacher) | Teacher, parent, subject | 15.5 | 13–18 | Not specified | 780 | 1.8 (parent) 1.3 (subject) |
| New Zealand | Fergusson <i>et al</i> (47) | Birth cohort of children born in Christchurch urban region in 1977 | Interview | Parent, subject | 15 | - | Not specified | 986 | 3.0 (parent) 2.8 (subject) |
| Spain | Gomez-Beneyto <i>et al</i> (23) | Representative sample of children in Valencia of the defined ages | Interview | Parent, teacher | - | 8 11 15 | 50 49 51 | 326 385 416 | 14.4 5.3 3.0 |
| Sweden | Landgren <i>et al</i> (65) | Children born in 1986–7 and living in Mariestad, a rural area of southern Sweden when aged 6 years | Rating scale (parent, teacher) Interview (parent) | Teacher, parent | 6.5 | 6–7 | Not specified | 589 | 4.0 |
| Taiwan | Wang <i>et al</i> (66) | School | Rating scale | Teacher | 9.5 | 7–12 | 52 | 4290 | 9.9 |

years, comparable to that of the six US studies analyzed. Prevalence rates for these eight studies ranged between 3.9% and 14.4%.

DSM-IV studies

A total of 19 studies have now been published which used the DSM-IV diagnostic criteria; this included eight studies of US populations and 11 from non-US populations. Two of these studies also present prevalence data according to DSM-III-R criteria (16,17) and DSM-III criteria (16).

Of the eight US studies, one was in adults (48) and one used more lenient criteria in order to select sufficient girls for further study (49) and hence will not be discussed further. Six studies reported the prevalence of ADHD symptoms (i.e. fulfilment of criteria A only) and gave rates of 9.5-16.1% (Table 5). When only the four studies of children with mean ages of approximately 8-10 years are considered, this gives a prevalence range of 11.4-16.1%. Most of these studies diagnosed ADHD on the basis of either teacher or parent reports; only Rowland et al (50) employed teacher and parent reports of symptoms. Importantly, the data reported by Rowland et al are within the range reported for studies using a single informant and thus suggest that data from single-informant studies may be valid for comparing prevalence rates. Wolraich et al (18) reported the prevalence of ADHD both according to symptoms alone (16.1%) and when functional impairment was also required (6.8%). This indicates that estimates of ADHD prevalence based on symptom assessment alone are likely to be overestimates. However, such data may be useful to assess the relative prevalence of ADHD symptoms in different countries and cultures with the caveat that this should not be equated with the actual prevalence of ADHD.

Of the 11 studies of non-US populations, all except

one (51) used teacher and/or parent assessments of ADHD symptoms. Of these 10 studies, nine were in children with a mean age between 7 and 11 years. These nine studies reported rates of ADHD symptoms ranging from 2.4 to 19.8% (Table 6). Of these studies, five reported rates in the narrower range of 16.0-19.8%, which is at the high end of the range reported for the six US studies which spanned a similar age range. The studies that reported lower rates (2.4-7.5%) were the two studies of Australian populations, the only study of an Icelandic population, and the Swedish study. The low rates in the Australian, Icelandic and Swedish studies may reflect cultural differences in these populations. However, it is interesting to note that in one of the Australian studies (52), which reported the lowest prevalence rate (2.4%) when using combined teacher and parent assessments, the prevalence rates based on parent assessments alone (9.9%) and teacher assessments alone (8.8%) were similar to those reported in the US studies. Two studies additionally reported prevalence rates based on functional impairment and these rates were lower than those for symptoms alone - symptom prevalence, 7.5%; impairment prevalence, 6.8% (19); symptom prevalence, 15.8%; impairment prevalence, 0.2% (53) - in agreement with the findings of Wolraich et al (18).

Comparison of prevalence rates

Table 7 shows the range of prevalence rates for US and non-US populations for the three DSM diagnostic criteria when outlying values have been excluded. Comparison of the prevalence range for the US studies shows that the highest prevalence is reported when using DSM-IV criteria, as has previously been shown by Wolraich et al (17) and Baumgaertel et al (16). The non-US studies also showed a higher prevalence of ADHD when using DSM-IV diagnoses. As Table 7 shows, the range of prevalence

Table 5 Studies assessing prevalence of ADHD symptoms as defined by DSM-IV in US children and adolescents

| Author(s) | Sample | Assessment method | Informant | Age mean (years) | Age range (years) | Males in sample (%) | Sample size | Prevalence (%) |
|----------------------|---|--|--------------------|------------------|-------------------|---------------------|-------------|---|
| Gimpel and Kuhn (67) | Sample of children enrolled in daycare centers in Utah and Nebraska | Rating scale | Parent | 4 | 2-6 | 54 | 253 | 9.5 |
| Hudziak et al (68) | Female twins in community | Interview | Parent | - | 13.5-19.5 | 0 | 1269 pairs | 9.9 |
| Nolan et al (69) | School | Rating scale | Teacher | 10.5 | 3-18 | 54 | 3006 | 15.8 |
| Rowland et al (50) | School | Rating scale (teacher) Interview (parent) | Teacher and parent | - | 8-12 | Not specified | 362 | 16 |
| Wolraich et al (17) | School | Rating scale | Teacher | 8 | 4-12 | Not specified | 8258 | 11.4 |
| Wolraich et al (18) | School | Rating scale | Teacher | - | 4-12 | Not specified | 4323 | 16.1 (symptoms) 6.8 (functional impairment) |

Table 6 Studies assessing prevalence of ADHD symptoms as defined by DSM-IV in non-US children and adolescents

| Country | Author(s) | Sample | Assessment method | Informant | Age mean (years) | Age range (years) | Males in sample (%) | Sample size | Prevalence (%) |
|-------------------|-------------------------------|---|---|-----------------|------------------|-------------------|---------------------|-------------|---|
| Australia | Gomez <i>et al</i> (52) | School | Rating scale | Parent, teacher | 8 | 5–11 | 47.4 | 1275 | 2.4 (parent/teacher) 9.9 (parent) 8.8 (teacher) |
| | Graetz <i>et al</i> (19) | Representative national sample of children aged 6–17 years | Interview and rating scale | Parents | | 6–17 | Not specified | 3597 | 7.5 (symptoms) 6.8 (functional impairment) |
| Brazil | Guardiola <i>et al</i> (70) | School | Interview | Investigator | 7.5 | 7–8.8 | 49.4 | 484 | 18 |
| | Rohde <i>et al</i> (71) | School | Rating scale | Subject | 13 | - | 49 | 1022 | 5.8 |
| Colombia | Pineda <i>et al</i> (14) | School | Rating scale | Parent | 9.1 | 4–17 | 50 | 540 | 16 |
| | Pineda <i>et al</i> (72) | School | Rating scale | Parent, teacher | 10.5 | 4–17 | 54 | 341 | 17.1 |
| Germany | Baumgaertel <i>et al</i> (16) | School | Rating scale | Teacher | 8.5 | 5–12 | Not specified | 1077 | 17.8 |
| | Essau <i>et al</i> (53) | Community | Rating scale and interview | Parent, subject | 14.5 | 12–17 | 41 | 1009 | 15.8 (symptoms) 0.2 (functional impairment) |
| Iceland | Magnusson <i>et al</i> (13) | School | Rating scales | Parent, teacher | 7 | 6–8 | 47 | 429 | 5.7 (teacher) 4.7 (parent) |
| Sweden | Kadesjo and Gillberg (44) | School | Interview (teacher, parent) Rating scale (teacher) | Parent, teacher | 7 | 6.5–7.5 | Not specified | 409 | 3.7 |
| Ukraine (and USA) | Gadow <i>et al</i> (15) | Sample of former refugees from Chernobyl living in Kyiv in 1996 | Interview | Parent, teacher | 10.8 | 10–12 | 48.3 | 600 | 19.8 |
| | | | | | (Ukraine) | (Ukraine) | (Ukraine) | (Ukraine) | (Ukraine) |
| | | | | | 10.9 | 9–12.9 | 51.4 (USA) | 443 (USA) | 9.7 (USA) |
| | | | | | (USA) | (USA) | | | |

Table 7 Prevalence ranges for ADHD/ADD-H according to DSM diagnostic criteria for US and non-US populations

| | N | Approximate range for mean age (years) | Prevalence range |
|----------------|---|--|---|
| DSM-III | | | |
| US studies | 4 | 9–11 | 9.1–12 (<i>n</i> = 3) |
| non-US studies | 7 | 7–11 | 5.8–11.2 (<i>n</i> = 6) |
| DSM-III-R | | | |
| US studies | 6 | 8–12 | 7.1–12.8 (<i>n</i> = 4) |
| non-US studies | 9 | 6–11 | 3.9–10.9 (<i>n</i> = 7) |
| DSM-IV | | | |
| US studies | 4 | 8–10 | 11.4–16.1 (<i>n</i> = 4) |
| non-US studies | 9 | 7.5–11 | 16–19.8 (<i>n</i> = 5) (higher prevalence studies) 2.4–7.5 (<i>n</i> = 4) (lower prevalence studies) |

reported in the non-US studies is, for each diagnostic system, similar to that reported in the US studies.

Several of the non-US DSM-III-R and DSM-IV studies found fairly low prevalence figures, between 2.4 and 7.5%. The countries included in the low-prevalence group are Sweden (2/2 studies in this population), Italy (1/1 study in this population), Australia (2/2 studies in this population), Iceland (1/1 study in this population), and Spain (1/1 study, but only for 11 years age group). This may reflect a true lower prevalence in these countries but further studies are required to confirm this. These countries are not represented in the studies using DSM-III diagnostic criteria.

DISCUSSION

The results of studies using DSM criteria suggest that the prevalence of ADHD/ADD-H is at least as high in many non-US children as in US children. Certain populations may have a lower prevalence of ADHD symptoms (e.g., Iceland, Australia, Italy, and Sweden), but this cannot be concluded on the basis of the available data. Direct comparisons between different populations are required to truly assess the relative prevalence of ADHD symptoms in different cultures and countries. To date, only one such study has been performed. Gadow *et al* (15) reported on the prevalence of ADHD symptoms in a sample of 600 Ukrainian children (aged 10–12) and an age-matched sam-

ple of 443 US children. The Ukrainian children were a sample of those living within 30 km of the Chernobyl nuclear power plant who were evacuated to Kyiv and remained living there 10 years later. This study reported a prevalence of ADHD symptoms of 19.8% for Ukrainian children compared with 9.7% for the US sample. It is unclear why the prevalence of ADHD symptoms should be so much higher in the sample of Ukrainian children. It is possible that the higher Ukrainian prevalence reflects the environmental adversity and psychosocial dislocation associated with the Chernobyl disaster, but we can draw no firm conclusions in the absence of an appropriate Ukrainian control group.

While the populations studied in the papers included in this report are not necessarily representative of all child populations worldwide, they are sufficient to demonstrate that ADHD is not purely an American disorder and that the prevalence of this behavioral disorder in many countries is in the same range as that in the USA. Although a number of prevalence studies were not included in this analysis because they employed other diagnostic criteria, such as the ICD-9 and ICD-10 criteria, the populations they studied are for the most part represented in the selection of studies included in this analysis. Thus, the decision to include only studies employing DSM diagnostic criteria was unlikely to make the selected studies unrepresentative of the populations studied to date.

