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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 128, spanning 111 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 60 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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On the China issue

AHMED OKASHA

President, World Psychiatric Association

The WPA has received over the time more than 300 complaints of political abuse of psychiatry against Falun Gong practitioners in China. During the 12th World Congress of Psychiatry, which took place in Yokohama, Japan, in August 2002, the General Assembly gave mandate to the WPA Executive Committee to explore this issue by means of a fact-finding mission to China.

In order to prepare this mission, the President, Past-President and President-Elect of the WPA and the Chairperson of the WPA Committee on Review of Abuse of Psychiatry met, on January 10 and 11, 2004, with the President and Vice-President of the Chinese Society of Psychiatry and the Chinese Vice-Minister of Health. A plan for a visit to China to take place at the end of March 2004, aiming to examine records and to interview patients and their families or doctors, after obtaining their consent, was accepted by the Chinese Vice-Minister of Health and the Chinese Society of Psychiatry.

During the meeting of the WPA Executive Committee held in Cairo, Egypt, on February 12 and 13, 2004, a Task Force was appointed for the mission. This was a technical, independent, unbiased delegation, totally supported financially by the WPA central funds. The members of the Task Force were O. Steinfeldt-Foss (Chair), M. Kastrup (Co-Chair), F. Allodi (Secretary), J. Cox, J. Arboleda-Florez, A. Stone, D. Moussaoui and F. Tan. The practical arrangements for the mission were immediately started. The date of April 4 was agreed upon for the beginning of the mission.

Just a few weeks before this date, the Chair of the Task Force received a letter from the President of the Chinese Society of Psychiatry, in which the terms of reference of the visit were changed with respect to those agreed upon in January. The mission was therefore suspended. A period of impasse followed.

In May 2004, a meeting of the WPA Executive Committee, Committee on Review of Abuse of Psychiatry and Task Force on China with the President and Vice-President of the Chinese Society of Psychiatry was arranged. During this meeting, the representatives of the Chinese Society of Psychiatry admitted instances in which some Chinese psychiatrists had failed to distinguish between spiritual-cultural beliefs and delusions, as a result of

which persons were misdiagnosed and mistreated. They stated, however, that this pattern of misdiagnosis and mistreatment took place because of lack of training and professional skills of some psychiatrists rather than as a result of systematic abuse of psychiatry. Furthermore, the representatives of the Chinese Society of Psychiatry agreed to examine case records at various hospitals where those instances of misdiagnosis and mistreatment may have occurred, and to present and discuss the findings at a workshop with WPA in a collegial manner, so that it can be better understood why these failures have occurred.

At the present time, the WPA is unable to state whether there has been systematic political abuse of psychiatry in China. This is not to deny that there have been government-ordered crackdowns on Falun Gong practitioners. The focus of the WPA in this case is on political abuse of psychiatry. What has become clear during this long and arduous process has been the need to assist Chinese colleagues in matters concerning forensic psychiatry, medical ethics, patients' rights, mental health legislation, diagnosis and classification, to help them improve the care of mentally ill in China and prevent future abuses.

In spite of the obstacles and the difficulties, the WPA has been able to collect evidence that our profession has been actually misused in some Falun Gong practitioners in China. Cases of misdiagnosis and mistreatment have occurred, and the Chinese Society of Psychiatry has acknowledged them. These cases concerned the very delicate issue of considering spiritual thoughts as delusions and, as a consequence of this, hospitalizing and treating with antipsychotic drugs people who were not mentally ill. Whether these cases of misdiagnosis and mistreatment were due to ignorance or to political pressure cannot be said at the moment, because of lack of reliable evidence. The WPA will persevere in its efforts to implement a fact-finding visit to China, as requested by the General Assembly in Yokohama, in the hope to be able to clarify this issue. Part of these efforts will be a joint WPA-Chinese Society of Psychiatry course, to be held in Beijing in February 2005, aiming to discuss ethical issues, human rights, psychiatric diagnosis and the following steps to achieve our goal.

What can philosophy do for psychiatry?

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This article illustrates the practical impact of recent developments in the philosophy of psychiatry in five key areas: patient-centred practice, new models of service delivery, neuroscience research, psychiatric education, and the organisation of psychiatry as an international science-led discipline focused on patient care. We conclude with a note on the role of philosophy in countering the stigmatisation of mental disorder.

Key words: Concepts of disorder, classification, neuroimaging, early diagnosis, values-based practice, patient-centred practice

According to the great 20th century psychologist and philosopher William James, philosophy is “an unusually stubborn effort to think clearly” (1). The need for clear thinking in psychiatry arises from the fact that our subject raises problems of meaning alongside empirical difficulties in a particularly acute way. A recent Forum in *World Psychiatry*, dealing with “the challenge of psychiatric comorbidity” (2), makes the point. That Forum covered empirical issues such as the likely impact on psychiatric classifications of future advances in behavioural genetics (2,3), but much of the debate was about conceptual difficulties; about the meanings, for example, of such key terms as “disease” and “disorder” (4), and “syndrome” (5); about the tension between “reliability” and various aspects of “validity” (6); and about the competing claims of categorical and dimensional classifications to reflect “the state of nature, not merely how clinicians think about the state of nature” (7).

As Allen Frances pointed out in his role as Chairperson of the DSM-IV Task Force (8), it is one thing to recognise the importance of conceptual difficulties in psychiatry, it is quite another to do something about them. In this article, therefore, we will be focusing not on problems but on solutions. The last few years have witnessed a remarkable explosion of cross-disciplinary work between philosophy and psychiatry (9). Rather than attempting a full review of the field, however, we will be illustrating what philosophy *can do* for psychiatry, with examples of what it *is already doing* in five key areas: a) patient-centred practice, b) models of service delivery, c) research, d) education and e) international organisations.

PATIENTS: PHILOSOPHY PUTS PATIENTS FIRST

Philosophy, through a new model linking values with evidence, called values-based practice (VBP), gives us specific tools to help make science work for us in a more patient centred way (10). VBP is the theory and skills-base

for effective healthcare decision-making where different (and hence potentially conflicting) values are involved. VBP, somewhat like a political democracy, starts from respect for different values and relies on good process for its practical effectiveness.

Good process in VBP, as shown in Table 1, depends on 10 key “pointers”. The starting point of good process in VBP is careful attention to individual patients’ values (pointer 1). Where values conflict, however, VBP seeks to achieve a balanced approach to clinical decision-making by drawing on a range of different value perspectives, represented here by the multi-disciplinary team (pointer 2). Achieving a balance of value perspectives in turn depends on four key clinical skills: raising awareness, reasoning skills, knowledge and communication skills (pointers 3 to 6). Values-based and evidence-based approaches, as the

Table 1 Ten pointers to good process in values-based practice

Clinical practice:

Values-based practice is patient-centred and multi-disciplinary

1. Patient-centred: the first source for information on values in any decision is the perspective of the patient/family concerned.
2. Multi-disciplinary: the different values of the multi-disciplinary team members support a balanced approach to resolving differences.

Clinical skills: Values-based practice depends on four key clinical skills

3. Awareness: of the often very different values relevant to a given decision.
4. Reasoning skills: for exploring differences of values.
5. Knowledge: of the values likely to be relevant to a given decision (including research-based evidence).
6. Communication skills: for understanding values and resolving conflicts.

Research: Values-based practice and evidence-based practice work together

7. The ‘two-feet’ principle: all decisions are based on facts and values.
8. The ‘squeaky wheel’ principle: we tend to notice values only when they conflict.
9. The ‘science driven’ principle: increasing scientific knowledge creates new choices in healthcare, and with choices go values.

Organisations:

Values-based practice relies on partnership between decision-makers

10. A new alliance: values-based organisations define policies that support partnership between the stakeholders in healthcare decision-making.
-

next three pointers (pointers 7 to 9) indicate, are complementary. In particular, as David Sackett, one of the leaders of evidence-based practice, has emphasised, they are both essential to building genuine partnership between professionals, their patients and their patients' families (11). This aspect of good process in VBP is reflected in the partnership model of decision-making summarised in Table 1 in pointer 10.

The philosophical sources of VBP include abstract formal disciplines such as linguistic analysis, phenomenology and hermeneutics (10). But its practical applications already include a number of both treatment (12) and policy and service development initiatives within the Modernisation Agency of the UK's National Health Service (www.connects.org.uk/conferences). Central to all these initiatives, is a training workbook covering the skills of VBP (13). This workbook, which is the result of a unique collaboration between a Philosophy Department (at Warwick University) and an in-service training provider (the Sainsbury Centre for Mental Health), has been recently launched in London by the Minister of State responsible for mental health, Rosie Winterton, and will be the basis for training of front-line clinical staff from April of next year in each of the main national health service (NHS) regions of England and Wales.

Future developments in VBP will be supported by a lively international programme of ongoing research. A particular focus of this research is the role of values in classification and diagnosis. The American psychiatrist and co-editor (with Fulford) of the international journal *Philosophy, Psychiatry, & Psychology*, John Sadler, has been particularly active in this field (14,15). A research methods meeting last year in London, funded by the UK government, brought together work on values in diagnosis from phenomenological (16,17) and empirical (18) as well as philosophical sources. This work will contribute to the development of more inclusive models of psychiatric classification through the work of the WPA Sections on Philosophy and Humanities in Psychiatry and on Classification, Diagnostic Assessment and Nomenclature (19).

There is also ongoing educational research. Werdie van Staden, a psychiatrist and philosopher at Pretoria University, and founder, with Tuviah Zabow at Capetown University, of the Philosophy Special Interest Group in the South African Society of Psychiatrists, has established a joint educational research programme with Warwick University Medical School, dealing with the effectiveness of training in VBP for medical students.

SERVICES: PHILOSOPHY SUPPORTS NEW MODELS OF SERVICE DELIVERY

Mental health services in many parts of the world are nowadays delivered by multi-disciplinary teams. This ensures that a variety of different skills – medical, psycho-

logical, social, etc. – are available to meet the needs of individual patients. However, team working is too often associated with conflicts and failures of communication, with the result that patients are at risk of “falling through the net” through lack of collaborative decision-making (20). In addition, there are some cultures with very different models of disorder altogether, for example where families and social networks are valued more highly than individual autonomy (21).

In a study combining philosophical work on concepts of disorder with empirical social science methods, Anthony Colombo and colleagues at Warwick University have shown that such difficulties in multi-disciplinary team working are often driven by unrecognised differences in models of disorder (22). Despite the contested status of the concept of mental disorder, most mental health professionals nowadays claim to work within a shared biopsychosocial model (23). But what Colombo et al's study showed is that in practice, and often without being aware of it, different professional disciplines actually work with very different implicit models – hence the conflicts and difficulties in multi-disciplinary teamworking. Studies paralleling Colombo et al's project are currently underway at Linköping University in Sweden and at the Maudsley Hospital in London.

Colombo et al's study illustrates one of the general roles of philosophy in psychiatry. As the Oxford philosopher J. L. Austin put it, the characteristic output of philosophical “clear thinking” is to give us a more complete picture of the full meanings of the complex concepts by which we make sense of the world around us (24).

Phenomenology, and its close relatives existentialism and hermeneutics, are particularly helpful in giving us a “more complete” picture. Phenomenology, as Karl Jaspers (25,26) recognised, provides a range of practical tools for working with personal meanings, alongside scientific findings, in psychopathology. This is important in research (see below). But phenomenology and related disciplines are already generating new models of service delivery more directly geared to individual and cultural meanings. Such models include the Irish psychiatrist and philosopher Patrick Bracken's use of Heideggerian phenomenology to support new approaches to the management of post-traumatic stress disorder in traditional societies (27), the American psychologist and philosopher Steven Sabat's use of discursive analysis to improve communication with Alzheimer's disease sufferers (28), and the Dutch philosopher Guy Widdershoven's work on collaborative decision-making, also in Alzheimer's disease, employing the “hermeneutic circle” (29).