Recognition of ADHD as a disorder affecting a significant percentage of children in many countries has important implications for the psychiatric care of children. Numerous studies have shown that appropriate management can significantly impact on the symptoms of ADHD and thus help children and their families overcome and live with the burden of this disorder (54,55). Management options include: educational strategies which help the child and adolescent achieve their academic potential at school and college; behavioral treatments aimed at teaching the child, their parents and teachers how to modify problem behaviors; and pharmacotherapy which has been shown to be highly effective for the long-term control of core symptoms. However, in the absence of adequate recognition of the disorder by the medical community, the teaching profession and the public in general, children with this behavioral disorder are unlikely to receive the assistance they require to achieve their full potential, at school, at home, and into adulthood.

In conclusion, the data from studies using DSM criteria to assess the prevalence of ADHD in representative child and adolescent populations suggest that there is no convincing difference between the prevalence of this disorder in the USA and most other countries or cultures. It is difficult to make exact comparisons between countries because the estimated prevalence is highly influenced by the means of assessment and the type of sample recruited. However, the range of prevalence rates for DSM symptoms reported in US child populations appears to fall

within those reported for non-US child populations (except for those of Iceland, Australia, Italy and Sweden).

One limitation of the literature we reviewed is the reliance of many studies on rating scale measures rather than interviews with patients and parents. Unlike rating scale methods, interview-based procedures come close to reproducing the results one might expect from a clinical evaluation and are better able to incorporate the impairment and pervasiveness criteria of the DSM diagnoses of ADHD. Further interview-based studies assessing the prevalence of ADHD as defined by the DSM-IV criteria, and directly comparing the prevalence in different countries, are required to provide a clearer picture of the burden of ADHD worldwide. We have also relied on the DSM as a method of comparing the cross-cultural prevalence of ADHD. As discussed by Hartman et al (56), it is possible that improved operationalization of symptoms could lead to increased measurement precision and a better assessment of the cross-national validity of diagnostic categories. In addition, this research needs to be followed up into clinical practice, with a better awareness of this disorder and the effective means of alleviating the associated symptoms and its burden on the individual and society as a whole.

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References

1. American Psychiatric Association. Diagnostic and statistical manual of mental disorders, 4th ed. Washington: American Psychiatric Association, 1994.
2. Biederman J, Wilens T, Mick E et al. Is ADHD a risk factor for psychoactive substance use disorders? Findings from a four-year prospective follow-up study. *J Am Acad Child Adolesc Psychiatry* 1997;36:21-9.
3. Mash EJ, Johnston C. Parental perceptions of child behavior problems, parenting self-esteem, and mothers' reported stress in younger and older hyperactive and normal children. *J Consult Clin Psychol* 1983;51:86-99.
4. Murphy KR, Barkley RA. Parents of children with attention-deficit/hyperactivity disorder: psychological and attentional impairment. *Am J Orthopsychiatry* 1996;66:93-102.
5. Taylor E, Sandberg S. Hyperactive behavior in English schoolchildren: a questionnaire survey. *J Abnorm Child Psychol* 1984;12:143-55.
6. Taylor A. The overactive child. London: The Spastics Society, 1986.
7. Gleeson D, Parker D. Hyperactivity in a group of children referred to a Scottish Child Guidance Service: a significant problem. *Br J Educ Psychol* 1989;59:262-5.
8. Miller RG Jr, Palkes HS, Stewart MA. Hyperactive children in suburban elementary schools. *Child Psychiatry Hum Dev* 1973;4:121-7.
9. Lambert NM, Sandoval J, Sassone D. Prevalence of hyperactivity in elementary school children as a function of social system definers. *Am J Orthopsychiatry* 1978;48:446-63.

10. Safer D, Allen RP. Hyperactive children: diagnosis and management. Baltimore: University Park Press, 1976.
11. American Psychiatric Association. Diagnostic and statistical manual of mental disorders, 3rd ed. Washington: American Psychiatric Association, 1980.
12. American Psychiatric Association. Diagnostic and statistical manual of mental disorders, 3rd ed., rev. Washington: American Psychiatric Association, 1987.
13. Magnusson P, Smari J, Gretarsdottir H et al. Attention-deficit/hyperactivity symptoms in Icelandic schoolchildren: assessment with the Attention Deficit/Hyperactivity Rating Scale-IV. *Scand J Psychol* 1999;40:301-6.
14. Pineda D, Ardila A, Rosselli M et al. Prevalence of attention-deficit/hyperactivity disorder symptoms in 4- to 17-year-old children in the general population. *J Abnorm Child Psychol* 1999; 27:455-62.
15. Gadow KD, Nolan EE, Litcher L et al. Comparison of attention-deficit/hyperactivity disorder symptom subtypes in Ukrainian schoolchildren. *J Am Acad Child Adolesc Psychiatry* 2000;39: 1520-7.
16. Baumgaertel A, Wolraich ML, Dietrich M. Comparison of diagnostic criteria for attention deficit disorders in a German elementary school sample. *J Am Acad Child Adolesc Psychiatry* 1995;34:629-38.
17. Wolraich ML, Hannah JN, Pinnock TY et al. Comparison of diagnostic criteria for attention-deficit hyperactivity disorder in a county-wide sample. *J Am Acad Child Adolesc Psychiatry* 1996;35:319-24.
18. Wolraich ML, Hannah JN, Baumgaertel A et al. Examination of DSM-IV criteria for attention deficit/hyperactivity disorder in a county-wide sample. *J Dev Behav Pediatr* 1998;19:162-8.
19. Graetz BW, Sawyer MG, Hazell PL et al. Validity of DSM-IV ADHD subtypes in a nationally representative sample of Australian children and adolescents. *J Am Acad Child Adolesc Psychiatry* 2001;40:1410-7.
20. Swanson JM, Sergeant JA, Taylor E et al. Attention-deficit hyperactivity disorder and hyperkinetic disorder. *Lancet* 1998;351:429-33.
21. Brown RT, Freeman WS, Perrin JM et al. Prevalence and assessment of attention-deficit/hyperactivity disorder in primary care settings. *Pediatrics* 2001;107:43.
22. Cohen P, Cohen J, Kasen S et al. An epidemiological study of disorders in late childhood and adolescence—I. Age- and gender-specific prevalence. *J Child Psychol Psychiatry* 1993;34:851-67.
23. Gomez-Beneyto M, Bonet A, Catala MA et al. Prevalence of mental disorders among children in Valencia, Spain. *Acta Psychiatr Scand* 1994;89:352-7.
24. Breton JJ, Bergeron L, Valla JP et al. Quebec child mental health survey: prevalence of DSM-III-R mental health disorders. *J Child Psychol Psychiatry* 1999;40:375-84.
25. Yao KN, Solanto MV, Wender EH. Prevalence of hyperactivity among newly immigrated Chinese-American children. *J Dev Behav Pediatr* 1988;9:367-73.
26. Newcorn JH, Halperin JM, Schwartz S et al. Parent and teacher ratings of attention-deficit hyperactivity disorder symptoms: implications for case identification. *J Dev Behav Pediatr* 1994;15:86-91.
27. King C, Young RD. Attentional deficits with and without hyperactivity: teacher and peer perceptions. *J Abnorm Child Psychol* 1982;10:483-95.
28. Shekim WO, Kashani J, Beck N et al. The prevalence of attention deficit disorders in a rural midwestern community sample of nine-year-old children. *J Am Acad Child Psychiatry* 1985;24:765-70.
29. Barkley RA, Fischer M, Edelbrock C et al. The adolescent outcome of hyperactive children diagnosed by research criteria—III. Mother-child interactions, family conflicts and maternal psychopathology. *J Child Psychol Psychiatry* 1991;32:233-55.
30. Fischer M, Barkley RA, Fletcher KE et al. The stability of dimensions of behavior in ADHD and normal children over an 8-year followup. *J Abnorm Child Psychol* 1993;21:315-37.
31. McGee R, Feehan M, Williams S et al. DSM-III disorders in a large sample of adolescents. *J Am Acad Child Adolesc Psychiatry* 1990;29:611-9.
32. Schaughency E, McGee R, Raja SN et al. Self-reported inattention, impulsivity, and hyperactivity at ages 15 and 18 years in the general population. *J Am Acad Child Adolesc Psychiatry* 1994;33:173-84.
33. Taylor E, Sandberg S, Thorley G et al. The epidemiology of childhood hyperactivity. London: Oxford University Press, 1991.
34. Leung PW, Luk SL, Ho TP et al. The diagnosis and prevalence of hyperactivity in Chinese schoolboys. *Br J Psychiatry* 1996;168: 486-96.
35. Cuffe SP, McKeown RE, Jackson KL et al. Prevalence of attention-deficit/hyperactivity disorder in a community sample of older adolescents. *J Am Acad Child Adolesc Psychiatry* 2001;40: 1037-44.
36. August GJ, Garfinkel BD. Behavioral and cognitive subtypes of ADHD. *J Am Acad Child Adolesc Psychiatry* 1989;28:739-48.
37. August GJ, Realmuto GM, MacDonald AW III et al. Prevalence of ADHD and comorbid disorders among elementary school children screened for disruptive behavior. *J Abnorm Child Psychol* 1996;24:571-95.
38. Pelham WE Jr, Gnagy EM, Greenslade KE et al. Teacher ratings of DSM-III-R symptoms for the disruptive behavior disorders. *J Am Acad Child Adolesc Psychiatry* 1992;31:210-8.
39. Shaffer D, Fisher P, Dulcan MK et al. The NIMH Diagnostic Interview Schedule for Children Version 2.3 (DISC-2.3): description, acceptability, prevalence rates, and performance in the MECA Study. Methods for the Epidemiology of Child and Adolescent Mental Disorders Study. *J Am Acad Child Adolesc Psychiatry* 1996;35:865-77.
40. Simonoff E, Pickles A, Meyer JM et al. The Virginia Twin Study of Adolescent Behavioral Development. Influences of age, sex, and impairment on rates of disorder. *Arch Gen Psychiatry* 1997;54:801-8.
41. Lewinsohn PM, Hops H, Roberts RE et al. Adolescent psychopathology: I. Prevalence and incidence of depression and other DSM-III-R disorders in high school students. *J Abnorm Psychol* 1993;102:133-44.
42. Barkley RA, Anastopoulos AD, Guevremont DC et al. Adolescents with ADHD: patterns of behavioral adjustment, academic functioning, and treatment utilization. *J Am Acad Child Adolesc Psychiatry* 1991;30:752-61.
43. Kadesjo B, Gillberg C. Attention deficits and clumsiness in Swedish 7-year-old children. *Dev Med Child Neurol* 1998;40: 796-804.
44. Kadesjo B, Gillberg C. The comorbidity of ADHD in the general population of Swedish school-age children. *J Child Psychol Psychiatry* 2001;42:487-92.
45. Zohar AH, Ratzoni G, Pauls DL et al. An epidemiological study of obsessive-compulsive disorder and related disorders in Israeli adolescents. *J Am Acad Child Adolesc Psychiatry* 1992;31:1057-61.
46. Verhulst FC, van der Ende J, Ferdinand RF et al. The prevalence of DSM-III-R diagnoses in a national sample of Dutch adolescents. *Arch Gen Psychiatry* 1997;54:329-36.
47. Fergusson DM, Horwood LJ, Lynskey MT. Prevalence and comorbidity of DSM-III-R diagnoses in a birth cohort of 15 year olds. *J Am Acad Child Adolesc Psychiatry* 1993;32:1127-34.
48. Murphy K, Barkley AR. Prevalence of DSM-IV symptoms of ADHD in adult licensed drivers: implications for clinical diagnosis. *J Attention Disord* 1996;1:147-61.
49. Carlson CL, Tamm L, Gaub M. Gender differences in children with ADHD, ODD, and co-occurring ADHD/ODD identified in a school population. *J Am Acad Child Adolesc Psychiatry* 1997;36: 1706-14.

50. Rowland AS, Umbach DM, Catoe KE et al. Studying the epidemiology of attention-deficit hyperactivity disorder: screening method and pilot results. *Can J Psychiatry* 2001;46:931-40.
51. Rohde LA, Barbosa G, Polanczyk G et al. Factor and latent class analysis of DSM-IV ADHD symptoms in a school sample of Brazilian adolescents. *J Am Acad Child Adolesc Psychiatry* 2001; 40:711-8.
52. Gomez R, Harvey J, Quick C et al. DSM-IV AD/HD: confirmatory factor models, prevalence, and gender and age differences based on parent and teacher ratings of Australian primary school children. *J Child Psychol Psychiatry* 1999;40:265-74.
53. Essau CA, Groen G, Conradt J et al. Frequency, comorbidity and psychosocial correlates of attention-deficit/hyperactivity disorder. Results of a Bremen adolescent study. *Fortschr Neurol Psychiatr* 1999;67:296-305.
54. Multimodal Treatment Study Group. A 14-month randomized clinical trial of treatment strategies for attention-deficit/hyperactivity disorder: the multimodal treatment study of children with ADHD. *Arch Gen Psychiatry* 1999;56:1073-86.
55. American Academy of Pediatrics. Clinical practice guideline: treatment of the school-aged child with attention-deficit/hyperactivity disorder. *Pediatrics* 2001;108:1033-44.
56. Hartman CA, Hox J, Mellenbergh GL et al. DSM-IV internal construct validity: when a taxonomy meets data. *J Child Psychol Psychiatry* 2001;42:817-36.
57. Bauermeister JJ, Alegria M, Bird HR et al. Are attentional-hyperactivity deficits unidimensional or multidimensional syndromes? Empirical findings from a community survey. *J Am Acad Child Adolesc Psychiatry* 1992;31:423-31.
58. Szatmari P, Offord DR, Boyle MH. Ontario Child Health Study: prevalence of attention deficit disorder with hyperactivity. *J Child Psychol Psychiatry* 1989;30:219-30.
59. Shen YC, Wang YF, Yang XL. An epidemiological investigation of minimal brain dysfunction in six elementary schools in Beijing. *J Child Psychol Psychiatry* 1985;26:777-87.
60. Bhatia MS, Nigam VR, Bohra N et al. Attention deficit disorder with hyperactivity among paediatric outpatients. *J Child Psychol Psychiatry* 1991;32:297-306.
61. Verhulst FC, Berden GF, Sanders-Woudstra JA. Mental health in Dutch children (II). The prevalence of psychiatric disorder and relationship between measures. *Acta Psychiatr Scand* 1985;72 (Suppl. 324):1-45.
62. Puura K, Almqvist F, Tamminen T et al. Psychiatric disturbances among prepubertal children in southern Finland. *Soc Psychiatry Psychiatr Epidemiol* 1998;33:310-8.
63. Gallucci F, Bird HR, Berardi C et al. Symptoms of attention-deficit hyperactivity disorder in an Italian school sample: findings of a pilot study. *J Am Acad Child Adolesc Psychiatry* 1993;32:1051-8.
64. Kanbayashi Y, Nakata Y, Fujii K et al. ADHD-related behavior among non-referred children: parents' ratings of DSM-III-R symptoms. *Child Psychiatry Hum Dev* 1994;25:13-29.
65. Landgren M, Pettersson R, Kjellman B et al. ADHD, DAMP and other neurodevelopmental/psychiatric disorders in 6-year-old children: epidemiology and co-morbidity. *Dev Med Child Neurol* 1996;38:891-906.
66. Wang YC, Chong MY, Chou WJ et al. Prevalence of attention deficit hyperactivity disorder in primary school children in Taiwan. *J Formos Med Assoc* 1993;92:133-8.
67. Gimpel GA, Kuhn BR. Maternal report of attention deficit hyperactivity disorder symptoms in preschool children. *Child Care Health Dev* 2000;26:163-76.
68. Hudziak JJ, Heath AC, Madden PF et al. Latent class and factor analysis of DSM-IV ADHD: a twin study of female adolescents. *J Am Acad Child Adolesc Psychiatry* 1998;37:848-57.
69. Nolan EE, Gadow KD, Sprafkin J. Teacher reports of DSM-IV ADHD, ODD, and CD symptoms in schoolchildren. *J Am Acad Child Adolesc Psychiatry* 2001;40:241-9.
70. Guardiola A, Fuchs FD, Rotta NT. Prevalence of attention-deficit hyperactivity disorders in students. Comparison between DSM-IV and neuropsychological criteria. *Arq Neuropsiquiatr* 2000;58:401-7.
71. Rohde LA, Biederman J, Busnello EA et al. ADHD in a school sample of Brazilian adolescents: a study of prevalence, comorbid conditions, and impairments. *J Am Acad Child Adolesc Psychiatry* 1999;38:716-22.
72. Pineda DA, Lopera F, Henao GC et al. Confirmation of the high prevalence of attention deficit disorder in a Colombian community. *Rev Neurol* 2001;32:217-22.

Adapting group interpersonal psychotherapy for a developing country: experience in rural Uganda

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The current prevalence of depressive symptoms in Southwest Uganda, an area greatly affected by the HIV epidemic, has been shown to be as high as 21%. Traditional healers have expressed inability to treat these symptoms. The lack of physicians and high cost of medication make the use of antidepressants unfeasible. Therefore, an evidence-based psychotherapy was considered a reasonable treatment option by a team of health researchers familiar with the local culture, who designed a randomized controlled clinical trial. Interpersonal psychotherapy in a group format (IPT-G) was selected because it was time limited, was described in a manual, and had evidence of efficacy from clinical trials. Moreover, its focus on interpersonal triggers of depression was considered compatible with the culture. This paper describes the process of adapting the psychotherapy manual and the training of the group leaders who undertook the first psychotherapy clinical trial in Africa.

Key words: Interpersonal psychotherapy, depression, Uganda, psychotherapy manual, clinical trial

Interpersonal psychotherapy (IPT) is a time-limited psychotherapy that was originally developed as an individual treatment for unipolar nonpsychotic depression (1). IPT is specified in a manual, has been tested in numerous open and randomized clinical trials and was found to be efficacious for a number of mood and non-mood disorders among adolescents and adults (2). A group adaptation of IPT was originally developed for the treatment of binge-eating disorder (3) and is in the process of being tested for depression in adolescents (4,5), for abused women with post-traumatic stress disorder (6), for social phobia (7), and for post-partum depression (8,9).

Most of the IPT adaptations were developed and tested in industrialized countries (USA, Canada, Australia, Japan and a number of European countries). An adaptation of individual IPT for dysthymic patients in Brazil is underway (2) and a group IPT manual for bipolar patients is being developed in Turkey. However, there are no data available yet on the efficacy of IPT and how it was adapted for use in these cultures. It is thus still not known what aspects of the structure of IPT would be meaningful in non-Western and developing countries (the structure includes the medical model; the interpersonal context of depression; and the four categories of interpersonal crises associated with the onset of depressive episodes, the four 'problem areas' - grief, interpersonal disputes, role transitions and interpersonal deficits). This paper will describe the rationale and the process of adapting group IPT (IPT-G) for a randomized clinical trial with depressed persons in a developing East African country, Uganda.

BACKGROUND TO THE UGANDA PROJECT

A number of studies conducted in the past quarter century indicate substantial levels of depressive symptoms in

Uganda: Orley et al (10) found a 25.3% current rate of clinically significant depressive symptoms in a community sample, using the Present State Examination. In a mental health survey conducted in 2000 in Southwest Uganda, an area severely affected by the human immunodeficiency virus (HIV) epidemic, the rate of current (last week) depressive symptoms in the community assessed by the Hopkins Symptom Checklist (HSCL) was as high as 24%. Even when the impairment criterion was added, the rate was 21% (11). These rates were higher than those in the neighboring Rwanda, which 5 years previously had undergone a devastating genocide. Using the same instrument, Bolton et al found a point prevalence rate of 15.5% of clinically significant depressive symptoms in Rwandan communities (12). On the other hand, the Epidemiologic Catchment Area Study of 5 US communities yielded a one month point prevalence of depressive disorders and clinically significant depressive symptoms of 10% (13). Comparisons of absolute rates of disorders or symptom levels across studies is always hazardous when these studies differ in methods of sample selection, measurement of psychiatric symptoms, cultural and sociodemographic characteristics of the population studied, etc. Nonetheless, these preliminary comparisons suggest that the point prevalence rate of depression in Uganda is high by regional as well as Western standards.

Depression has been associated with high morbidity and disability across countries: it was ranked second only to heart disease as a leading cause of disability adjusted life years (DALYs), the index representing the sum of years of life lost due to premature death and years of life lived with disability (14,15). In numerous studies depression has been associated with a number of high-risk behaviors for contracting HIV infection (16).

Ethnographic research in the Masaka and Rakai districts in Southwest Uganda conducted by Bolton et al in 2000 (17) showed that depression was recognized by the communities as a source of impairment in social functioning. Depressive symptoms were considered by the local people to be among the important consequences of the HIV epidemic (in the 1990s Southwest Uganda had an HIV prevalence rate of 23%, one of the highest in the world). In addition, depressive symptoms were described in two frequently comorbid syndromes, 'y'okwetchawa' and 'okwekubaziga' in Luganda, the local language, meaning self-loathing and self-pity respectively. Individuals with 'y'okwetchawa' almost always had 'okwekubaziga', but those with 'okwekubaziga' (the more common syndrome) frequently did not have 'y'okwetchawa'. The local people also reported disability associated with these syndromes: significant difficulties in performing their work, in participating in community functions and rituals, and in caring for self, children and other family members (12).

Depressed people in these communities occasionally turn to traditional healers for treatment of 'y'okwetchawa' and 'okwekubaziga'. Contrary to traditional healers in other African countries, however, a number of healers in these communities, interviewed during the 2000 survey, expressed inability to treat these syndromes (17). The lack of availability and high cost of physicians and medication made the use of antidepressants prohibitive, especially in the rural areas. Psychotherapy was seen by Bolton and colleagues as the only treatment option with evidence for effectiveness. In order to be feasible, any form of psychotherapy for this population cannot require highly trained mental health providers (due to a lack of mental health professionals trained to conduct psychotherapy in these communities) and has to be conducted in groups (to increase coverage and reduce cost). It should be noted that the feasibility and efficacy of any form of psychotherapy for depression had never been tested in Uganda.