RESEARCH: PHILOSOPHY RE-CONNECTS MINDS WITH BRAINS IN RESEARCH

It is no coincidence that the emergence of a new and vigorous philosophy of psychiatry in the closing years of

the 20th century coincided with dramatic advances in the neurosciences (9). As no less a neuroscientist than Nancy Andreasen has pointed out, the neurosciences themselves are among the factors pushing traditional philosophical problems, such as the nature of personal identity and of our knowledge of “other minds”, to the top of our agenda in psychiatry (30).

The new philosophy of psychiatry is certainly not shy of problems of this magnitude (31-33). The British psychiatrist Sean Spence’s brain imaging studies of hysteria, for example, raise a number of the traditional problems of psychiatry in exactly the challenging way that Andreasen anticipated (34), and a joint research programme between Warwick and Oxford Universities and the Institute of Psychiatry in London, funded by the McDonnell-Pew Centre for Cognitive Neuroscience in Oxford, has brought together philosophers, neuroscientists and patients, in a collaborative study of schizophrenia published as a special double issue of *Philosophy, Psychiatry, & Psychology*, edited by the Warwick philosopher Christoph Hoerl (35).

It is however particularly through the phenomenological tradition, with its focus on subjective experience, that the new philosophy of psychiatry is connecting most directly with neuroscience research (36-39). Imaging studies, in particular, demand more sophisticated ways of characterising and defining the contents of experience and how these are linked to brain functioning (40,41). The work of the Cologne group on early detection and prediction of psychotic illnesses, for example, draws directly on phenomenological methods (42). Research in this area is a two way process, however, in which phenomenology and philosophy of mind also draw on the rich varieties of psychopathology (43,44).

Early in the field with the potential applications of phenomenology to psychopathology was of course Karl Jaspers (45), perhaps the first philosopher-psychiatrist. Building on a strong 20th century tradition of conceptually informed work on classification and diagnosis (46,47), the new philosophy of psychiatry has picked up Jaspers’ concern to link meanings with causes in psychopathology (48-51). But a strong tradition of phenomenological work was maintained through much of the 20th century in a number of European countries (notably France, Germany and Italy), in Japan and in South America (9).

It is impossible within the scope of this article even to list the many distinguished recent contributors to this tradition. The main areas of work include both specific symptoms (52-55) and wider issues of psychiatric nosology (56). Examples of work in this area, drawing on the phenomenologies of such seminal 20th century philosophers as Martin Heidegger, Maurice Merleau-Ponty and Jean Paul Sartre, are included in a number of recent collections (9, 57); new work is reviewed regularly in the History and Philosophy section of *Current Opinion in Psychiatry* (e.g., 58); and a more comprehensive treatment will be given in one of the volumes in the new book series from Oxford

University Press on *International Perspectives in Philosophy and Psychiatry* (59).

EDUCATION: PHILOSOPHY CONTRIBUTES TO GENERIC SKILLS TRAINING IN PSYCHIATRIC EDUCATION

Research in the philosophy of psychiatry requires the same high-level skills as in any other technical discipline. When it comes to education and training, however, philosophy has a wider contribution to make to psychiatry, through the development of the generic thinking skills, the “clear thinking” of William James’ aphorism (above), that are essential in all areas of practice.

The training manual for VBP noted above is a well-developed example of the effectiveness of philosophy in this respect (13). The exercises used for the development of VBP-skills are based directly on ideas from philosophers such as J.L. Austin (24) and R.M. Hare (60), working in the most abstract areas of philosophical value theory. Yet, these training exercises have been particularly well received, in pilot studies, not by academic psychiatrists, but by patient advocates, mental health nurses, social workers and others, working in such challenging areas of front-line mental health practice as crisis intervention and assertive outreach (61).

A full curriculum for philosophy of psychiatry has been introduced in the latest revision of the Royal College of Psychiatrists’ curriculum for higher psychiatric training, the “MRCPsych” (62). Besides other sources cited in this article, training in this area will build on rich resources from classical philosophy (63,64) and history of ideas (65,66).

ORGANISATIONS: PHILOSOPHY UNDERPINS AN ‘INTERNATIONAL’ OPEN SOCIETY IN MENTAL HEALTH

Psychiatry is peculiar among medical disciplines in being particularly vulnerable to abusive uses for purposes of political or social control. The notorious “delusions of reformism”, the basis on which political dissidents were diagnosed with “schizophrenia” in the former Soviet Union, is but one example of our vulnerability in this respect (67).

The prevention of such abuses involves a wide range of resources – political, scientific, legal and educational. Philosophy contributes generally in each of these areas, drawing on cross-cultural (68) and historical (69,70) scholarship and political philosophy (71). Among other results, such work shows that the underlying vulnerability of psychiatry in this respect arises from a failure to maintain a balance of different perspectives. In the Soviet Union, it was the unbalanced dominance of the Soviet ethic that distorted diagnostic judgements (72). This led to a kind of conceptual blindness arising from what the 17th century

political philosopher, and founder of British empiricism, John Locke, called “enthusiasms” (73). We have seen similar “enthusiasms” in psychiatry throughout the 20th century – for psychoanalysis at one stage in America, for example, and more recently, in some quarters, for a narrow model of “biological psychiatry” (74).

We can counter such “enthusiasms” only by maintaining what Jim Birley, a Past President of the Royal College of Psychiatrists, and founder chair of the reforming organisation Geneva Initiative for Psychiatry, has called an “open society” in international psychiatry (75). The new philosophy of psychiatry will contribute to maintaining such an open society, partly through the more complete picture of the conceptual structure of the subject which, as noted above, is its characteristic output, but also, and importantly, through its own organisation as an open and collegial discipline, inclusive of methodological pluralism, and embracing intellectual and cultural diversity (9).

Future international developments in the philosophy of psychiatry will be supported by an International Network for Philosophy and Psychiatry (INPP), launched from South Africa as part of the 2002 biennial meeting of the South African Society of Psychiatrists, hosted by Professors Tuviah Zabow and Werdie van Staden. The INPP has been set up to support local, national and subject based organisations. Collaborating closely with new Sections in both the WPA and the European Psychiatric Association, the INPP will aim to contribute to the development of international psychiatry as a strongly dynamic “open society” of the kind Jim Birley envisaged.

CONCLUSIONS: PHILOSOPHY PUTS PSYCHIATRY FIRST

Perhaps the deepest difficulty with which psychiatry ended the 20th century was the continuing stigmatisation to which both patients and practitioners were subject. Despite developments in the neurosciences, psychiatry was still perceived by many as being somehow “unscientific” (76), and mental disorders continued to carry unwarranted negative associations such as violence and untreatability (12).

Philosophy, in giving us a more complete picture of the conceptual structure of psychiatry, shows that our subject, far from being scientifically deficient, is simply a good deal more *difficult* than other areas of healthcare. Philosophy is important in psychiatry for much the same reason that it is important in theoretical physics. Both disciplines demand clear thinking about concepts as well as sophisticated scientific instruments for gathering data.

As we enter the 21st century, however, other areas of medicine, besides psychiatry, will increasingly face conceptual difficulties driven by scientific advances (77). In engaging with philosophy, therefore, across the five key areas outlined in this article, psychiatry, far from running

second to the rest of medicine as it did in the 20th century, is leading the way for 21st century medical science.

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Interpersonal psychotherapy: principles and applications

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This article briefly describes the fundamental principles and some of the clinical applications of interpersonal psychotherapy (IPT), a time-limited, empirically validated treatment for mood disorders. IPT has been tested with general success in a series of clinical trials for mood and, increasingly, non-mood disorders; as both an acute and maintenance treatment; and in differing treatment formats. As a result of this research success, IPT is spreading from research trials to clinical practice in various countries around the world.

Key words: Interpersonal psychotherapy, mood disorders, non-mood disorders, formats, process, training

The recognition of depressive illness as prevalent, morbid, potentially deadly, and economically costly (1) has spurred interest in its treatment. Pharmacotherapy has shown clear benefits for the acute and chronic treatment of the major mood syndromes, namely major depressive disorder (MDD), dysthymic disorder, and bipolar disorder (2). Antidepressant medications work for most patients, and work for as long as those patients continue to take the medications, but all treatments have limits. A significant proportion of medication responders have residual symptoms that predispose to recurrence or relapse of their mood disorders. Other patients do not respond to medications, refuse to take them, or in many areas of the world simply cannot afford them. For all of these patients, psychotherapies may have utility.

The two principal empirically-based psychotherapeutic interventions for mood disorders are cognitive behavioral therapy (CBT) (3) and interpersonal psychotherapy (IPT) (4). Both are diagnosis-targeted, time-limited, present-focused treatments that encourage the patient to regain control of mood and functioning. IPT is based on the so-called common factors of psychotherapy: a treatment alliance in which the therapist empathically engages the patient, helps the patient to feel understood, arouses affect, presents a clear rationale and treatment ritual, and yields success experiences (5). On this foundation IPT builds two major principles:

- Depression is a medical illness, rather than the patient's fault or personal defect; moreover, it is a treatable condition. This definition has the effect of defining the problem and excusing the patient from symptomatic self-blame.
- Mood and life situation are related. Building on interpersonal theory and psychosocial research on depression (6), IPT makes a practical link between the patient's mood and disturbing life events that either trigger or follow from the onset of the mood disorder.

Research has demonstrated that depression often fol-

lows a disturbing change in one's interpersonal environment such as the death of a loved one (*complicated bereavement*), a struggle with a significant other (*role dispute*), or some other life upheaval: a geographic or career move, the beginning or ending of a marriage or other relationship, or becoming physically ill (*a role transition*). Once patients become depressed, symptoms of the illness compromise their interpersonal functioning, and bad events follow. Although these observations seem commonsensical, many depressed patients turn inward, blaming themselves and losing sight of their environment. Whether life events follow or precede mood changes, the patient's task in therapy is to resolve the disturbing life event(s), building social skills and helping to organize his or her life. If the patient can solve the life problem, depressive symptoms should resolve as well. This coupled effect has been borne out in clinical trials demonstrating the efficacy of IPT for major depression.

STRUCTURE OF TREATMENT

IPT is a time-limited (acutely, 12-16 weeks) treatment with three phases: a beginning (1-3 sessions), middle, and end (3 sessions). The initial phase requires the therapist to identify the target diagnosis (MDD) and the interpersonal context in which it presents. In diagnosing major depression, the therapist follows DSM-IV (7) or ICD-10 criteria and employs severity measures such as the Hamilton Depression Rating Scale (Ham-D) (8) or Beck Depression Inventory (BDI) (9) to reify the problem as an illness rather than the patient's idiosyncratic defect. The therapist also elicits an "interpersonal inventory", a review of the patient's patterns in relationships, capacity for intimacy, and particularly an evaluation of current relationships. A focus for treatment emerges from the last: someone important may have died (*complicated bereavement*), there may be a struggle with a significant other (*role dispute*), or the patient may have gone through some other important

life change (*role transition*); in the relatively infrequent absence of any of these, the default focus is on *interpersonal deficits*, a confusing term that really denotes the absence of a current life event.

The therapist links the target diagnosis to the interpersonal focus: "As we've discussed, you are suffering from major depression, which is a treatable illness and not your fault. From what you've told me, your depression seems related to what's happening in your life right now. You stopped sleeping and eating and began to feel depressed after your mother died, and you've had difficulty in coming to terms with that terrible loss. We call that *complicated bereavement*, which is a common, treatable form of depression. I suggest that we spend the next 12 weeks working on helping you deal with that bereavement. If you can solve this interpersonal problem, not only will your life be better, but your mood will improve as well". This formulation defines the remainder of the therapy (10). The connection between mood and life events is practical, not etiological: there is no pretense that this is what "causes" depression. With the patient's agreement on this focus, treatment moves into the middle phase.