To test whether psychotherapy could be effective in this region, Bolton and colleagues designed a randomized controlled clinical trial to be conducted in the Masaka and Rakai districts in Southwest Uganda, comparing psychotherapy to treatment as usual.

In the process of selecting an evidence-based psychotherapy for depression, Bolton and African colleagues reviewed cognitive behavior therapy (CBT) and IPT, since both are evidence-based interventions for depression and can be administered in a group format. CBT requires that individuals monitor and alter their behavior and thinking processes. IPT requires that individuals examine the interpersonal context of their depression, find the links between the depression and their environment, and make changes in their interactions. Bolton and colleagues felt that CBT was too alien to the problem-solving approach used in most Sub Saharan African cultures. In these cultures people tend to see themselves as part of a family and community unit

before they see themselves as individuals. Therefore, IPT-G appeared to be a more relevant approach.

Emphasis on group process differs among IPT-G investigators: Wilfley et al (3) encourage the use of group as an interpersonal laboratory to identify problematic communication patterns, including those among the members. Mufson et al (18), in their work with depressed adolescent groups, feel this is counterproductive, since it creates the potential for expression of hostility and criticism which interfere with IPT work in that age group. In the development of IPT-G for Uganda (IPT-GU), we decided to attempt group process work more along the lines of Wilfley's approach, but with more emphasis on supportive and cohesion-building process remarks.

DEVELOPMENT OF GROUP INTERPERSONAL PSYCHOTHERAPY FOR UGANDA (IPT-GU)

Myrna Weissman and colleagues at the New York State Psychiatric Institute and College of Physicians and Surgeons of Columbia University undertook the manual adaptation for this project, as well as the training of the group leaders in Southwest Uganda. Trainees were non-clinician college-level educated employees of World Vision, the nongovernment organization (NGO) that implemented and partially funded the study. We hypothesized that the basic assumptions of the IPT model would, at least to some degree, be relevant to the Ugandan culture. We expected that:

- Depression would be recognized as a disabling condition with distinct symptom patterns. We had prior knowledge of the ethnographic research in Masaka and Rakai districts, confirming the recognition of depression as two syndromes, 'y'okwetchawa' and 'okwekubaziga'. These syndromes contained all DSM-IV symptom and function criteria, but also other locally-reported symptoms (e.g., not responding when greeted, hating the world, unappreciative of assistance). 'Y'okwetchawa' is the more severe of the two, one of its symptoms being suicidal ideation (11).

- The four interpersonal problem areas of IPT (grief, interpersonal disputes, role transitions and deficits) would be triggers of depression in the Ugandan communities. Although loss, conflict, life transitions and social isolation seem to be universal human experiences, we were unsure whether they would be the main triggers of depression in these communities, or whether there would be other important triggers that the IPT model could not address. We planned to explore this by asking the trainees open-ended, non-leading questions about what makes local people depressed and judge whether their responses correspond to the four problem areas.

- Improvement in communication and decision-making around the problem area would result in symptomatic improvement. Evidence for this has been shown in a number of clinical trials in Western countries (2). However,

this link has not been examined in developing countries. Although the mechanisms of the therapeutic change in IPT are not clear, generating options for interpersonal communication and action, increasing mastery, clarifying expectations and reducing social isolation are some of the hypothesized ways to reduce the helplessness and hopelessness inherent in depression.

In February 2002, 2 IPT trainers (KC and HV) traveled to the Masaka district in Uganda to train the 9 prospective group leaders who were fluent in English and Luganda. Training was conducted in English and was assisted by two World Vision employees (LN, a psychologist from Kenya and experienced group therapist, and LS, a Dutch psychologist, who has considerable experience in mental health interventions with refugees). They both stayed on site to supervise the trainees after the trainers' departure.

ADAPTING THE MANUAL

Overall, the basic structure of IPT was retained in the IPT-GU training manual, but was simplified to be used by non-clinicians. The main additions were detailed scripts in simple language: grief was called death of a loved one; disputes were called disagreements; transitions became life changes; and interpersonal deficits became loneliness and shyness. Numerous modifications to improve the cultural relevance of the intervention were made on site and were later incorporated into the manual (19). The main source of information about the local culture was the trainee group members, since they grew up and lived in the districts participating in the study. The adaptations made in consultation with the trainee group leaders are described in the following sections.

Diagnosing Depression

This takes place during the initial meeting between the group leader and each group member individually. Since the IPT therapist begins by making the diagnosis of depression and clarifying its triggers and treatment, it was important during the training to develop a common understanding of depression. The trainees were asked to describe a depressed person they knew and discuss his/her behavior. The trainees were familiar with the states of depression (we used the two terms identified in the above mentioned ethnographic survey: 'y'okwekyawa' and 'okwekubaziga') and described DSM-IV signs and symptoms (sadness, poor sleep and appetite, no interest/neglecting self and family, suicidality, feeling worthless, low energy, feeling fidgety). The trainees accepted overall the concept of depression as a disabling condition and felt comfortable with letting each group member diagnosed with depression know that.

The local description of depression included symptoms not corresponding to the DSM-IV (mentioned above).

These symptoms were included in the initial diagnostic assessment and at the beginning of each session.

Explaining the treatment contract

During the initial meeting, the leader explains how the group will work. In the initial individual meeting between the leader and each group member, it was explained that the groups would be single-sex to facilitate disclosure (the sex of the leader also matched that of the members). It became necessary to emphasize to the person beforehand as well as repeatedly during the group meetings that the leader would not provide material goods (the community was used to World Vision and other NGOs providing financial and health related benefits). Instead it was explained that the leader and the group members would be supporting each other to figure out what situations contribute to the members' depression and what they can do about the situations to feel better. It was also explained that the leader and the group members could work on finding ways to identify people in the community, government and NGOs who could provide financial and medical assistance on an ongoing basis and persuade them to help. Issues regarding confidentiality were raised. The group members were asked to not disclose the content of the group meetings to people outside the group. However, the trainees pointed out that this may be misconstrued as secrecy or conspiracy (as one trainee said, 'the village will think that we are starting a new political movement or that we are encouraging women to use birth control'). The trainers and the trainees decided that some general information about the purpose of the group should be given to the community and the relatives, but discussion about the specifics should be avoided.

Sixteen weekly 90-minute sessions at a specific place (community centers, churches, open spaces) were initially planned to take place in the communities.

It became clear during the training that considerable flexibility had to be built into the structure to make the project realistic. In the case of community events, such as funerals or weddings, the whole village participates, so ways had to be worked out for the meeting to be rescheduled. In addition, interruptions during the meetings were expected, such as relatives of a group member wanting to talk to the group member, or breastfeeding children crying for their mothers. The trainees decided that the group members should handle these situations and decide about a policy for interruptions.

Problem areas

When asked about triggers of depression in these communities, the trainees identified interpersonal problems that correspond to three of the four IPT problem areas (i.e., death of a loved one, disagreements, life changes). They gave the following examples:

a) Death of a loved one: death of a family member or close friend due to AIDS, other illnesses, wars, natural causes, etc.

b) Disagreements: arguments with neighbors about boundaries of a property or stolen animals, political fights, family members claiming privileges that traditionally belong to other members (due to age, gender, or other family/social hierarchy), wives protesting or passively accepting out of fear an HIV infected husband's demand not to use condoms.

c) Life changes: becoming sick with AIDS and other illnesses, being unable to find employment, getting married and moving to the husband's home, dealing with the husband's decision to marry a new wife (polygamy is practiced in Uganda despite the fact that 67% of the population are Christian).

While three of the four IPT problem areas were consistent with problems associated with depression identified by the trainees, the fourth problem area, loneliness and social isolation, was not recognized by the trainees as relevant to their communities, since people were socialized to participate in communal activities on a daily basis and isolation from the community is rare. They felt that isolation can be the result of rather than the trigger for the depression. Isolation due to marginalization following a change in social status (death of husband, AIDS, etc.) was reported, but we considered it as an aftermath of a life change rather than a social deficit.

The trainees frequently brought up poverty as a trigger of depression and we debated whether it should be added as a new problem area. Many aspects of poverty are not interpersonal (e.g., malnutrition) and the adversities associated with it can be chronic and cumulative rather than 'here-and-now' and relatively circumscribed like the other problem areas of IPT. We decided to conceptualize poverty as a risk factor for depression rather than a trigger, and instead focus on discrete interpersonal events associated with it (change in role/status, disputes and grief). Thus, we were hoping to focus on the aspects of poverty that are within a person's control to act upon, while acknowledging the numerous ones that are not.

The following are adaptations that were made for each problem area:

- *Depression following death of a loved one.* A particularly challenging issue that came up was how to reconstruct the relationship with the dead person in a culture intolerant of any negative mention of the dead: 'the dead are living among us' is a popular saying in these communities. The closest formulation of a question that aimed to capture negative experiences with the dead was: 'were there times in your life together when you felt disappointed by (the dead)?'.

Case example. A married woman in her late 50's lives with her husband and was diagnosed with depression by the interviewers. In spite of her initial doubts about the usefulness of psychotherapy for her condition, she agreed to join group sessions. The first HIV relat-

ed death struck her home in 1990 and by 2000 she had lost five of her nine children. In 2001, her older married daughter, to whom she was very attached, disappeared and after a while the woman received information that her daughter had died as well. She did not know exactly what happened and never saw her daughter's body nor found out where she was buried. Together with her husband they had educated their children up to university level and most of the dead were the breadwinners for their families and the aging parents. During the initial phase of therapy she spent most of the time crying, talking very little about her problems and contributing almost nothing to other members' issues. In the meetings, she spoke slowly and reported profound sadness and intense anger, difficulty sleeping, walking, eating, loss of memory and concentration, and exhaustion. She mentioned that she was sick but did not know what she was suffering from. During the middle phase of the sessions, and after considerable encouragement, comforting and support from the leader and the other members, she started talking about her experiences around the loss of her children, about her relationships with them and how different life is now for her. She described how since these deaths she has been staying at home, crying most of the day, thereby irritating her husband to the extent that he was no longer able to work on his land. She described how she has been struggling making mats for a living, but this was no longer possible since, due to her concentration problems, she was mixing wrong colors. Her remaining two children stopped visiting since she was incommunicative and withdrawn with them and the grandchildren. Towards the end of the middle session she had begun to change her attitude and behavior in the group. She began accepting the deaths, and the changes in her life as a result. She started being friendlier and actively contributed to group discussions. After sharing in the group and hearing the experiences of other women she realized that she was not the only one who has suffered losses. As the sessions ended she no longer had depressive symptoms and resumed her mat-making activities. In the process of setting her goals and listening to the younger women in the group she learned that although her own daughters had died, she still had a role to play as an elderly woman for other young girls. She chose to be a 'ssenga' for them in the group and even for the whole community (ssenga is a wise, old woman who teaches the young girls about how to be good women and wives). She seemed fulfilled in this new role.