Other facets of the opening phase include giving the patient the "sick role", a temporary status recognizing that depressive illness keeps the patient from functioning at full capacity, and setting treatment parameters such as the time limit and the expectation that therapy will focus on recent interpersonal interactions (4).

In the middle phase of treatment, the therapist uses specific strategies to deal with whichever of the four potential problem areas is the focus. This might involve appropriate mourning in *complicated bereavement*, resolving an interpersonal struggle in a *role dispute*, helping a patient to mourn the loss of an old role and assume a new one in a *role transition*, or decreasing social isolation for *interpersonal deficits*. Whatever the focus, the therapy is likely to address the patient's ability to assert his or her needs and wishes in interpersonal encounters, to validate the patient's anger as a normal interpersonal signal and to encourage its efficient expression, and to encourage taking appropriate social risks. In the last few sessions, the therapist reminds the patient that termination is nearing, helps the patient to feel more capable and independent by reviewing his or her often considerable accomplishments during the treatment, and notes that ending therapy is itself a role transition, with inevitable good and painful aspects. Since IPT has also demonstrated efficacy as a maintenance treatment for recurrent MDD, and since patients who have had multiple episodes are very likely to have more, therapist and patient may decide to end acute treatment as scheduled and then to recontract for ongoing treatment, perhaps of less intensive dosage: e.g., monthly rather than weekly sessions.

The IPT therapist's stance is relaxed and supportive. The goal is to be the patient's ally. The acute time limit pressures the patient to take action. No formal homework

is assigned, but the goal of solving the focal interpersonal problem area provides an overall task. Treatment centers on the patient's outside environment, not on the therapy itself. The scheduling of sessions once weekly accentuates that the emphasis is on the patient's real life, not the office. In sessions therapist and patient review the past week's events. When the patient succeeds in an interpersonal situation, the therapist acts as a cheerleader, reinforcing healthy interpersonal skills. When the outcome is adverse, the therapist offers sympathy, helps the patient to analyze what went wrong in the situation, brainstorms new interpersonal options, and role plays them with the patient in rehearsal for real life. The patient then tests them out. Given this emphasis on interpersonal interaction, it is not surprising that depressed patients learn new interpersonal skills from IPT that they have not seen with pharmacotherapy (11).

CLINICAL APPLICATIONS

In the 1970s, Klerman, Weissman, and colleagues demonstrated the efficacy of IPT in treating MDD in repeated randomized controlled trials. The utility of IPT has been tested for other mood and non-mood disorders by several investigators in several countries, including the United States, Canada, United Kingdom, the Netherlands, New Zealand, Uganda, and elsewhere. From the start, the approach has been a scientific one. IPT has been tested in clinical trials for each proposed application; it has never been intended as a treatment for all disorders.

Mood disorders

The utility of IPT for MDD has been strengthened by landmark studies such as the National Institute of Mental Health (NIMH) Treatment of Depression Collaborative Research Program, in which IPT was statistically comparable to imipramine on several measures and better than a placebo control for more severely depressed patients (12). This study, the first direct comparison with CBT, also provided a glimpse at potential differential predictors of treatment outcome (13). Other trials have found IPT efficacious in treating depression in medically ill patients (14,15), peripartum women (16-19), depressed adolescents (20), and geriatric depressed patients (21). Two trials have demonstrated benefits for monthly IPT as a three year maintenance treatment for recurrent depression (21,22).

Studies are also examining the benefits of IPT for dysthymic disorder (23) and as an adjunctive treatment to medication for bipolar disorder. Frank and colleagues have grafted IPT to a behavioral, social rhythms therapy, thus yielding interpersonal social rhythms therapy (IPSRT) for bipolar disorder. The behavioral component aims to stabilize diurnal activities, and in particular to help control sleep patterns and thus avoid manic episodes (24). Exciting preliminary neuroimaging studies have found that IPT

changes brain blood flow in a manner similar to that of serotonin reuptake inhibitors (25,26).

Non-mood disorders

Success with mood disorders has also led to the exploration of IPT as a treatment for other conditions. Two trials for substance abuse showed no benefits for IPT (27,28). On the other hand, there have been promising developments of IPT as a treatment for social phobia (29), post-traumatic stress disorder (30) – both anxiety disorders with clear interpersonal components – and eating disorders (31-33). Further explorations are adapting IPT to borderline personality disorder, primary insomnia, body dysmorphic disorder, and other disorders (4).

FORMATS

Developed as an individual psychotherapy to be delivered by mental health professionals, IPT has also been modified as interpersonal counseling (IPC; 4,34), a streamlined, heavily scripted treatment for subsyndromal mood and anxiety symptoms for use by non-mental health medical nurses. It is also being tested as a group (35), couples (4), and telephone (36) intervention.

More research is needed to determine the optimal use and dosage of all forms of IPT. Furthermore, it is unclear for it – as for all psychotherapies – when and how it is best to augment IPT with medication, and vice versa. IPT is also being transplanted to other cultures (37).

PROCESS

Most research on psychotherapy has been on process rather than outcome. IPT has been the exception to this rule, with research focusing almost exclusively on outcome: that is, whether treatment works. Now that IPT has demonstrated efficacy for various disorders, it makes sense to explore what the active ingredients of this treatment might be. There has thus far been little research in this area (38).

TRAINING

IPT was developed as a research intervention, and until recently essentially all practitioners of IPT were researchers. Research training requires reading the manual (4,39), attending an orientation workshop, and completing 2-3 cases supervised by review of audio- or videotapes of each session. This system has worked well for research purposes, but it is highly labor intensive.

The research success of IPT has led to its inclusion in clinical treatment guidelines and to growing interest in IPT among clinicians. The standards for clinical training for non-researchers are still being defined. The International Society for Interpersonal Psychotherapy (ISIPT), an international umbrella organization, has developed a web site

(www.interpersonalpsychotherapy.org), is deliberating training issues, and is allowing countries to develop their own credentialing processes for IPT. IPT therapists in the United Kingdom have designed the most detailed and rigorous curriculum for clinical accreditation to date. There is interest in IPT training in Australia, Austria, Brazil, Canada, Finland, Germany, Ireland, Italy, the Netherlands, New Zealand, Norway, Spain, Switzerland, and elsewhere.

IPT is taught in some psychiatric residency programs in the United States, but it is not required training (37). Because IPT is an add-on therapy, not intended to apply to all disorders, all therapists who have learned IPT have come to it with backgrounds in other therapies, usually either psychodynamic or cognitive.

CONCLUSIONS

IPT is a relatively young psychotherapy targeted to particular psychiatric diagnoses. Relative to many other psychotherapies, its characteristics are well defined and its efficacy is well understood. Nonetheless, far more remains unknown about its indications for various conditions, its optimal dosing, its combination with pharmacotherapy, its utility in different formats, and so forth. Although one of the best studied interventions in outcome research, particularly for mood disorders, IPT is only now spreading into clinical practice. It is a fairly simple treatment for already experienced psychotherapists to learn, but its effectiveness in the hands of less trained therapists is moot. Thus the spread of this still relatively “pure” treatment carries both opportunities and dangers.

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Soteria Berne: an innovative milieu therapeutic approach to acute schizophrenia based on the concept of affect-logic

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The name "Soteria" stands for an alternative low-drug milieu-therapeutic approach to acute schizophrenia that was first implemented by Mosher and Menn in San Francisco, and since 1984 further developed by Ciompi and co-workers in Berne, on the basis of their concept of affect-logic, that emphasizes the often neglected influence of emotional factors in schizophrenia. In both settings, equal and even partly better therapeutic results, compared with traditional methods, were obtained with much lower doses of antipsychotics and comparable daily costs. Basic concepts, practical proceedings and empirical findings of Soteria Berne are reported, and their theoretical and practical implications for mainstream psychiatry are discussed. They support the hypothesis of a crucial pathogenetic and therapeutic-preventive role played by emotional factors not only in the so-called affective psychoses, but also in schizophrenia.

Key words: Schizophrenia, milieu-therapy, psychotherapy, pharmacotherapy, cost-efficiency evaluation

It is generally admitted that complex interactions between biologic-genetic and perinatal, environmental-situational and psychological factors play a crucial role both in pathogenesis and in short-term and long-term evolution of schizophrenia. The vulnerability-stress model first proposed by Zubin and Spring (1) and further elaborated by Nuechterlein and Dawson (2) and – with a special emphasis on emotional and biographic aspects – also by ourselves (3) provides a valuable basis for a conceptual integration of widely heterogeneous biological, social and psychological influences. Furthermore, various integrative therapeutic and/or preventive strategies were explicitly or implicitly based on the vulnerability-stress concept, from Anderson's (4) so-called educational model, to Hogarty's (5) psycho-social approach and to Alanen's (6) "need-adapted therapy", to select just a few examples.

From a comprehensive bio-psycho-social point of view, a pilot-project called Soteria (in Greek: delivery, salvation, protection), specially focused on environmental and emotional factors, was therefore of particular interest. Loren Mosher and Alma Menn conducted Soteria from 1971 through 1983 in a small community-based experimental setting near San Francisco. There, young acute schizophrenia patients were primarily treated by psychotherapeutic and milieu-therapeutic methods. Inspired by a phenomenological and existentialistic approach to mental illness, Mosher claimed that continuous human closeness with the psychotic patient ("being with") in a small, supporting and protective non-hospital setting allows to achieve similar or better therapeutic effects than with the traditional hospital-based treatment, almost without using antipsychotic drugs. This claim got support by evaluative empirical research (7-11). A first European replication of the original Soteria approach was eventually implemented in 1984 by one of us in Berne, Switzerland on partly different conceptual bases, in order to

verify and, if indicated, to remodel Mosher's approach. Soteria Berne proved to be very successful, since it is still in operation after 20 years of existence (12,13). From Berne, the Soteria idea spread out to a number of other places, predominantly in Germany (14).

The aim of the present paper is to give an overview of the concept, the practical proceedings and the empirical findings of Soteria Berne, and to compare them with Mosher's original observations and other available information on similar projects. Finally, we discuss the potentials and limits of the Soteria approach to psychosis, and try to situate it in current mainstream psychiatry.

CONCEPTUAL BASES OF SOTERIA BERNE

Our point of departure were converging results of studies on long-term course of schizophrenia over several decades that revealed the existence of considerably better outcome potentials, under favorable conditions, than hitherto known (15-24). Additional support for the assumption that environmental factors were more important than so far admitted came from early studies on the impact of community-based social and vocational rehabilitation (25-29), from research on the so-called "syndrome of hospitalism" in unfavorable institutional settings (30), from Scandinavian investigations on the influence of rearing conditions in adopted children at risk (31-34), from transcultural studies revealing significantly better long-term outcomes in less developed countries (35,36), and – especially important for the concepts described below – from the detection of robust statistical correlations between critically increasing emotional tensions (the so-called high expressed emotions) in the environment of persons at risk on the one hand, and the outbreak of psychotic symptoms on the other (37-39). Last but not least, extended personal psychotherapeutic and

sociotherapeutic experiences with psychotic patients had a major impact on the conceptualization of Soteria Berne.

Eventually, we integrated all the mentioned elements of knowledge into a comprehensive psycho-socio-biological meta-theory of affective-cognitive interactions named “affect-logic”. This is a not entirely satisfying translation of the German term “Affektlogik”, implying constant circular interactions between emotion and cognition in all mental functions. A related model of the long-term evolution of schizophrenia in three phases served as the main basis for our therapeutic strategies both in Soteria Berne and in the network of community-based psychiatric institutions in which the Soteria project was imbedded (40-42). According to the central thesis of affect-logic, ubiquitous circular interactions between emotion and cognition exert multiple organizing and integrating effects on mental activity and behavior. Cognition-triggered overt or covert emotions deeply influence on their turn all cognitive activity by regulating attention and perception, memory and combinatory thought and behavior according to context and experience. Of particular importance is also the fact that critically increasing emotional tensions are capable of provoking sudden global shifts (bifurcations) in the prevailing patterns of feeling, thinking and behaving – e.g. from a “fear-logic” to a “rage-logic”, from a “logic of peace” to a “logic of war”, from love to hate, or, in vulnerable individuals, from normal mental functioning to psychosis.

Although often neglected, emotional effects are of crucial importance during all phases of the mentioned model of psychotic evolutions. During phase 1 (the pre-morbid period, from conception until the outbreak of psychosis), a vulnerable personality structure is gradually built up through circular interactions between unfavorable genetic/biological dispositions and traumatic life experiences such as inconsistent rearing conditions or deeply disturbed family situations. During phase 2, characterized by the outbreak of manifest psychosis, this vulnerable “terrain” is critically overtaxed by increasing emotional tensions, related to stressors such as psychosocial problems of adolescence and early adulthood, professional difficulties, drug abuse, hormonal changes, mating, childbirth, etc. During phase 3 (long-term evolution), remissions or relapses are largely conditioned by the changing interplay of personality structure, therapeutic or preventive strategies, and stressful or protective environmental factors such as family attitudes (in particular high or low expressed emotions), socio-economic and cultural conditions, institutional environment.

In the following years, the concept of affect-logic was further refined and complemented by additional long-term (43) and chaos-theoretical aspects (44,45), and by the increasing importance attributed to a system-therapeutic approach (46,47).

THERAPEUTIC CONSEQUENCES AND THEIR PRACTICAL REALIZATION IN SOTERIA BERNE

On these conceptual bases, and at variance with Mosh-

er's original approach, our primary goal was not to develop an almost drug-free treatment strategy, but to implement an as good comprehensive psycho-socio-biological treatment of acute schizophrenia patients as possible, by combining all available psycho-socio-biological knowledge on therapeutic factors in innovative ways, including the Soteria experience. Given the central role that emotional tensions play, from the perspective of affect-logic, in the outbreak and/or exacerbation of psychotic symptoms, the creation of a therapeutic setting that consistently reduces emotional tension appeared as crucial. Most standard hospital settings violate, in fact, this postulate in many ways. They increase emotional tensions, e.g. by large, promiscuous and often violent admission wards, by traumatic admission practices, by privation from personal atmosphere and belongings, by lack of continuous personalized relationships and conceptual discontinuities related to rapid changes from one ward or institution to another, by too precipitous discharge practices, and also by lack of adequate information for patients and families. Under such conditions, the only way of reducing tension is high-dose antipsychotic medication. As an alternative, we formulated the following eight therapeutic principles as practical guidelines for Soteria Berne.

Small, relaxing, stimulus-protecting and as “normal” as possible therapeutic setting. Instead of treating acute psychotic patients in a traditional hospital setting, we admit them in a small, open, friendly and family-like house with a nice garden located in the midst of the community, where eight patients and the team members on duty find a pleasant living space.

Continual personalized “being with” the psychotic patient. During the most acute psychotic stage (phase 1), the patient is never let alone, but round the clock accompanied in a pleasant so-called “soft room”. The primary task of the accompanying person is to calm him down, not so much by sophisticated psychotherapeutic techniques but by silent or talking “being-with”, sometimes also by simple activities such as handcraft, drawing, playing, soft foot-massages, by walking or jogging together, or by other relaxing activities according to personal intuition. Eventually, the patient is gradually integrated in the daily life of the therapeutic community (phase 2), and finally prepared for discharge, after-care and relapse-prevention (phase 3).

Personal and conceptual continuity. This is assured by a small and closely collaborating therapeutic team, backed by a part-time psychiatrist. It consists of nine persons working in overlapping 48 hour-shifts, so that at least two team members can continually be present. Team members are carefully selected for their personal qualities and life experiences, with an equilibrated mix of gender, age and psychiatric vs. other professional backgrounds. Two team members (usually a man and a woman) are especially assigned to each patient. For half a day per week, the whole team meets for information exchange and coordination. Monthly, it gets an external supervision by an experi-

enced psychotherapist, and meets fortnightly for an hour of "intervision" focused on case managing problems and team dynamics.

Close collaboration with family members and other important persons of reference. From the first day on, close and collaborative relations are systematically built up with family members and other important persons, on the base of personal trust, extensive exchange of information, and liberal visiting politics. In addition, "educational"-style discussions are monthly organized for family members and other close persons.

Clear and concordant information for patients, family and staff. In order to minimize tension-creating confusions and misunderstandings, as clear, complete and concordant information as possible on the illness itself, its prognostic risks and chances, the methods of treatment and relapse prevention etc. is given on every possible occasion to patients, family members and to the team members themselves, on the basis of the above-mentioned three-phase evolutionary model of schizophrenia.

Elaboration of common realistic goals and expectations. Already in an early phase of treatment, concrete therapeutic aims and priorities concerning future housing and work are systematically elaborated with each patient and family, on the basis of realistic expectations on risks and chances.

Consensual low dose antipsychotic strategies. These strategies (48-50), focused on the reduction of otherwise not controllable states of tension, are used in close collaboration with patient and family, with the final aim of controlled self-medication.

After-care and relapse prevention for at least two years. This is systematically prepared both by extensive education on personal prodromes and prophylactic proceedings, and by the establishment of contacts with external therapists and follow-up institutions.

Despite minor adaptations over the years, these eight principles remained basically the same since the implementation of Soteria Berne in 1984. They overlap largely with Mosher's initial practice in San Francisco, in which we however also integrated educational techniques, a systemic family approach and modern rehabilitation and relapse prevention strategies mainly focused on affective-cognitive valorization ("empowerment") and relaxation. Other differences concern the composition of the Soteria team (also including psychiatric professionals) and more flexible medication strategies that gradually tend to resemble current low-dose medication techniques with "atypical" antipsychotics.

CLINICAL OBSERVATIONS

Over the past 20 years, several hundred schizophrenia patients (about 30 per year in the beginning, nowadays around 50) have been treated in Soteria Berne. The overall clinical experience is that most acute schizophrenia

patients can indeed be efficiently treated by the described approach. Even very tense and aggressive psychotics often calm down within days in the relaxing Soteria atmosphere. Incidents of serious violence against self or others have been extremely rare (less than 10 cases in 20 years). However, about 10-15% of randomly assigned schizophrenia patients, with whom no working alliance could be established, could not be adequately treated in the open Soteria setting (51). They were referred to one of the local psychiatric hospitals with which Soteria Berne is closely collaborating. Although preferentially focused on young adults in an early stage of illness, the Soteria treatment seems to be beneficial for most types of patients with schizophrenic or schizophreniform disorders, including chronic patients. So far, we have not been able to clearly identify illness factors that predict favorable or unfavorable treatment responses.

Comparative longitudinal research revealed at least similar, and partly probably better 2-year outcomes than with traditional methods, with much lower total doses of antipsychotics and comparable daily costs (see details below). Systematic evaluations over more than two years, which involve significant methodological difficulties, are still lacking. Casuistic observations with former patients with whom we remained in contact show, however, a number of cases with astonishingly favorable evolutions over decade-long periods. Possible long-term advantages seem to be mainly located in the area of social adaptation and stigmatization at both subjective and objective levels, and in a less traumatic subjective impact of the psychotic experience and the subsequent institutional measures. Feelings of personal value and identity, too, seem better preserved, allowing for a better eventual integration of the psychotic experience into the personal life history. Even clearly maturing effects related to the psychotic crisis and its psychodynamic elaboration in Soteria could sometimes be observed, especially when after-care was adequately prolonged, after discharge, by rehabilitative measures and a sufficiently long individual or family-centered psychotherapy.

In addition, the shared daily life in the therapeutic community offers unique opportunities for close participant observation of psychotic phenomena. Particularly striking is the observation that acute psychotic states often greatly change from day to day, and sometimes even from hour to hour (52). They apparently depend more closely than generally admitted on current environmental influences, especially on the emotional state of team members and other patients. Increasing emotional tension, irritation or ambiguity of communication almost invariably intensify psychotic disturbances, whereas genuine calm, clarity and respectful friendliness generally decrease them. Clearly structured organizational and relational limits also seem to be beneficial. Too much change, confusion, noise and stimulus overload (e.g. from television, computer, invasive music, newspapers, too complex or too heavy discussions, etc.) has, on the contrary, unfavorable effects. Boundaries between normality and psychosis often appear astonish-

ingly permeable in the Soteria setting. In the special atmosphere of the "soft room", in particular, emotional contact with healthy parts of the personality often remained possible even in severely psychotic states. According to retrospective self-reports, maintaining such a contact was often experienced as very helpful, in spite of apparently missing immediate effects.

RESULTS OF EVALUATIVE RESEARCH

Mosher and co-workers were able to show in several controlled 2-year outcome studies that similar or better therapeutic effects regarding psychopathology, hospitalization rate, work and social functioning could be obtained in the Soteria setting, as compared with traditional hospital-based treatments (8,10,11,53).

The evaluative research of Soteria Berne was mainly done in two studies, the first one concerning immediate outcomes without a control group (51), and the second one comparing the outcomes of Soteria patients in a 2-year follow-up study with carefully matched controls coming from four different hospital settings in Switzerland and Germany (54).

In the first study (51), immediate results on the four axes of psychopathology, housing situation, work situation, and global outcome were very good or good in about 2/3 of the first 56 treated cases. The average age of the patients was 24 years (range 18 to 37). They stayed in Soteria Berne between 3 and 763 days, in average 54. Full remission of symptoms could be observed in 41% of the cases. 39% of the patients did not receive any antipsychotics during their stay in Soteria, and outcome at discharge was judged as quite good to good in 75% of these patients. Statistically, women and less medicated patients had a significantly better outcome than men and patients receiving higher doses of antipsychotics. This latter and at first hand surprising finding should not be overinterpreted, however, as indicating a superiority of a drug-free treatment, because only the most severely disturbed and milieu-therapy-resistant patients received higher doses of antipsychotics, according to the above mentioned treatment rules. The main result of this study is, therefore, the confirmation that acute psychotic patients with schizophrenic spectrum disorders (schizophrenia in 39 out of 56 cases according to DSM-III criteria, 14 schizophreniform psychoses, 3 unclear) can in fact be successfully treated in a Soteria setting, as claimed by Mosher et al (8,9).

In the second study, Ciompi et al (54) compared 22 index patients fulfilling all requested research criteria, among the up to date 60 first time admitted schizophrenia patients in Soteria Berne, with the same number of matched controls selected out of 70 first admitted patients from four traditional hospitals in Switzerland and Germany. By using the German version of the Ward Atmosphere Scale, it was verified that the therapeutic atmosphere in Soteria Berne differed significantly from the atmosphere in the four traditional

control institutions. Main differences concern greater emotional closeness and more warmth and spontaneity of patient-staff relations in Soteria, and less hierarchy, order and control. The 2-year outcome revealed no significant differences between Soteria patients and controls concerning the four above-mentioned outcome measures and the relapse rate. 27% of the patients in Soteria Berne never got antipsychotics, as compared with 5% of the controls. The total 2-year doses of antipsychotics in Soteria Berne were 56% lower than in the control group. Average daily costs were exactly the same in Soteria and in the four control settings. However, the length of stay in Soteria was 185 days in average, exactly twice the duration of hospital treatment of the controls, a difference that led to about one third higher 2-year costs for Soteria patients.