- *Depression following disagreements.* Two challenges were presented while formulating the IPT work on disputes. The first was how to get one's point across without necessarily being direct. In the West, an IPT task is to assist the person to say directly what he expects of the other person (1). In Uganda directness would be perceived at times as aberrant communication, inappropriate, disrespectful and incompatible with the customary code of interaction. For example, a woman angry at her husband could not discuss her concerns with him directly, but could start cooking bad food, which is a clear sign to the husband that something is wrong and he can choose to address it or not. It is customary for relatives to get involved in resolving disputes between two parties, or for a woman to talk about the prospect of her children becoming orphans, instead of talking about her health when pleading with an HIV infected husband to use protection. In this last case, if the woman fails to convince her husband, she can ask the help of a medical person or traditional healer, preferably an elderly male, so that the husband is not suspicious that the other man will seduce his wife. The second challenge had to do with finding culturally appropriate options when resolving a dispute: some options considered useful and

adaptive in that culture, would not be thought as such in the West. For instance, when discussing what options a woman who cannot have children has, the trainees responded that she should ask her sister or other female relative to marry her husband, so the new wife will be an ally and they can raise the children together.

Case example. A married woman in her 30's complained of depressed mood, concentration problems, persistent initial insomnia, worthlessness, low energy and irritability. The onset of the symptoms occurred around the same time her husband's drinking problem worsened, about 3 years ago. They started fighting every day and the husband became progressively more abusive, verbally and in the last year physically. Their children, 7 and 5 years old, have been frequently sick with malaria and she occasionally had to take them to the hospital. After her 2nd session in the group, she had to miss the three subsequent meetings due to her son's illness and hospitalization. When she returned to the group, she discussed how unhappy she has been with her husband and how worried she was about her son's health. The group comforted and prayed for her son. They discussed the possibility of her sleeping in a different room, away from her husband, so she can have some peace and rest during the night. She did so and reported feeling a little better. In the next meetings the group discussion revolved around her accepting that her husband may never change and exploring her options. Leaving the husband was not an option for her, as she and her children would lose financial support. During the group meetings she decided that her husband 'will always be a drunkard', and she could try not to pay too much attention to him and confront him but instead work in her garden and find ways with the other women to raise money to pay her child's tuition. In session 11, she reported feeling better because the disagreements are fewer at home as a result of her change in attitude. At session 14 she reported to the group that her children told her that she treats them better lately and does not yell at them, and she confirmed that she feels more peaceful. By the end of 16 weeks her depressive symptoms had improved significantly.

- *Depression following life changes.* The IPT work for life changes involves the identification of the positive and negative aspects of the old and the new role. While we were on site, we became aware that for many of the life changes that these communities underwent - devastation due to wars and tyrannical regimes, torture, AIDS or hunger to name a few - it was very difficult to find positive aspects. We found it more helpful instead to train our trainees to identify and focus on the elements that were under the individual's control and work on skills-building and identification of options, such as persuading potential advocates for assistance. We noted that depression makes the person feel more powerless than he really is and it is worthwhile to assist him in exploring various options instead of assuming a priori that they are not realistic.

Case example. A man in his 40's became depressed after his small business of selling sugar went bankrupt for a second time in a row due to the decline in coffee prices in Uganda. For the last two years he had been feeling sad, lost interest in trying to find a job and gardening, felt worthless, and developed insomnia and psychomotor retardation. He joined the group with the hope of dealing with his depression and finding something to do. During the initial phase, he was rather quiet but appeared attentive and listened carefully while others in the group shared their problems. He saw his depression as clearly related to the difficulties associated with the failure in his

business, which disrupted his life and left him with nothing to do in the village. The group suggested that he start another business, since he had some experience and did not seem to like the life in the village. During the intermediate phase his symptoms began improving. Though he had good and bad days, he associated this 'feeling better about himself' to the realization that other group members had what he described as more serious problems compared to his. He also indicated that he had realized that staying in the village was only making him get more frustrated. After discussing his options in the group, he decided to put his embarrassment aside, make contact with former colleagues and identify someone who could support him in starting a new business. In the next session, he reported to the group how he made contact with some of his colleagues who agreed to assist him in opening a shop in a different town. Since he started the business (at about session 10) he stopped attending the group. As time went by, he sent word to the group via the group leader that he was symptom-free and working.

TRAINING THE GROUP LEADERS

The trainers used a combination of didactics and experiential group process based on the basic principles and techniques of group IPT. Role-playing and group exercises with the trainees were used: each stage of treatment was role-played and practiced by the trainees with the trainers and one another in English and Luganda.

In addressing group process, the members of the training group brought up their own experiences and feelings regarding loss, disagreements, and life changes, and worked on supporting each other in clarifying the impact of these events on the persons and on helping each other come up with options and implement them.

Depression following death of a loved one. During the training, trainers and trainees shared their own experiences with losses, ways of expressing grief in the culture and the rituals involved.

Depression following disagreements. When training on this topic, the training group worked on a real life disagreement with the World Vision employers regarding the schedule and the amount of payment for the training and subsequent work (in Uganda it is not customary to discuss financial issues during the hiring process). The group discussed the IPT stages of defining a disagreement: define the problem, understand one's own as well as the other side's expectations, and generate culturally appropriate options to express one's views and wishes and ask for what one would like to see happen. The group applied these techniques to the problem at hand with a positive outcome (they negotiated weekly payment as opposed to at the end of 16 weeks as originally announced by the World Vision).

Depression following life changes. One of the life changes the group worked on was the change from the role of a trainee to that of a group leader. The group explored the feelings that accompany the old role, the new role and the change itself. Skills necessary to support the persons to cope better with the new role were discussed (in this case, supervision, peer support groups, record forms, etc.).

Termination. The feelings of the trainees and the trainers regarding the trainers' imminent departure from Uganda were processed: sadness, feeling of abandonment, anxiety, joy for the completion of project and excitement, etc. It was pointed out that very similar feelings were triggered during termination, and emphasis was placed on anticipated difficulties and coping plans for the future.

CLINICAL TRIAL

This adaptation was used by the trained leaders in a randomized controlled clinical trial of IPT-G for depressed persons in Uganda. One hundred and seven depressed men and women in single gender groups of 5-8 in 15 villages have been receiving IPT over a period of 16 weeks, and are being compared with 117 depressed men and women in 15 matched villages receiving treatment as usual (which in these communities means three options: treatment by local traditional healers, no treatment, or in rare cases, hospitalization). The participants were interviewed at the beginning of the study using a composite instrument consisting of the HSCL (to assess depressive symptomatology), a locally developed instrument to assess functional impairment, and separate questions based on a prior ethnographic study which assessed significant distress and duration of depression. Exclusion criteria were lack of significant depression symptomatology, current suicidality, unwillingness or inability to meet weekly for the duration of the study and age less than 18 years. In July 2002, the termination assessment was conducted by the Hopkins team using the same instrument. In addition, they asked the participants whether the intervention helped and how. The project had been sanctioned by the local Leaders Council (the local government authority) and had the approval of traditional healers.

Patients' attendance in the groups has been very high (the drop out rate was 7.8% in the IPT-GU group versus 18% in the control group), which suggests that IPT-GU has been accepted by the population. Fifty four percent of the participants attended at least 14 sessions, and 4% attended 10 or fewer sessions. The reports from the two site supervisors indicated that the group members have been supporting each other in coping with their depression and finding ways to make changes in their life circumstances (e.g., the men have been helping each other to find employment, the women have started helping each other raise pigs or chicken, and in most groups members encouraged each other to seek treatment for physical ailments).

The ultimate test of the impact of IPT on depression in these communities is, of course, the result of the clinical trial. The termination assessment was completed in July 2002 and the results so far indicate a strong effect for the IPT-GU condition in reducing depressive symptoms and impairment. A further assessment, at 6

months after the end of the intervention, will be conducted in January 2003.

CONCLUSION

We undertook the project of adapting IPT for depressed people in Ugandan communities with significant skepticism around three issues: Would the local people accept the notion of an intervention for depression? Would we be able to train non-mental health professionals to conduct IPT-GU? Would most of basic assumptions of IPT, developed in the USA, apply to the Ugandan communities? We have evidence of acceptance of IPT-GU meetings by the local patients and their relatives, since attendance of the meetings was high and no conflicts instigated by the patients themselves or their relatives about the patients' attending the groups were reported (by the patients or the Leaders Council). We have some evidence that we were able to train the group leaders in IPT-GU successfully. Subsequent supervision showed that the leaders had generally grasped the principles and techniques of the treatment (similar to therapists in Western countries, the degree of their competence varied) and were able to conduct the group sessions. Finally, our experience supports the idea that the problem areas identified in IPT as triggers of depression (death of a loved one, disagreements with important persons in one's life, life changes which disrupt close attachments) are intrinsic and universal elements of the human condition. The current findings, on both the acceptability and efficacy of IPT with rural Ugandans, suggest that the depressogenic effects of these universal conditions, as well as the efficacy of IPT, extend beyond the confines of Western culture.

Naturally, replication of current findings in many other developing countries is required before their universality can be persuasively argued. These attempted replications should also clarify the links between these universal problem areas and depression as well as the source of the psychotherapeutic efficacy of IPT in these other cultures that are profoundly different from Western society and from each other.

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References

1. Klerman GL, Weissman MM, Rounsaville BJ et al. Interpersonal psychotherapy of depression. New York: Basic Books, 1984.
2. Weissman MM, Markowitz JC, Klerman GL. Comprehensive guide to interpersonal psychotherapy. New York: Basic Books, 2000.

3. Wilfley DE, Mackenzie KR, Welch R et al (eds). *Interpersonal psychotherapy for group*. New York: Basic Books, 2000.
4. Mufson L, Pollack-Dorta K. Interpersonal psychotherapy for depressed adolescents: theory, practice, and research. In: Esman AH, Flaherty LT (eds). *Developmental and clinical studies*, Vol. 25. *The Annals of the American Society for Adolescent Psychiatry*. Washington: American Psychiatric Press, 2000:139-67.
5. Miller L, Warner V, Wickramaratne PJ et al. Self-esteem and depression: ten year follow-up of mothers and offspring. *J Affect Disord* 1999;52:41-9.
6. Krupnick JL. Interpersonal psychotherapy groups for low-income women with PTSD following relationship trauma. *Directions in Psychiatry* 2001;20:237-53.
7. Ravitz P. IPT-G for social phobia. Presented at the Group IPT Meeting, New York State Psychiatric Institute, New York, October 2002.
8. Stuart S, O'Hara MW, Blehar C. Mental disorders associated with childbearing: report of the biennial meeting of the Marce Society. *Psychopharmacol Bull* 1998;34:333-8.
9. Klier CM, Geller PA, Neugebauer R. Minor depressive disorder in the context of miscarriage. *J Affect Disord* 2000;59:13-21.
10. Orley J, Wing JK. Psychiatric disorders in two African villages. *Arch Gen Psychiatry* 1979;36:513-20.
11. Wilk CM, Bolton P. Local perceptions of the mental health effects of the Uganda acquired immunodeficiency syndrome epidemic. *J Nerv Ment Dis* 2002;190:394-7.
12. Bolton P, Neugebauer R, Ndogoni L. Prevalence of depression in rural Rwanda based on symptom and functional criteria. *J Nerv Ment Dis* 2002;190:631-7.
13. Judd LL, Akiskal HS, Paulus MP. The role and clinical significance of subsyndromal depressive symptoms (SSD) in unipolar major depressive disorder. *J Affect Disord* 1997;45:5-17.
14. Üstün BT. The worldwide burden of depression in the 21st century. In: Weissman MM (ed). *Treatment of depression: bridging the 21st century*. Washington: American Psychiatric Press, 2001:35-45.
15. Murray CJL, Lopez AD. Alternative projections of mortality and disability by cause 1990-2020: Global Burden of Disease Study. *Lancet* 1997;349:1498-504.
16. Shier LA, Harris SK, Beardslee WR. Temporal associations between depressive symptoms and self-reported sexually transmitted disease among adolescents. *Arch Pediatr Adolesc Med* 2002;156:599-606.
17. Bolton P. Personal communication, 2002.
18. Mufson L. Personal communication, 2002.
19. Clougherty KF, Verdelli H, Weissman MM. *Interpersonal psychotherapy for group in Uganda (IPTG-U)*. Unpublished manual, 2002.

Violence and mental illness: an overview

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This paper evaluates the relationship of mental illness and violence by asking three questions: Are the mentally ill violent? Are the mentally ill at increased risk of violence? Are the public at risk? Mental disorders are neither necessary nor sufficient causes of violence. Major determinants of violence continue to be socio-demographic and economic factors. Substance abuse is a major determinant of violence and this is true whether it occurs in the context of a concurrent mental illness or not. Therefore, early identification and treatment of substance abuse problems, and greater attention to the diagnosis and management of concurrent substance abuse disorders among seriously mentally ill, may be potential violence prevention strategies. Members of the public exaggerate both the strength of the association between mental illness and violence and their own personal risk. Finally, too little is known about the social contextual determinants of violence, but research supports the view the mentally ill are more often victims than perpetrators of violence.

Key words: Mental illness and violence, stigma, violence prevention, victimization

Are the mentally ill violent? Are they more violent than people without a mental illness? Are they a risk to public safety? These questions have framed both the scientific and the public debate surrounding the relationship of violence to mental illness.

Unless otherwise stated, 'violence' will refer to acts of physical violence against others, since these are the most fear-inducing for the public and the greatest determinants of social stigma and discrimination. The term 'mental illness' will be reserved for non-substance related disorders, usually major mental illnesses such as schizophrenia or depression. Substance related disorders and concurrent substance abuse will be identified and discussed as separate risk factors.

ARE THE MENTALLY ILL VIOLENT?

Over time, there seems to have been a progressive convergence of mental illness and violence in day-to-day clinical practice. From early declarations disavowing the competence of mental health professionals to predict violence, there has been a growing willingness on the part of many mental health professionals to predict and manage violent behaviour. With the advent of actuarial risk assessment tools, violence risk assessments are increasingly promoted as core mental health skills: expected of mental health practitioners, prized in courts of law and correctional settings, and key aspects of socially responsible clinical management (1,2).

Many psychiatrists, particularly those working in emergency or acute care settings, report direct experiences with violent behaviour among the mentally ill. In Canada, for example, where violence in the population is low relative to most other countries, the majority of psychiatrists are involved in the management and treatment of violent behaviour, and 50% report having been assaulted by a patient at least once (3). However, clinical experiences

with violence are not representative of the behaviours of the majority of mentally ill. Social changes in the practice of psychiatry, particularly the widespread adoption of the dangerousness standard for civil commitment legislation, means that only those with the highest risk of violence receive treatment in acute care settings.

In fact, a serious limitation of clinical explanations of violent and disruptive behaviour is their focus on the attributes of the mental illness and the mentally ill to the exclusion of social and contextual factors that interact to produce violence in clinical settings. Even in treatment units with a similar clinical mix and acuity, rates of aggressive behaviours are known to differ dramatically, indicating that mental illness is not a sufficient cause for the occurrence of violence (4). Studies that have examined the antecedents of aggressive incidents in inpatient treatment units reveal that the majority of incidents have important social/structural antecedents such as ward atmosphere, lack of clinical leadership, overcrowding, ward restrictions, lack of activities, or poorly structured activity transitions (4-6).

The public are no less accustomed to 'experiencing' violence among the mentally ill, although these experiences are mostly vicarious, through movie depictions of crazed killers or real life dramas played out with disturbing frequency on the nightly news. Indeed, the global reach of news ensures that the viewing public will have a steady diet of real-life violence linked to mental illness. The public most fear violence that is random, senseless, and unpredictable and they associate this with mental illness. Indeed, they are more reassured to know that someone was stabbed to death in a robbery, than stabbed to death by a psychotic man (7). In a series of surveys spanning several real-life events in Germany, Angermeyer and Matschinger (8) showed that the public's desire to maintain social distance from the mentally ill increased markedly after each publicized attack, never returning to initial values. Further, these

incidents corresponded with increases in public perceptions of the mentally ill as unpredictable and dangerous.

In some countries, such as the United States, public opinion has become quite sophisticated. The public judge the risk of violence differently, depending on the diagnostic group, with rankings that broadly correspond to existing research findings. For example, Pescosolido et al (9) surveyed the American public (N=1,444) using standardized vignettes to assess their views of mental illness and treatment approaches. Respondents rated the following groups as very or somewhat likely of doing something violent to others: drug dependence (87.3%), alcohol dependence (70.9%), schizophrenia (60.9%), major depression (33.3%), and troubled (16.8%). While the probability of violence was universally overestimated, respondents correctly ranked substance abusers among the highest risk groups. Similarly, they significantly overestimated the risk of violence among schizophrenia and depression, but correctly identified these among the lower ranked groups.

Public perceptions of the link between mental illness and violence are central to stigma and discrimination as people are more likely to condone forced legal action and coerced treatment when violence is at issue (9). Further, the presumption of violence may also provide a justification for bullying and otherwise victimizing the mentally ill (10). High rates of victimization among the mentally ill have been noted, although this often goes unnoticed by clinicians and undocumented in the clinical record. In a study of current victimization among inpatients, for example, 63% of those with a dating partner reported physical victimization in the previous year. For a quarter, the violence was serious, involving hitting, punching, choking, being beaten up, or being threatened with a knife or gun. Forty-six percent of those who lived with family members reported being physically victimized in the previous year and 39% seriously so. Three quarters of those reporting violence from a dating partner retaliated, as did 59% of those reporting violence from a family member (11). In addition, many people with serious mental illnesses are poor and live in dangerous and impoverished neighbourhoods where they are at higher risk of being victimized. A recent study of criminal victimization of persons with severe mental illness showed that 8.2% were criminally victimized over a four month period, much higher than the annual rate of violent victimization of 3.1 for the general population (12). A history of victimization and bullying may predispose the mentally ill to react violently when provoked (13).

ARE THE MENTALLY ILL AT INCREASED RISK OF VIOLENCE?

Scientists are less interested in the occurrence of isolated acts of violence among those with a mental illness, and more interested in whether the mentally ill commit acts of violence with greater frequency or severity than do their

non-mentally ill counterparts. Therefore, the question of whether the mentally ill are at a higher-than-average risk of violence is central to the scientific debate.

Definitive statements are difficult to make and it is equally possible to find recent literature supporting the conclusions that the mentally ill are *no more* violent, they are *as* violent, or they are *more* violent than their non-mentally ill counterparts (14). Prior to 1980, the dominant view was that the mentally ill were no more, and often less likely to be violent. Crime and violence in the mentally ill were associated with the same criminogenic factors thought to determine crime and violence in anyone else: factors such as gender, age, poverty, or substance abuse. Any elevation in rates of crime or violence among mentally ill samples was attributed to the excess of these factors. When they were statistically controlled, the rates often equalized. However, although the main risk factors for violence still remain being young, male, single, or of lower socio-economic status, several more recent studies have reported a modest association between mental illness and violence, even when these elements have been controlled (1-2,7,13-16).

Because of the significant methodological challenges faced by researchers in this field, the nature of this association remains unclear. For example, violence has been difficult to measure directly, so that researchers have often relied on official documentation or uncorroborated self-reports. The prevalence of violence has been demonstrated to differ dramatically depending on the source (17). Most samples have not been representative of all mentally ill individuals, but only of those with the highest risk of becoming dangerous, such as those who are hospitalized or arrested. Study designs have not always eliminated individuals with a prior history of violence (a major predictor of future violence), controlled for co-morbid substance abuse, or clearly determined the sequencing of events, thereby weakening any causal arguments that might be made (14).

The MacArthur Violence Risk Assessment Study recently completed in the United States (1,18,19) has made a concerted effort to address these problems, so it stands out as the most sophisticated attempt to date to disentangle these complex interrelationships. Because they collected extensive follow-up data on a large cohort of subjects (N=1,136), the temporal sequencing of important events is clear. Because they used multiple measures of violence, including patient self-report, they have minimized the information bias characterizing past work. The innovative use of same-neighbour comparison subjects eliminates confounding from broad environmental influences such as socio-demographic or economic factors that may have exaggerated differences in past research.

In this study, the prevalence of violence among those with a major mental disorder who did not abuse substances was indistinguishable from their non-substance abusing neighbourhood controls. A concurrent substance abuse disorder doubled the risk of violence. Those with

schizophrenia had the lowest occurrence of violence over the course of the year (14.8%), compared to those with a bipolar disorder (22.0%) or major depression (28.5%). Delusions were not associated with violence, even 'threat-control override' delusions that cause an individual to think that someone is out to harm them or that someone can control their thoughts. Previous cross-sectional studies conducted in the United States (20,21) and Israel (22,23) had linked threat-control override delusions to an increased risk of violence.

The importance of substance abuse as a risk factor for violence has been well articulated in other studies. Consequently, this may stand out as one of the robust clinical findings in the field (24-28). Substance abuse in the context of medication non-compliance is a particularly volatile combination and poor insight also may be a factor (25).

ARE THE PUBLIC AT RISK?

It is important to keep in mind that both serious violence and serious mental disorder are rare events. Therefore, it is difficult to judge the practical importance of findings that may show an elevated risk of violence among samples of mentally ill as they tell us little about public risk.

One way of approaching this issue is ask who are the most likely targets of violence by the mentally ill: members of the general public or members of their close personal networks? Most recent studies suggest that violent incidents among persons with serious mental disorders are sparked by the conditions of their social life, and by the nature and quality of their closest social interactions (29). In the MacArthur Violence Risk Assessment Study (1), for example, the most likely targets of violence were family members or friends (87%), and the violence typically occurred in the home. Discharged patients were less likely to target complete strangers (10.7%) compared to their community controls (22.2%). Similarly, in a social network study that followed 169 people with serious mental disorder over thirty months (30), violence most frequently erupted in the family when relationships were characterized by mutual threat, hostility, and financial dependence; when there was a diagnosis of schizophrenia with concurrent substance abuse; and when outpatient mental health services were used infrequently. Of the over 3,000 social network members studied, only 1.5% were ever targets of violent acts or threats.