Further examination of this finding revealed that the longer lengths of stay were mainly related to the fact that we initially tried to include full social and vocational rehabilitation into the Soteria treatment, in order to preserve long-term personal and conceptual continuity. For financial reasons, this idealistic approach could, however, not be maintained. Eventually, we therefore adopted the more conventional practice of transferring social and vocational rehabilitation to specialized local community-based settings. As a result, the average length of stay at Soteria Berne is currently 44 days (vs. 49 days at the admission ward for schizophrenia patients of the nearby psychiatric university hospital). Treatment costs at Soteria were thus reduced by 32% in the last four years, and are now consistently 10-20% lower than in comparable local units also focused on patients suffering from first and second episode schizophrenic psychosis.

In summary, our findings revealed at least similar, and partly possibly better 2-year outcomes in Soteria Berne than in standard inpatient settings, with significantly lower total doses of antipsychotics. These results replicate the initial findings of Mosher and Menn (8) and Matthews et al (53) and confirm the efficacy of the Soteria approach. They are in line with the reviews by Gunderson (55) and Ellsworth (56), who concluded that milieu-therapy leads to a significant improvement of symptomatology and social functioning in acute as well as chronic schizophrenia patients, and also with the results of an early study by Carpenter et al (57), who used a less radical milieu-therapeutic approach. More recently, Cullberg et al (58) yielded that it is possible to successfully treat first episode psychosis patients with fewer inpatient days and less antipsychotic medication than traditionally used, when combined with intensive psychosocial treatment and support.

DISCUSSION, CONCLUSIONS AND FURTHER IMPLICATIONS

The observations at Soteria Berne confirm Mosher's claim that, in this specific environment, most acute schizophrenia patients can be as successfully treated as by standard hospital proceedings, but with significantly lower

doses of antipsychotics and without higher daily costs. In addition, the Soteria approach seems to offer certain advantages mainly located at the subjective-emotional, familial and social level. How can these findings be explained and usefully integrated into the mainstream psychiatric concepts and practices?

One possible objection concerns the validity of the reported empirical findings. Given the extreme rarity of Soteria-like projects and the consequent quantitative and also qualitative weaknesses of the so far available research data, it must certainly be admitted that the existing empirical evidence is not yet sufficient for drawing any definitive conclusions (for an extensive discussion of the involved questions of methodology and interpretation, see 13). It is also true that 10-15% of randomly assigned acute schizophrenics could not be adequately treated in the open Soteria setting. In spite of that, in our view, both the clinical experience over more than 30 years from several American, Swiss and German Soteria-like settings and the available converging research data indicate that new therapeutic possibilities for a great majority of schizophrenics do in fact exist along the explored unconventional lines.

In our opinion, these observations are not in contradiction with the current understanding of psychotic phenomena and therapeutic practice, at a closer analysis. In accordance with the integrative viewpoint of affect-logic, assuming strong regulating and integrating influences of prevailing affective states on cognition and behavior, the major impact of the Soteria approach is situated at the emotional level, with multiple beneficial "secondary effects" on global mental and social functioning. That the schizophrenic psychosis is the result of complex ongoing interactions between unfavorable biological, psychological, social and environmental influences is generally agreed upon and strongly supported also by modern notions on the effects of stress and neural plasticity in both normal and emotionally vulnerable persons. In addition, a large number of studies speak for beneficial complementarities between pharmacotherapeutic, psychotherapeutic and sociotherapeutic approaches. The crucial significance of the level of emotional tension in and around a patient at risk for psychosis is largely confirmed by the convergent results of more than 20 studies on the effects of so-called "expressed emotions". It is, hence, not at all surprising that a therapeutic approach systematically focused on a sustained reduction of emotional tension can have beneficial effects, given that this approach partly substitutes in a more physiological way the well known effects that antipsychotic drugs also exert on the emotional system.

Whether antipsychotics can, or even should be dramatically reduced in a Soteria-like environment is still, as we believe, an open question necessitating much more research, focused both on short-term and long-term advantages and disadvantages of antipsychotics. While it is certainly true that the current "atypical" antipsychotics have less short-term side effects than the classical drugs, it

should not be forgotten, however, that we still have very little knowledge about their possible long-term side effects over decades. At this point, it should also be emphasized that practically all available studies on the effects of antipsychotics on schizophrenia neglect the crucial variable "emotional atmosphere of the therapeutic setting", and must therefore be considered as severely biased. One remarkable exception is an early study on expressed emotions showing that similar effects on relapse rates can be obtained with significantly less drugs in situations of low as compared to high emotional tension (59). More in line with Carpenter and Buchanan's (60) rejection of an "ideological" drugs versus psychosocial therapy polemic than with Mosher's ongoing radical anti-drug stand (10,11), we have gradually opted, in this situation, for a moderate use of modern atypical antipsychotics that differs no longer dramatically from current low-dosage practices.

A related much discussed question is the cost of a Soteria setting. Since costs are nowadays a crucial factor for the survival of a non-conventional setting like Soteria, the problem is to find a viable compromise between optimal treatment conditions with long-lasting favorable affective-cognitive influences and as little use of antipsychotics as possible, and the existing financial constraints. At first view, continually "being with" an acute psychotic patient – a cornerstone of the Soteria approach – may seem very expensive. On the other hand, the costs for personal resources at Soteria are lowered by the fact that all domestic tasks (shopping, cooking, cleaning, gardening, house-keeping, etc.) are used as therapeutic tools and done by the members of the therapeutic community themselves. Daily costs at Soteria Berne were therefore never higher than in conventional psychiatric admission wards of the same area. They even tend consistently to be lower for achieving similar results.

In summary, we think that the pioneering Soteria approach has revealed a number of possible improvements in the treatment of acute schizophrenia patients, especially in its flexible form gradually adopted in Soteria Berne. The question whether this approach should be reserved for schizophrenia patients alone, or also extended to other groups of patients, has not yet been sufficiently explored. On the one hand, treatment units specifically focused on the needs of certain diagnostic groups have generally been proved useful and are therefore more and more frequently introduced (e.g. for depressive, drug-dependent, alcohol-dependent, borderline or geronto-psychiatric patients). There are at least as good reasons for creating units that meet the particular needs of acute schizophrenic patients. On the other hand, so-called "Soteria-elements" (e.g., increased personal and conceptual continuity, more personalized approach to mental patients, more convivial ward organization, etc.) have also been successfully introduced in conventional psychiatric admission wards, sometimes with astonishingly beneficial effects on the general ward atmosphere, and especially on the rate of violence

and necessary violent counter-measures (14,61). Modern techniques of early prevention of schizophrenia, too, are partly inspired by “Soteria elements” (62). All these observations show that the Soteria idea may have much more than only schizophrenia-specific potentials.

As a conclusion, we think that the Soteria experience supports the assumption that emotional factors play a much greater role than generally admitted in both normal and pathological modes of thinking and behaving, including schizophrenic disorders. According to a somewhat provocative statement formulated in summarizing a recent review of Soteria-like experiences (13), “Soteria acts like a neuroleptic drug, but without its unfavorable side-effects”. Antipsychotic drugs may, in fact, not directly influence cognitive functions, but act primarily by their impact on the affect-regulating limbic and paralimbic structures which, secondarily, improve cognitive functions and behavior. Similar but probably more sustained (because more specifically problem-centered, context-related and personality-adapted) effects of basic emotional states on thinking and behaving can be obtained in a natural way, as showed by the Soteria experience. An additional theoretical implication based on the concept of affect-logic is the hypothesis that schizophrenia, too, and not only mania or depression, may essentially be an “affective psychosis” of, however, a quite particular kind (63).

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Suicide prevention: at what level does it work?

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This paper reviews the prevention of suicide according to programme evaluation, risk and protective factors, type of intervention, level of intervention and the interface between clinical and public health levels. From nearly a century of experience, a few but important lessons have been learned: since suicide is affected by sociocultural factors, there is no safe indication that what has worked somewhere will work elsewhere; in order to acquire any public health importance, suicide prevention programmes must clearly spell out their objectives and targets; isolated actions have a much lesser probability of yielding significant population outcome results than more articulated approaches that integrate public health measures and individual care with appropriate follow-up and social support.

Key words: Suicide, prevention, risk factors, protective factors, public health, clinical setting

In 1942, the French existentialist philosopher Albert Camus wrote: “There is only one truly serious philosophical problem: suicide”(1). If this is so, why are psychiatrists interested in this philosophical problem still more than 60 years later? Well, suicides are deaths and psychiatry – as part of medicine – has a serious interest in death, as well as in what is behind it and its prevention or postponement. And if it happens that behind suicide there is a lot of mental disorders and suffering – as it seems indeed to be the case (2,3) – then the prevention and the appropriate management of those mental disorders would ultimately represent a form of prevention of suicide.

From a historical perspective, suicide – or self-killing, as it was referred to in most European languages before the 17th century (4) – has for many centuries caught the attention of theologians, jurists, philosophers, demographers, sociologists and, more recently, of psychologists, anthropologists, epidemiologists, writers, artists, historians, linguists and a long etc. Medicine started to be more systematically interested in suicide in the 18th century and, more frequently than not, through psychiatrists and in connection with melancholia.

From the 18th century on, the connection between suicide and mental disorders (or insanity, to use the epoch's term) was firmly established in the minds of most updated psychiatrists, to the extent that any death to which a natural cause could not be ascer-

tained was ascribed to madness (5). In 1801, Pinel stated that there was a link between internal organs lesions leading towards a “painful feeling of being” and suicide. A few years later, in 1838, Esquirol wrote that “all those who commit suicide are insane”, and in 1845 Bourdin categorically affirmed that suicide “is always a disease and always an act of mental insanity”.

Since then, the polarity between those who see suicide as a consequence of a mental disorder (be it caused by biological/genetic or by psychological factors) and those who attribute it to other causes (social, economic, existential, etc.) has, to a large extent, taken precedence over other considerations; even the relevant legislation promulgated during the 20th century reflects this polarity.

This had the clear consequence of grounding suicide, in the health domain, somewhere between public health and psychiatry (6). It is from this double perspective that the prevention of suicide will be overviewed heretofore, according to programme evaluation, risk and protective factors, type of intervention, level of intervention and the interface between clinical and public health levels.

SUICIDE, SUICIDE ATTEMPTS, SUICIDAL BEHAVIOURS

In 1964 Stengel (7), reflecting a common clinical perception, proposed that suicide and suicide attempts reflected two distinct populations. At

the root of this distinction was the intention to die (present in the former and absent in the latter), but there were also demographic factors (predominantly elderly males committing suicide and young females attempting it) and epidemiological elements (predominance of psychotic disorder among those who died from suicide and of personality and adjustment disorders among those who attempted it); finally the means employed also contributed to differentiate between these two populations: more lethal means were employed by the former group and less lethal ones by the latter.

Probably due to the fact that the outcome of completed suicide is much more obvious (and severe) than that of suicide attempts, the literature on the former is much more abundant. Also, information (which depends on recording systems and indicators) has been more commonly available for suicide than for suicide attempts. For many countries, for instance, there are extensive time series of data about mortality related to suicide, whereas similar information on suicide attempts is badly missing.

Nevertheless, with recent changes in demography, in social structure and mores and – perhaps more importantly – with the greater availability of more lethal means employed in suicide attempts, the previous clear demarcation lines between suicide and suicide attempt “populations” are getting more and more blurred. This brought in the need to find an umbrella term that would encompass both.

Under the influence of North-American psychology, the term now commonly used is suicidal behaviours, and this term will be adopted in the present paper.

PREVENTIVE EFFORTS

Documented systematic suicide prevention efforts are almost a century old (8). Suicide prevention programmes were initiated in both New York (National Save-A-Life League) and London (Suicide Prevention Department of the Salvation Army) in 1906, in Vienna (Suicide Prevention Agency) in 1948, and in Berlin (Suicide Prevention Service) in 1956. Whereas these initiatives remained basically local, the one launched in London in 1953 by the Samaritans soon spread out to numerous countries, using the same principle of "befriending". Today, there are countless numbers of suicide prevention services, as well as "crisis centres" aiming at preventing suicide.

With almost a century of preventive efforts, there should be enough data to evaluate their efficacy. Actually, numerous papers have been published on this, with sometimes contradictory, if not puzzling, results, probably owing to the only partial control of variables involved in the suicidal process. Should any one of these several efforts have demonstrated an unquestionable and universal superiority over others, in all probability it would have already been widely adopted. In reality, what we find is proponents of a variety of preventive programmes and theories trying – without great success – to convince others of the superiority of their own.

A careful review of the evidence of effectiveness of suicide prevention interventions published by Gunnell and Frankel in 1994 (9) examined the medical literature in English language from 1975 on. Out of 19 studies identified, only two were randomised controlled studies (10,11); the majority of the remaining relied on experts' or expert committees' opinion or clinical experience. When they analysed

results of studies combined by setting and intervention, and by exposure to intervention, sadly enough, the highest percentage of reduction in suicide rates observed was 4%.

With a few remarkable exceptions, most evaluative research in suicidology clearly reflects the ideological and etiological views of its authors and addresses the factors (i.e. social, economic, genetic, psychopathological, etc.) believed by them to be relevant in the suicidal process and ignores all others. As a result, a positive and conclusive outcome observed somewhere quite frequently fails to be reproduced elsewhere, where non-controlled variables are at variance (even though usually only the "positive" results are known, due to the fact that "negative" results tend not to be welcome by scientific journals).

In many instances, the lack of precision of the programmes in both objectives and indicators makes true assessment a difficult task. Objectives of prevention programmes can range from a modification of the underlying psychopathological process (e.g. suicidal ideation) to a reduction of morbidity (e.g. suicide attempts) up to a reduction of mortality due to suicide. Ideally, efficacy indicators should be, correspondingly, process or outcome indicators. However, many programmes aiming at modifying psychopathology or morbidity (admittedly or not) are evaluated against changes in mortality rates, whereas some programmes aiming at a reduction of suicide mortality present their results as an improvement in psychopathology or morbidity (or in collateral indicators, such as social integration); this is particularly true when the outcome does not correspond to what was expected and stated at the beginning of the programme.

So far, probably the only large scale, national suicide prevention programme that has been fully implemented and evaluated is the Finnish Suicide Prevention Project (1986-1996). Its aim was "to reduce the suicide rate by 20% by 1995, compared to the situation at the beginning of the

project". The evaluation conducted in 1996 indicated a reduction of 8.7% between 1987 and 1996 (with a reduction of 17.5% between the peak years of 1990 and 1996) (12).

RISK AND PROTECTIVE FACTORS

A great amount of research in suicidology revolves around risk – and, to a lesser degree, protective – factors. At any rate, empirical evidence on risk factors for suicide is by far more abundant than that on protective factors, probably due to the fact that their measurement is more straightforward; in other words, there are more studies on the association of suicide with risk factors (irrespective of whether these are actually modifiable or amenable to controlled interventions) than with protective factors (which remain mostly at a rather theoretical level).

The literature on risk factors for suicide and suicidal behaviours is quite vast (albeit not always as critical as one might wish); interested readers are suggested the following critical reviews: Goldney (13), Beautrais (14), Wasserman (15) and Hosman et al (16). Forster and Wu (17) have also proposed an interesting typology of potentially modifiable and non-modifiable risk factors (Table 1). Most studies on risk factors are retrospective, commonly using a single, discrete variable identified close in time to the suicidal event, whereas protective factors remain largely at a theoretical level of discussion, probably owing to the interconnectedness of most protective factors with other variables and their long time span, which render well-controlled studies a quite complex task. Durlak and Wells (18) have reviewed some of these difficulties and suggested ways to improve research related to this issue.

Whereas risk/protective factors remain one of the most exciting areas of research in suicidology, their translation into uncontroversial and efficient suicide prevention programmes still is in great need of both demonstration and evidence. One of the main obstacles to this translation is

the not always considered distinction between “fixed” and “potentially modifiable” risk factors.

Probably the best way of estimating the contribution of specific risk factors is to calculate what is known as population attributable risk (PAR). Briefly, in this case, PAR gives an indication of the percentage reduction of mortality rates if a given factor, supposed to be causally related to suicide, was eliminated.

PAR can serve two purposes: on the one hand, in relation to “fixed” factors, it indicates groups and individuals that, due to an increased, albeit unmodifiable risk, will benefit from a close follow-up; on the other hand, for modifiable factors, it clearly indicates the type of intervention needed, both at individual and population level. Examples of the estimation of PAR have indicated that a reduction in suicide rates of between 9% and 29% could be expected if individuals with family history of suicide (19) and with substance use disorders were targeted. There is an urgent need of the consideration of PAR when designing and implementing suicide prevention programmes.

TYPES OF INTERVENTION

A thorough discussion of the comparative effectiveness of types of intervention is beyond the scope of this paper. Broadly speaking, major interventions for the prevention of suicide can be grouped under the following headings.

Table 1 Major risk factors for suicide (adapted and modified from 17)

“Fixed” factors	Potentially modifiable factors
Gender	Access to means
Age	Mental disorders
Ethnicity	Medical illnesses
Sexual orientation	Social isolation
Previous attempts	Marital status
	Employment status
	Anxiety
	Hopelessness
	Life satisfaction

Reduction of access to methods and means of suicide - An overview of the evidence indicates that reduction of access to methods (e.g. medication, pesticides, car exhausts, firearms) is perhaps the intervention with the strongest impact at the population level (20).

Treatment of people with mental disorders - It is remarkable that the introduction, by the middle of the 20th century, of effective medication for the control of major mental disorders associated with suicide (e.g., depression and schizophrenia) has brought no significant reduction in national suicide rates in those countries where the medication was widely used. The recent introduction of new antidepressant medication has led to a controversial evidence concerning its impact on suicide rates (21). However, the evidence is far better when examined for specific diseases (e.g. major depression (22) and schizophrenia (23)) or treatment approaches (e.g. the use of lithium in mood disorders (24)). Probably a close follow-up of people who previously have attempted suicide would also fall under this heading (25).

Improvement of media portrayal of suicide - Although there is a consistent evidence about the improvement of media portrayal of suicide (26), the impact of this intervention at the national level remains to be convincingly demonstrated.

Training of primary health care personnel - The evidence of the efficacy of training primary health care personnel as an approach to suicide prevention, although much touted, remains based on a single remarkable

but limited – both geographically and in terms of gender differences – example, developed on the Island of Gotland (27). Larger ongoing studies (e.g. in Hungary and UK (28)) should shed additional light on this issue.

School-based programmes - The same applies to school-based programmes. The ever-quoted example of Dade County (29) (nevertheless more related to suicide attempts than to completed suicides) stands unfortunately in isolation. A full evaluation of other similar ongoing programmes (e.g. in Stockholm) will hopefully contribute a much needed additional evidence. Environmental and epidemiological specificities of school populations should be carefully considered in planning and implementing suicidal behaviour programmes with them (30).

Availability of hot lines and crisis centres - In spite of their popularity and attractiveness, so far there is no conclusive evidence on the effectiveness of suicide prevention hot lines and crisis centres (31,32). Admittedly, it seems that their efficacy to help people in crises (not necessarily suicidal) is far greater than their impact on suicide rates.

LEVELS OF INTERVENTION

For an overview of the impact of suicide prevention programmes at the public health level, the conceptual model developed by Mrazek and Haggerty (33) seems particularly useful. Briefly, it categorises preventive interventions, according to their coverage, into universal, selective or indicated interventions. Table 2 shows some

Table 2 Examples of effective preventive interventions for suicidal behaviours, by coverage

Intervention	Prevention of mental disorders	Prevention of suicide
Universal	Adequate pre-natal care	Limitation of access to toxic substances
Selective	Psychological support to people in crisis situations or with physical diseases	Treatment of people with mental disorders (including substance use disorders)
Indicated	Programmes for parents of pre-school children with marked aggression and rebelliousness	Close therapeutic follow-up of people with bipolar disorders or with recurrent psychotic episodes Close (psychosocial) follow-up of previous attempters

examples of these interventions, both general and specific to suicide prevention.

A closer look at the numerous actual or proposed suicide prevention approaches and programmes, some of which are mentioned above, would indicate that, according to Mrazek and Haggerty's model, we have more convincing evidence concerning universal and indicated interventions than selective ones. This is not too different from what happens in the overall mental health field (34).

THE INTEGRATION OF PUBLIC HEALTH AND CLINICAL ACTIONS

Overall, in relation to the efficiency of suicide prevention, suicidologists and clinicians are much more optimistic than public health officers. And probably all are right, but not always one finds clinicians, suicidologists and public health officers working hand in hand (35). What is badly needed is an integrated approach bringing closer their specific objectives and outcome measures, allowing for the differences in their respective methods and techniques. Also, this integrated approach should take into account both risk and protective factors, ranging from universal through selective up to indicated interventions. Some of these find an easier and more appropriate implementation at the public health, collective level, while others would be best

implemented in clinical settings, at an individual level. Figure 1 graphically depicts this integrated conceptual model.

CONCLUSIONS

From nearly a century of experiences in suicide prevention, a few but important lessons have already been learned:

- Since suicide is intrinsically affected by sociocultural factors, there is no safe indication that what has worked somewhere will work elsewhere. It has been demonstrated that suicide prevention programmes have worked some times, somewhere. However, a "direct transplantation" of policies and programmes, without full consideration of those factors, will probably yield frustrating results.
- In order to acquire any public health importance, suicide prevention programmes must clearly spell out their objectives and targets (i.e., specific results in a given timeframe). Without this, they cannot go beyond well intentioned initiatives, with many beneficial collateral outcomes, but perhaps without a real reduction in rates of suicidal behaviours.
- Isolated actions have a much lesser probability of yielding significant population outcome results than more sophisticated and articulated approaches that integrate public health measures and individual care

with appropriate follow-up and social support.

In terms of the prevention of suicidal behaviours, we have already learned a lot about what to do, and to whom and with whom, where and when. We have today a much clearer idea about the specific role of political/health authorities, health personnel, mental health staff, psychiatrists, journalists, survivors of suicide and the society at large. However, there is still a great deal to improve on what we know about what to do, and to whom and with whom, where and when. Many lessons have been learned but we still have a few terms ahead of us before a full graduation is reached.

I would like to conclude quoting once again Camus and – as a doctor, a psychiatrist, a public health officer and a being-in-the-world – agree with him that "Through consciousness only, I transform in rule of life what was an invitation to death, and I refuse suicide". Our current limitations should not abate us, rather they should be a strong stimulant for the improvement of the efficiency of our current strategies and methodologies for suicide prevention, both at clinical and public health levels.

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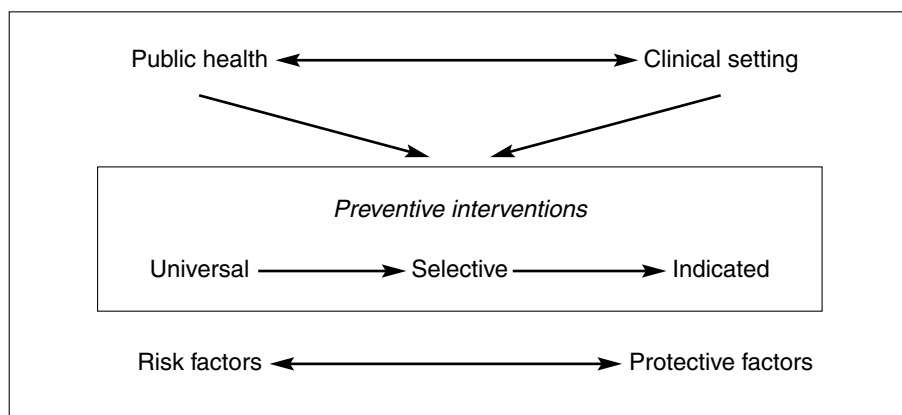


Figure 1 Suicidal behaviours prevention: integration of public health and clinical approaches

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Preventing suicide: a call to action

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José Bertolote has provided us with a stimulating overview of the many issues swirling around the application of prevention concepts and techniques to the problem of suicide and suicidal behaviors. He asks us to stop and think about how we got to where we are, how comfortable we are about where we are, where we need to go, and what it might take to allow us to move forward in a scientific and humanistic manner. He couches his perspectives of the international "problem of suicide" – for, in fact, it is a problem for all nations – as a health issue, grounded "somewhere between public health and psychiatry". Bertolote sees suicide as a public health problem which has to be understood through the double lens of psychiatry – as both the consequence of brain disorders and as a manifestation of psychosocial dysfunctions. I commend his synthesis of many public health, mental health, and socioeconomic contributions to approaching this major international health problem.