A related question asks to what extent do mentally ill contribute to the overall prevalence of community violence. Using data from the Epidemiologic Catchment Area studies conducted in the United States, Swanson (31) reported population attributable risks for self-reported physical violence. Attributable risk refers to the overall effect a factor has on the level of violence in the population. For those with a major mental disorder, the population attributable risk was 4.3%, indicating that violence in

the community could be reduced by less than five percent if major mental disorders could be eliminated. The population attributable risk for those with a substance abuse disorder was 34%, and for those with a comorbid mental illness and substance abuse disorder it was 5%. Therefore, by these estimates, violence in the community might be reduced by only 10% if both major mental disorders and comorbid disorders were eliminated. However, violence could be reduced by over a third if substance abuse disorders were eliminated.

Using a similar approach, a Canadian study asked what proportion of violent crimes involving a police arrest and detention could be attributed to people with a mental disorder. They surveyed 1,151 newly detained criminal offenders representing all individuals incarcerated in a geographically defined area. Three percent of the violent crimes accruing to this sample were attributable to people with major mental disorders, such as schizophrenia or depression. An additional seven percent were attributable to offenders with primary substance abuse disorders. Therefore, if major mental illness and substance disorder could be eliminated from this population, the proportion of violent crime would drop by about 10% (32).

CONCLUSIONS

Several general conclusions are supported by this brief overview. First, mental disorders are neither necessary, nor sufficient causes of violence. The major determinants of violence continue to be socio-demographic and socio-economic factors such as being young, male, and of lower socio-economic status.

Second, members of the public undoubtedly exaggerate both the strength of the relationship between major mental disorders and violence, as well as their own personal risk from the severely mentally ill. It is far more likely that people with a serious mental illness will be the victim of violence.

Third, substance abuse appears to be a major determinant of violence and this is true whether it occurs in the context of a concurrent mental illness or not. Those with substance disorders are major contributors to community violence, perhaps accounting for as much as a third of self-reported violent acts, and seven out of every 10 crimes of violence among mentally disordered offenders.

Finally, too much past research has focussed on the person with the mental illness, rather than the nature of the social interchange that led up to the violence. Consequently, we know much less than we should about the nature of these relationships and the contextual determinants of violence, and much less than we should about opportunities for primary prevention (30). Nevertheless, current literature supports early identification and treatment of substance abuse problems, and greater attention to the diagnosis and management of concurrent substance abuse disorders among seriously mentally ill as potential violence prevention strategies (25).

References

1. Monahan J, Steadman HJ, Silver E et al. Risk assessment: the MacArthur Study of Mental Disorder and Violence. Oxford: Oxford University Press, 2001.
2. Mullen PE. A reassessment of the link between mental disorder and violent behaviour, and its implications for clinical practice. *Aust N Zeal J Psychiatry* 1997;31:3-11.
3. Bourget D, el-Guebaly N, Atkinson MJ. Assessing and managing violent patients. *CPA Bull* 2002;34:25-7.
4. Katz P, Kirkland FR. Violence and social structure on mental hospital wards. *Psychiatry* 1990;53:262-77.
5. Shepherd M, Lavender T. Putting aggression into context: an investigation into contextual factors influencing the rate of aggressive incidents in a psychiatric hospital. *J Ment Hlth* 1999;8:159-70.
6. Powell G, Caan W, Crowe M. What events precede violent incidents in psychiatric hospitals? *Br J Psychiatry* 1994;165:107-12.
7. Marzuk P. Violence, crime, and mental illness. How strong a link? *Arch Gen Psychiatry* 1996;53:481-6.
8. Angermeyer MC, Matschinger H. Violent attacks on public figures by persons suffering from psychiatric disorders. Their effect on the social distance towards the mentally ill. *Eur Arch Psychiatry Clin Neurosci* 1995;245:159-64.
9. Pescosolido BA, Monahan J, Link BG et al. The public's view of the competence, dangerousness, and need for legal coercion of persons with mental health problems. *Am J Public Hlth* 1999;89:1339-45.
10. Campbell J. Taking issue: putting violence in context. *Hosp Commun Psychiatry* 1994;45:633.
11. Cascardi M, Mueser KT, DeGiralomo J et al. Physical aggression against psychiatric inpatients by family members and partners. *Psychiatr Serv* 1996;47:531-3.
12. Hiday VA, Swartz MS, Swanson JW et al. Criminal victimization of persons with severe mental illness. *Psychiatr Serv* 1999;50:62-8.
13. Hiday VA. The social context of mental illness and violence. *J Hlth Soc Behav* 1995;36:122-37.
14. Wessely S. Violence and psychosis. In: Thompson C, Cowen P (eds). *Violence. Basic and clinical science*. Oxford: Butterworth/Heinemann, 1993:119-34.
15. Link B, Stueve A. Evidence bearing on mental illness as a possible cause of violent behaviour. *Epidemiol Rev* 1995;17:172-81.
16. Noffsinger SG, Resnick PJ. Violence and mental illness. *Curr Opin Psychiatry* 1999;12:683-7.
17. Swanson J, Borum R, Swartz M et al. Violent behaviour preceding hospitalization among persons with severe mental illness. *Law Hum Behav* 1999;23:185-204.
18. Applebaum PS, Robbins PC, Monahan J. Violence and delusions: data from the MacArthur Violence Risk Assessment Study. *Am J Psychiatry* 2000;157:566-72.
19. Steadman HJ, Mulvey EP, Monahan J et al. Violence by people discharged from acute psychiatric inpatient facilities and by others in the same neighbourhoods. *Arch Gen Psychiatry* 1998;55:393-404.
20. Link BG, Andrews H, Cullen F. The violent and illegal behaviour of mental patients reconsidered. *Am Sociol Rev* 1992;57:275-92.
21. Link BG, Stueve A. Psychotic symptoms and the violent/illegal behavior of mental patients compared to community controls. In: Monahan J, Steadman HJ (eds). *Violence and mental disorder: developments in risk assessment*. Chicago: Chicago University Press, 1994:137-59.
22. Link BG, Stueve A, Phelan J. Psychotic symptoms and violent behaviours: probing the components of 'threat/control-override' symptoms. *Soc Psychiatry Psychiatr Epidemiol* 1998;33:S55-S60.
23. Link BG, Monahan J, Stueve A et al. Real in their consequences: a sociological approach to understanding the association between psychotic symptoms and violence. *Am Sociol Rev* 1999;64:316-22.
24. Swanson J, Borum R, Swartz M et al. Psychotic symptoms and disorders and the risk of violent behavior in the community. *Criminal Behav Ment Hlth* 1996;6:317-38.
25. Swartz MS, Swanson JW, Hiday VA et al. Violence and severe mental illness: the effects of substance abuse and nonadherence to medication. *Am J Psychiatry* 1998;155:226-31.
26. Tiihonen J, Isohanni M, Räsänen P et al. Specific major mental disorders and criminality: a 26-year prospective study of the 1966 Northern Finland Birth Cohort. *Am J Psychiatry* 1997;154:840-5.
27. Mullen PE, Burgess P, Walace C et al. Community care and criminal offending in schizophrenia. *Lancet* 2000;355:614-7.
28. Arseneault L, Moffitt T, Caspi A et al. Mental disorders and violence in a total birth cohort: results from the Dunedin Study. *Arch Gen Psychiatry* 2000;57:979-86.
29. Swanson J, Swartz M, Estroff S et al. Psychiatric impairment, social contact, and violent behavior: evidence from a study of outpatient-committed persons with severe mental disorder. *Soc Psychiatry Psychiatr Epidemiol* 1998;33:S86-S94.
30. Estroff SE, Swanson JW, Lachicotte WS et al. Risk reconsidered: targets of violence in the social networks of people with serious psychiatric disorders. *Soc Psychiatry Psychiatr Epidemiol* 1998;33:S95-S101.
31. Swanson JW. Mental disorder, substance abuse, and community violence: an epidemiologic approach. In: Monahan J, Steadman HJ (eds). *Violence and mental disorder: developments in risk assessment*. Chicago: University of Chicago Press, 1994:101-36.
32. Stuart H, Arboleda-Flórez J. A public health perspective on violent offenses among persons with mental illness. *Psychiatr Serv* 2001;52:654-9.

Rethinking mental health: a European WHO perspective

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In spite of recent clinical and research advances, an increased burden of mortality and morbidity related to stress and mental ill health can be noted, especially in European societies and populations undergoing stressful transitions and dramatic changes. A societal syndrome, consisting of depression, suicide, abuse, risk-taking and violent behaviour as well as vascular morbidity and mortality, can be observed, reflecting individual psychopathology related to disturbances of the serotonin metabolism as one of the oldest, most basic cerebral instruments of mankind to survive, to socialize, to cope with stress and danger. In a time where mental health professionals look for new and challenging identities, they have a tendency to abdicate from social psychiatric and public health activities in favour of more prestigious positions in brain research, genetics or advanced psychotherapy. A redefinition, reconceptualization and renaissance of social psychiatry seems timely and necessary, responding to the burden, advances and possibilities related to mental health we find today. It should proceed from the reductionism which often has characterized earlier psychosocial and social psychiatric approaches, utilize modern knowledge about neuroplasticity, psychoimmunology, neuropsychology and neurophilosophy, reflect the interaction between environment and structure, nature and nurture, and integrate different areas of knowledge in a holistic public mental health approach. Political decisions and societal solutions can be more or less in line with basic human preconditions. Consequences of failure to respect this already can be seen. A new awareness and responsibility-taking with regard to basic human ethological, physiological, psychological and existential conditions is needed and has to be concretized in innovative public mental health approaches.

Key words: Social psychiatry, public mental health, societal stress, environment and health, premature mortality, mental health impact awareness

The mental health field in Europe is today in an exciting situation. We are experiencing scientific breakthroughs and developing more comprehensive treatment strategies in psychiatric disorders like psychoses, depressions and dementias. We are starting to understand the psychobiology of depression, aggression and self-destructive behaviour. We are learning about the amazing neuroplasticity of the brain, finding out how physiological wellbeing creates cerebral strength. But we are learning also how adverse psychological, social and existential environments can create structural weakness and long-lasting vulnerability in the brain.

Outgoing from this knowledge, we are experiencing today that curative, protecting and mental health promoting strategies have become feasible, realistic and necessary, utilising possibilities of interdisciplinary co-operation and teamwork, and engaging all sectors of society. We are also starting to learn how to integrate 'humanistic', psychosocial and existential knowledge into 'biological' medical science and vice versa, thus reflecting the inevitable human condition of being body and mind, recognising that there neither is a brainless mind nor a mindless brain, and avoiding biological as well as 'humanistic' reductionism. Recent developments in the field of neuropsychiatry, psychosomatics, stress research, psychoimmunology, and neurophilosophy as well as sociology and anthropology are here in the frontline of scientific progress by overcoming the split between humanism and biology and over-bridging the antagonism between qualitative and quantitative approaches, which for a long time has paralysed scientific progress and the development of comprehensive strategies.

SOCIETIES IN STRESS

But we are also living in a time of great and increasing

burden and distress, caused by the helplessness and loss of control experienced by many, and influenced by social exclusion, identity loss, lack of coherence and meaning, existential emptiness and stress. Mental ill-being, especially depression and suicide, and the consequences of risk-taking behaviour and destructive life styles, have become one of the greatest - maybe already the greatest - health care burden in countries of societal transition and in populations at risk (adolescents, elderly, males, females, unrelated singles and rural populations).