Clearly, we cannot begin to apply the emerging list of prevention techniques and interventions to the problem of suicide until we clarify terms and establish definitions. My colleagues and I are working on a revision of the nomenclature we first proposed in 1996 (1). Meanwhile we are left with a mixed bag of thoughts, emotions, and actions that constitute the "suicidal process" and that serve as targets for our proposed interventions.

There is little scientific debate or clinical disagreement that the following constitute key processes or expressions of the suicidal process: suicide

ideation, suicide intent, suicide gestures, suicide attempts/deliberate self-harm, and suicide completions. Confusion remains about what is meant by saying that someone is "suicidal" or expressing "suicidality". What constitutes "suicidal behaviors"? Does ideation fall within the domain of "behaviors"? The debates continue about defining "intent", "motivation" and "lethality" (is it sufficient that it only be in the eye of the beholder?). As the Editor-in-Chief of *Suicide and Life-Threatening Behavior*, the official journal of the American Association of Suicidology, I can assure you that there are no standard research definitions being used for many terms that we associate with self-destructive or self-injurious behaviors. I do not believe that suicide prevention can achieve any meaningful successes until we clarify some key relationships, ascribe to thoughts (ideations), emotions (intent, wishes), and behaviors (deliberate self-harm, attempts, completions) the appropriate risk factors, protective factors, and warning signs, and construct valid profiles of populations at risk.

For example, most suicidologists would agree that suicidal planning is a key variable to elicit and evaluate as part of a clinical assessment for imminent risk for suicide. Most preventionists would want to intervene before suicidal planning emerges or before planning "goes too far". Yet we are not consistent in how we study or categorize "planning". Is it an ideation/thought or a behavior/action? Could it be both? If it remains at the conceptual level, is it potentially less "lethal" than if it takes the form of an action to acquire a lethal means to die? We still do not know enough about the causative, interactive and facilitative relationships between ideation, intent, planning and action.

As Bertolote asks, what are we trying to do and how do we measure it? He points out that there is a lack of precision in both objectives and indicators, which makes true assessment a difficult task.

Prevention is based on prediction. Can we predict the course of suicidal ideation? Can we predict the course of suicidal intention? Where is the logical scientific chain of causation saying that attempts, let alone completions, will be reduced if we mount suicide prevention campaigns addressing the eradication, reduction, modification or amelioration of suicidal ideation? Can we prevent suicidal ideation? If 13.5% of the general population in the US have suicidal ideation, can a valid scientific argument be made for a national prevention campaign to address suicidal ideation (2)? Would this be a valuable international effort in and of itself? Or, given limited resources, would it not be better to develop a two-pronged approach centering around suicide attempts/deliberate self-harm behaviors (one prong being to prevent the onset of self-destructive behaviors by identifying those most at risk for their expression and intervening both clinically and from a public health perspective; the second prong being to enroll all those already identified as expressing such behavior in a formal assessment to determine whether further intervention is warranted and providing it when indicated, with the goal of reducing the 10% lifetime mortality associated with this behavior)?

Given that most research projects have relatively short timeframes (3-5 years), what are to be our endpoints to measure whether we have been successful in intervening at one point in the proposed "continuum" to change the emergence (re-emergence?) of a pathological thought (ideation), emotion, or "action" (behavior) at some later time? And can we hope to "immunize" these at-risk individuals from all the stresses and strains in their lifetime which might contribute to the initiation of suicidal thoughts, emotions, and actions (3)? Until we all agree on

how to measure those proximal and distal targets of our interventions, we will continue to be unclear about causal links and cause-and-effect relationships.

So, what do we know? We do, indeed, know a lot. We know that past behavior predicts future behavior. We know that past exposure to suicidal thoughts/emotions/actions predicts future “suicidality”, including ideation, intent, attempts/deliberate self-harm, and completions. We know that mental disorders of all sorts (including substance abuse) and some physical disorders contribute to the expression of “suicidal behaviors” (and suicidal ideation and intent as well). In fact, we know much more about risk factors than we do about protective factors. We are much better at categorizing risk factors into different groupings (perpetuating/predisposing/precipitating; environmental/biological/psychological) than we are able to link some protective factors to our understanding of the “suicidal process” (4). Surely much more research attention needs to be placed on identifying protective factors and creatively designing interventions to ensure their presence in a developmental context (5).

Where do I see the challenges? In addition to the ones already mentioned (nomenclature and classification; setting measurable outcomes with reasonable timeframes), I would add that some serious work needs to be done on the integration of prevention theories and concepts to the problem of suicide (6). Some interventions that we have are short-term and are applicable in acute, crisis-oriented settings. Others are long-term and are not immediately measurable. We are amassing an armamentarium of “things to try”, but we still lack the prevention framework to measure their effectiveness and efficacy. As Bertolote has identified, there are a number of conceptual models of public health interventions. Those currently in vogue include: Gordon’s Universal/Selective/Indicated; Had-don’s Injury Control Model (Pre-

injury, Injury, Post-injury); the public health triad of Primary/Secondary/Tertiary; and the alternative of Prevention/Intervention/Postvention (7). The conceptual model for the public health approach to the prevention of infectious diseases may well differ from the approach to injury prevention and may yet differ from the approach needed for the prevention of elements within the “suicidal spectrum” (ideation, intent, planning, gestures, attempts, deliberate self-harm, completions).

Bertolote is calling for a bold integration of public health, mental health, sociology, political will, economics, religion, etc., in order to mount a true campaign to prevent suicide globally. He is calling for cross-fertilization, cross-training, and the integration of purpose, message, theory, concepts, and outcomes. I am ready to join this effort. I ask that you consider joining as well.

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Evaluating suicide prevention: various approaches needed

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Existing literature on the effects of suicide prevention is almost entirely confined to non-controlled, non-randomised and mainly retrospective studies. These studies do not take into consideration potential biases in selection of patients for treatment: for example, the impact of non-compliance with medication or psychotherapy, multiple diagnosis, or multiple medication (1).

Another problem in these evaluations is the short follow-up period (2). This is especially relevant in individually oriented pharmacological studies,

but also in other studies, if a placebo effect is suspected. The longer the follow-up period, the better it can be ascertained whether any favourable development during the intervention is due to the placebo effect or to the persistent, if declining, effects of the intervention itself.

In evaluations of suicide-preventive programmes, an experimental or naturalistic approach can be used. The classic randomised experimental design is a benchmark that is often hard to apply, due to practical and ethical reasons, in studies of the effects of suicide prevention. Unfortunately, the merits of other designs, such as quasi-experimental ones,

are often judged in terms of how far they resemble experimental design, although it is known that establishing and maintaining controlled conditions is difficult in population-oriented suicide-preventive studies conducted in natural field settings, such as schools (3), workplaces (4), etc.

Granted, outcome evaluation is crucial. But process assessment is important as well. This kind of evaluation allows us to identify elements that succeed in producing the expected outcomes. Thus, we can also improve tailoring of future interventions.

In both naturalistic and experimental suicide-preventive studies, insight into the personal and professional characteristics of the persons performing interventions or providing treatment is vital (5). These characteristics have a major bearing on the outcome of preventive intervention. Unfortunately, variables of this kind are not systematically evaluated. Moreover, management of control groups in pharmacological, psychotherapeutic and population-based interventions alike is often described not at all or very inadequately.

Insufficient statistical power in studies of suicide-preventive effects is a widely acknowledged problem, but one that has been poorly tackled, owing to the various obstacles to large-scale studies. We therefore need to use results from meta-analyses based on small, non-experimental sets of material, with non-significant differences between various treatments. This is because meta-analyses of an aggregate set of material have considerably greater statistical power for demonstrating significance and, perhaps above all, because they allow more convincing 95% confidence intervals (CI) to be reported than for individual studies (6).

However, meta-analytical calculations require several small sets of studies using comparable methodology. The World Health Organization, European Office (WHO EURO) Network on Suicide Research and Prevention (7,8) and the WHO's worldwide SUPRE (SUicide PREvention)

initiative (9), with network members on the five continents, constitute a stable basis for tailoring multicentre studies of suicide-preventive activities on both the individual and the population level. In the long term, only studies performed in several countries and at several centres, applying the same methodology and knowledge in the interpretation of results, can provide answers as to which strategies and methods are effective means of preventing suicide.

Studies of natural experiments also help to document the effectiveness of suicide-preventive measures. In the former Soviet Union, for example, the greatest suicide-preventive impact for males in the 20th century was demonstrated during *perestroika*: the fall in alcohol consumption brought about by Gorbachev's anti-alcohol policy was followed by a 40% decline in suicide among men in the labour force in all 15 Soviet republics. In Europe, during the same period, the fall in the male suicide rate was as small as 3% (10).

However, the dominant problem in the evaluation of various suicide-preventive programmes, as I see it, is neither researchers' reluctance to tailor randomised, controlled, prospective studies with a sufficient number of subjects in intervention and control groups, nor the lack of integration of public-health measures and clinical practice. The main problem is the shortage of financial resources. This is because suicide has been a neglected problem (11), although it is among the foremost single causes of death in Europe in the 15-44 age group and the one involving the most years of life lost, and despite rising suicide rates among males aged 15-19 in Europe.

Obstacles to funding of suicide research and preventive research are rooted in the powerful taboo on suicide and the uncomfortable feelings aroused by the topic not only in laymen, but also among professionals. Suicide is associated with shame and guilt. Silence, ambivalence and neglect impede an open scientific approach to the problem (1). Ambivalent and negative attitudes towards suicide and its prevention –

with prevention regarded as impossible and suicide as predestined – are widespread among politicians, health policy makers and administrative bodies responsible for approving grants. Philosophers', anthropologists' and historians' inputs, which may assist us in understanding the taboos and attitudes in our society that hinder suicide prevention, are therefore highly welcome.

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Suicide prevention is far more than a psychiatric business

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Since suicide is the worst of all human tragedies, the desire to find solutions inevitably brings us to adopt unrealistic simplifications and unfruitful searches for unifying theories. Not surprisingly, the state of the art of suicide prevention currently shows very few evidence-based results. The most commonly cited reasons for this are inadequate sample sizes for randomised controlled studies, and programs of insufficient duration. Other biases include the use of suicide attempters as research participants (who minimally overlap suicide completers, and imply the hypothesis of a *continuum* between non-fatal and fatal suicidal behaviour), the fact that they are taken from hospital treated/recruited subjects (not truly representative of *all* suicide attempters), difficulties in creating clusters of subjects sharing similar problems, the use of retrospective evaluations, the lack or inadequacy of control groups, the lack of standardised procedures for psychological autopsies (with a large variability in the timeframe for the interview, the type and number of informants and their characteristics), the “over-psychiatrisation” of results obtained through the selective use of psychiatric instruments, etc. On the other hand, very little is known (because poorly investigated) about factors that are likely to protect against suicide, such as coping skills, problem solving capabilities, social support or degree of connectedness. Not to mention the importance of socio-cultural factors, which has finally been acknowledged by the World Health Organization (WHO), which is now promoting a study, the Suicide Prevention - Multi-site Intervention Study on Suicide

(SUPRE-MISS), with centres from five continents. This project includes the comparison of a number of standardised socio-cultural indicators, a randomised clinical intervention on suicide attempters, a study of suicidal ideation and behaviours in the community, and a biological investigation (on DNA and stress-related hormones) (1).