A closer look at these societies and populations at risk, involved in dramatic societal change leading to helplessness, identity loss and lack of coherence, reveals a kind of 'community syndrome'. This consists of morbidity and mortality patterns related to depression, suicide, aggression, violence and destructive as well as self-destructive behaviour, which show an almost seismographic parallelism and time relatedness to stressful changes in the society. Knowing what we know today from research on serotonin metabolism as one of the most basic and phylogenetically important systems related to abilities of coping, socializing, fighting, flying and adapting, but also to aggression, violence, personality disturbances as well as cardiovascular diseases, we cannot avoid to identify a 'societal serotonin syndrome'.

In the World Health Report 2001 (1) and in the World Health Organization (WHO) Regional Office for Europe's 'Health 21- Health for All in the 21st Century' policy document (2), ratified by the European member states, the WHO, taking its role as a 'health conscience' to governments and decision makers, stresses mental health as a human right. It underlines the need for multidisciplinary and intersectoral partnership and co-operation, for evidence-based strategies and for community-based approaches, close to the individual and its social and psychological environment.

To facilitate this, the WHO mental health programme of the Regional Office for Europe has chosen three directions: firstly, a focus on the need for assessments and national mental health audits, with respect to the diversity throughout Europe regarding services, lifestyles and physical, psychosocial and existential prerequisites for mental health (we see in these audits an inevitable presupposition for sustainable and realistic national mental health planning); secondly, a focus on stress and helplessness-related morbidity and mortality resulting from depression, suicide and self-destructive lifestyles, with special regard to societies of transition; and thirdly, a focus on the need for destigmatisation and counteracting discrimination.

STIGMA

Nothing creates fear so much and easily as the lack of knowledge. This is why stigma, taboo and subsequent social exclusion in the countries of Europe today is laid on already disadvantaged mentally vulnerable persons. In this stigmatisation we find the greatest obstacle for early intervention and easy, open community-based monitoring and treatment of mental vulnerability, an obstacle which can only be tackled by less ignorance and more awareness, in order to overcome the treatment gap between what is doable and what is done in European mental health services today, counteracting exclusion and discrimination.

However, destigmatisation approaches, necessary in any development towards community-based mental health care, have to be realistic and must not deny the dysfunction and the emotional as well as intellectual distortion more or less temporarily linked to mental disorder. They should neither increase the burden of others, as some of the stigma campaigns considering neurological diseases do, by stressing the 'non-mentality' of 'neurological' brain diseases.

Destigmatisation programs, however, are only long-lasting and sustainable if they are integrated in a comprehensive development towards community-based services and if they focus on the need for pluralism, tolerance and respect for the individual in a democratic society, even if she or he behaves differently.

MENTAL HEALTH POLICIES

Some principles of mental health development appear today as important:

- Experience shows that positive mental health policy development presupposes a self-critical professional but also an ethical analysis of the situation of the mentally ill in the past - in a way, a reconciliation process.
- Mental health service development should be carried out without placing the clients 'out in the cold' - as it has happened in some European countries.
- There should be a constructive amount of consensus, in

spite of ideological quarrels and the conflicting interests of the different professions.

- A civil dialog has to be created between professionals, users, families and significant others as well as administrators.
- Ways have to be found to increase awareness about mental health as an important capital in a society and about the costs of 'doing nothing'.

Developing, humanizing and decentralizing mental health services, however, is a tricky task: it is a human right to demand respect for one's integrity, autonomy, and freedom to live one's own life according to the ideals and wishes one could have, even if they are deviant and different. It is our first task to respond to this right. But it is also a human right to have access to professional treatment and assistance, to regain the autonomy, which only can be experienced in a condition free from anxiety, psychosis and fragmentation. To be psychotic is not to be free and everyone has a human right to treatment, help and health. Mental disorder can be as limiting and life threatening as a somatic disease and needs the same careful treatment and monitoring.

It is also a fact that professionalism without humanism is not enough. Neither is humanism without professionalism. Humanism is the prerequisite and the *conditio sine qua non* for any kind of professionalism in treatment and support to human beings, but can never replace it.

MENTAL HEALTH IMPACT

2001 was declared the year of mental health all over the world. The World Health Day of April 7 has been celebrated in every nation. The World Health Assembly in May has gathered the decision-makers of the entire world, and the World Health Report in October has given evidence to all this and called for action.

Some of the main messages were:

- that mental health can be promoted by intelligent political action based on scientific evidence, that the impact on mental health caused by political and societal interventions must be considered and that no country can afford not to invest in mental health;
- that mental disorder is underestimated, underrecognized, and undertreated, due to stigma, taboo and lack of knowledge;
- that it is a heavy, but avoidable burden, which can afflict anybody, but is preventable and treatable;
- that it can be tackled by community-based services integrated into societies.

Today we also begin to feel that no country can afford not to be aware of the impact of political decisions and policy changes on reconciliation, tolerance and democracy, in due consideration that mental health and peace in a society are strongly linked to each other and that community-based services are the most important instruments to take this into account.

Considering the burden of mental disorders and the morbidity and mortality related to stress and mental ill health, and considering the fact that the vast majority of governments and decision makers allocate less than three percent of their health care budgets to mental health issues, we clearly find that the awareness about the burden of mental ill health and the importance of considering mental health as one of the most valuable capitals of society has to be improved. The impact of any political decision on the mental health of a population should be considered and carefully assessed. No country, even the poorest one, can today afford to do nothing, not to do all possible to invest in mental health and to promote, protect and regain it in its population. However, in order to achieve this, political and public awareness and education, and overcoming of taboos and stigma mechanisms individually, publicly and politically is not sufficient. We also need a renewed responsibility taking of mental health and psychiatric professionals with regard to public mental health issues.

PUBLIC MENTAL HEALTH - A CHALLENGE TO PSYCHIATRY

Today, in Europe's professional societies, there is a continuous struggle for identification and a tendency to strive for clinical and scientific identities in psychotherapy or brain research, genetics or neuropsychiatry, considering them to be the most fashionable ones. The interest for and status of social medicine, social psychiatry and social mental health approaches focussed on promotion of salutogenic factors has decreased and young professionals are seldom encouraged to take interest in public mental health. Psychiatry seems to abdicate from public mental

health responsibility. This process is facilitated by the fact that the mechanisms being in place for scientific publication and academic career hardly honour the type of comprehensive research we should need, integrating and connecting the already existing pieces of scientific knowledge and creating holistic and socially relevant synopses.

Modern psychiatry, with its new psycho- as well as biodynamical insights in causalities, complexities and interactions, can ethically not abdicate from interest and responsibility taking about promotional and prevention aspects of mental health. We may need the birth of a new type of social psychiatry, not as formerly reductionistically focusing on solely sociological and psychodynamic theories, but integrating what we begin to know today about the plasticity of the brain, about basic organic and genetically defined mechanisms influencing social behaviour and environments as well as the interaction of nurture and nature.

Mental health impact assessments and consequent analysis of political decisions should become a routine, just as environmental impact assessments today. The social psychiatric question of how a society could be developed, governed and monitored to be kind to human beings' serotonin system may become our future challenge.

References

1. World Health Organization. World health report. Mental health: new understanding, new hope. Geneva: World Health Organization, 2001.
2. World Health Organization Regional Office for Europe. Health 21 - Health for all in the 21st century. Copenhagen: World Health Organization Regional Office for Europe, 1998.

The WPA International Congress "Treatments in Psychiatry: An Update"

MARIO MAJ

Chairman, Organizing Committee

The WPA International Congress "Treatments in Psychiatry: An Update" will take place in Florence, Italy, from 10 to 13 November, 2004.

The scientific programme will include update lectures (delivered by top worldwide experts and providing a comprehensive update on the most significant aspects of current treatment in psychiatry); interactive symposia (focusing on specific treatment issues, with an active interaction between speakers and participants); section and zonal symposia (organized by WPA sections and zones); advanced courses (for a limited number of participants, dealing with issues of great practical interest); forums (focusing on controversial or emerging issues in mental health care); new research sessions (offering to psychiatrists from all countries of the world an opportunity to share the results of clinical and basic research efforts); poster sessions (providing an alternative opportunity to present research findings in a very visible way); satellite symposia and other sponsored events (fostering the partnership with industries operating in the field of mental health care).

Abstracts of contributions proposed for inclusion in a symposium, a new research session or a poster session should be sent by e-mail to the Scientific Secretariat (secretariat@wpa2004florence.org). The deadline for receipt is 30 September, 2003.

The list of the update lectures is the following:

1. The context of treatment in psychiatry (N. Sartorius)
2. Building up therapeutic alliance in psychiatric practice (A. Tasman)
3. The comprehensive management of schizophrenia (N. Schooler)

4. Early psychosis: detection and interventions (P. McGorry)
5. The comprehensive management of recurrent and chronic major depression (G.A. Fava)
6. Comprehensive long-term management of bipolar disorder (M. Thase)
7. Understanding and managing the consequences of violence and trauma (A. McFarlane)
8. Integrating pharmacotherapy and psychotherapy in the management of anxiety disorders (J. Gorman)
9. New views in the management of dementias (A. Burns)
10. The multimodal treatment of eating disorders (K. Halmi)
11. The principles and practice of cognitive-behavioural psychotherapy (P. Salkovskis)
12. Psychodynamic psychotherapies: evidence-based and clinical wisdom (P. Fonagy)
13. Integration of services in community mental health care (G. Thornicroft)
14. The challenge of primary prevention in psychiatry (S. Saxena).

The preliminary list of the interactive symposia is the following:

1. Ethical and legal aspects of treatments in psychiatry
2. Partnerships in mental health care
3. Recent advances in pharmacogenomics
4. Epidemiology and prevention of suicide
5. The evaluation of psychiatric treatments
6. Prevention and management of substance abuse among adolescents
7. The future of pharmacotherapy for schizophrenia
8. Economic aspects of mental health care
9. "Difficult" children and adolescents: underdiagnosis and overdiag-

- nosis of mental disorder and relevant treatment issues
10. The future of pharmacotherapy for mood and anxiety disorders
11. Psychotropic drugs and cognitive functions
12. Understanding and managing "comorbidity" in psychiatry
13. The present and future of rehabilitation in psychiatry
14. The management of somatoform disorders and medically unexplained physical symptoms
15. The future of psychotherapies
16. The current management of obsessive-compulsive disorder
17. New strategies for the care of the mentally retarded
18. Management of alcohol-related problems
19. The contribution of neuroimaging research to clinical psychiatry
20. The current management of personality disorders
21. The present and future of consultation-liaison psychiatry
22. The current management of panic disorder and generalized anxiety disorder
23. Childhood sexual abuse: what to do in victims and offenders
24. Cultural issues in mental health care
25. Diagnosis and treatment of attention-deficit/hyperactivity disorder
26. New strategies in the management of sexual disorders
27. Current approaches to sleep disorders
28. Management of behavioural disorders in patients with brain damage
29. Assessment and management of social anxiety disorder
30. Current approaches to autism
31. Combining medications in psychiatry: advantages and risks
32. The management of non-schizophrenic psychotic disorders
33. Management of psychiatric disorders in patients with concomitant general medical conditions
34. Management of mental disorders in old age
35. Diagnosis and treatment of impulse control disorders
36. Non-pharmacological somatic therapies in psychiatry.

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