Today, a number of countries have in operation national strategies to prevent suicide. In general, these plans incorporate improved detection and treatment of mental illness as a core feature of the strategy, with a particular emphasis on depression. Reducing access to lethal means, improved reporting of suicide in the media, school-based programs, treatment of drug and alcohol misuse, enhanced access to mental health services, and training for professionals are components of all national suicide prevention programs. An analysis performed by the Australian Institute for Suicide Research and Prevention on four of these programs (Australia, Finland, Norway and Sweden) has demonstrated that so far they had little or no impact on reducing suicide rates among youth and, with the possible exception of Finland (which has terminated its plan), among the general population (2). Apart from the obvious limitations of this kind of study, one of the conceptual criticisms that it originated concerns the tailoring of the programs in a too psychiatrically-oriented way, which would allow affecting only a small segment of the population. On the other hand, despite dramatic improvements in the drug treatment of psychiatric disorders, there has been relatively little change in suicide rates over the last decades. The treatment of schizophrenia with clozapine (3) has provided unconvincing evidence, while the therapy of depressions with selective serotonin reuptake inhibitors has

recently induced a re-focussing of the attention towards the potential capacity of these substances of eliciting suicidal ideation and behaviours, particularly in children and adolescents (4).

Many researchers and policy makers have argued that improved diagnosis and treatment of depression is critical to the prevention of suicide (5). Several studies have noted that the majority of individuals who commit suicide were not receiving treatment for a psychological disorder at the time of the suicide (6), but there are also studies that have demonstrated the presence of an adequate antidepressant therapy at the time of suicide (7). Although antidepressants may be effective in the treatment of depressive symptoms, the current evidence does not suggest that they have an effect in reducing the risk of suicide attempts or completions. Antidepressants do not address the variety of psychosocial factors that are strongly related to suicide and depression. Improvement in psychosocial functioning is independent from and slower than improvement in depressive symptoms (8). Furthermore, individuals with depression show greater improvement in psychosocial functioning when pharmacotherapy is combined with psychotherapy than when pharmacotherapy is used alone. Van Praag (9) has recently suggested that “worrying”, more than depression, represents a precursor of suicide. In my view, shame – which is not a psychiatric construct – may be a threatening killer in many life circumstances, particularly in men. In many cultures, male individuals have to cope with social and environmental expectations that may represent too challenging life experiences, and end in feelings of inadequacy and defeat. In addition, a recent meta-analysis has indicated that if we applied the treatment effectiveness index indicated in the World Health Report 2001 to an average of 50% of people suffering from depression, schizophrenia and alcohol abuse (the psychiatric conditions mostly associated to suicide), this would reduce suicide rates from

a world average of 15.1/100,000 to 12/100,000. This would represent more than 150,000 lives saved; nevertheless it still leaves much to do (10). Suicide is much more than a psychiatric problem. Only a serious cooperation with other disciplines will permit more effective prevention practices.

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to the attention of the public in ways that decrease, rather than increase, the political or social sensitivity of the issue; c) high-level meetings with government agencies and other interested actors to promote the development, implementation and monitoring of national and local suicide prevention plans; d) a gentle but persistent pressure from international organizations such as the WHO and the International Association for Suicide Prevention (IASP) to encourage national participation in the international effort to address this important public health problem.

Developing countries that have undergone the “epidemiological transition” (i.e., in which the relative importance of infectious diseases is less than that of chronic diseases) are now committing more resources to non-infectious causes of mortality and morbidity, so there is a real opportunity to get suicide on the “social agenda” in these countries. But once public and government attention has focused on suicide, there is often a strong temptation to immediately institute widespread prevention programs prior to any systematic confirmation of their effectiveness. This has happened in all developed countries, and there is a real danger that developing countries will follow the same course, squandering limited resources on unproven interventions. Strong advocacy is needed at both the national and international level to ensure that science precedes action.

What interventions should be considered in developing countries? Given the great differences between countries and regions, there can be no “standard” model of suicide prevention. Each country must first conduct its own research on the risk factors and protective factors for suicidal behavior in its different communities (e.g., urban and rural communities, religious minorities, different age groups, etc.) and then develop and test the prevention strategies that are most feasible, affordable and likely to produce substantial decreases in the

Suicide prevention in developing countries: where should we start?

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According to data from the World Health Organization (WHO), 85% of suicides in the world occur in low and middle income countries (1), but much less than 10% of published research on suicide comes from these countries. Given the huge economic and sociocultural differences between developed and developing countries, it is unlikely that research results and prevention programs from Western countries will be relevant to developing countries. Developing countries can, however, adapt the research methods, program development process and program monitoring methods that have evolved in high income countries (2) to help their own efforts to understand and prevent suicide.

In many developing countries suicide remains a taboo subject, because of political, religious or social sensitivities. Local research projects on suicide can be conducted in such an environment, but prevention efforts require the cooperation of many community and government agencies. Therefore, prevention cannot truly start until this taboo is directly addressed. To do this, experts in each country who are aware of local sensitivities about suicide need to be identified and supported in their efforts to mobilize community and government participation in the suicide prevention effort. This will involve: a) the development of local centers of excellence which can provide reliable information on the pattern, characteristics and risk factors for suicide; b) the appropriate interaction with the media to bring the magnitude of the problem and the need for prevention

rates of suicidal behavior. Given the complex interactions of biological, psychological and social risk factors for suicide (3), prevention programs that simultaneously address multiple factors would appear to be most appropriate. For example, in China we have proposed the following types of interventions: a) restricting access to suicide means, particularly pesticides and toxic drugs; b) expanding social support networks for high-risk groups; c) implementing health promotion campaigns focused on mental health and suicide; d) improving health providers' ability to recognize and manage the psychiatric problems associated with suicide; e) instituting community-based screening programs to identify high-risk individuals; f) expanding crisis support services and targeted mental health services for high-risk individuals; g) increasing the ability of primary care facilities to manage the medical complications of suicide attempts.

Assessment of the effectiveness of such interventions depends on accurate information on the rates and pattern of suicidal behaviors over time. Thus, before implementing any prevention program, high-quality, ongoing monitoring systems for suicide and attempted suicide must be developed and tested in the target locations. This is a major challenge in developing countries that have no regular monitoring of attempted suicides and, generally speaking, a poor monitoring of completed suicides. Monitoring both attempted and completed suicides is essential to the assessment of prevention programs, because there is a substantial overlap of these behaviors in situations where many attempted suicides (with a low intent to die) employ highly lethal means and where resuscitation services are not available or ineffective – a common situation in rural areas of developing countries (4). Moreover, in almost all developing countries there is a strong tendency to underreport or misclassify suicide and attempted suicide (5,6), so it is not appropriate to base assessment of the

effectiveness of prevention efforts on existing data systems, because relatively small fluctuations in the proportions of misclassified suicides (which could occur due to the attention placed on suicides during an intervention program) could result in substantial changes in reported suicide mortality and morbidity and, thus, be misinterpreted as evidence for or against the utility of the intervention(s) being assessed. New and better monitoring systems are needed first.

Generating the political will, obtaining the necessary resources and identifying and training the personnel needed to develop, implement and monitor effective suicide prevention programs in developing countries will require sustained effort over several years by a core of committed local advocates, as well as substantial intellectual, moral and financial support from colleagues and organizations in developed countries. Expending these resources has several potential benefits: a) the relatively high rates of suicide and attempted suicide combined with the lack of any suicide preventive activities in many developing countries provides a unique opportunity to

scientifically test the cost-effectiveness of specific interventions in ways that can no longer be done in developed countries; b) the information generated from work in developing countries will challenge and reinvigorate Western theories about suicide; c) (most importantly) this work can potentially prevent large numbers of unnecessary deaths.

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Brazil: the need for violence (including suicide) prevention

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The political development of South American countries after the Second World War has been similar, with most of them having gone through phases of populism (1940s-1950s) and military dictatorship (1960s-1970s). During the 1980s, with democratization, several changes

occurred in the context of social and political movements, including the introduction of national mental health programmes (1). The majority of these countries, however, devote less than 2% of their total health budget to mental health. This picture is aggravated by the fact that Latin America accounts for 29.2% of the world total burden of disease related to injuries consequent to acts of violence (2).

Brazil is the largest and most populous country in South America (2004 population estimate: 179 million). The low suicide rate in Brazil (around

4 per 100,000 inhabitants/ year) is similar to those of most South American countries. In spite of the low suicide rate, the total number of suicides was 7729 in 2001, which places Brazil amongst the ten countries with the highest numbers of suicide deaths. The proportional mortality due to suicide is higher among adolescents, corresponding to 3.8% of the deaths in this age group.

In Brazil, homicides greatly outnumber suicides. In 2002, deaths due to homicide were six times more frequent than those due to suicide. The homicide rate in Brazil more than doubled over the last two decades, reaching 28.4/100,000 in 2002 (110.5 among 15-24 year-old-people). Other countries in Latin America have experienced similar increases in homicide rates during this period. In Brazil, more than 90% of homicide victims are males and 52.2% are adolescents or young adults (3).

Violence has traditionally been related to broader social problems, such as increasing urbanization, expansion of illegal drug and firearms trafficking, a lengthy economic crisis, unemployment, and widening income inequality. On one hand, urban violence and high homicide rates have overshadowed the problem of suicidal behaviour in Brazil. On the other hand, the increasing discussion about violence which takes place in several sectors of the society has brought about the awareness related to suicide behaviour among adolescents and young adults, as well as the need for violence – including suicide – prevention policies.

Although Brazil lacks a national suicide prevention programme, some recent initiatives mentioned below illustrate the first steps towards a national suicide prevention strategy.

First, several violence prevention efforts have been developed in Brazil (e.g., a federal law that controls gun ownership). Non-governmental organisations have also played an important role in promoting awareness about the risks of carrying firearms and supporting projects for violence prevention.

Nevertheless, a more severe legislation to inhibit illegal gun ownership is needed, since 70% of homicides are committed with clandestine firearms. There is also an urge for additional control of other means of suicide like pesticides and insecticides.

Second, governmental and non-governmental special training and educational programmes for low-income young people are a growing priority in Brazil. These are especially relevant to prevent violent acts, since both suicide and homicide victims around 18-24 years have a significant age/grade gap. In the suicide group, only 3.5% were enrolled in university and 49% had only primary schooling (4). This is a population highly vulnerable to unemployment, presently around 20% in large urban areas.

Third, Brazil is one of the countries participating in the World Health Organization (WHO)'s Suicide Prevention – Multisite Intervention Study on Suicide (SUPRE-MISS) (5). As part of this project we surveyed a random sample of 516 people living in Campinas, a city located in the most populous and industrialized region of the country. Life prevalence estimates in the general population were 17.1% for suicide ideation, 4.8% for suicidal plans and 2.8% for suicide attempts. This was the first national survey about suicide behaviour based on general population information. Hopefully, the data collected will guide preventive efforts.

Fourth, the City of São Paulo Health Secretariat has launched a pro-

gramme, based on the SUPRE-MISS project, especially devoted to people who attempted suicide. It aims to collect a comprehensive data base of all suicide attempters seen at the emergency departments, as well as provide support by means of a follow-up protocol which comprises periodical visits and phone calls to these patients. The adoption of this policy has involved a partnership among the government, universities and a research sponsoring agency. The Health Secretariat and the Regional Board of Psychology have promoted a series of regular meetings with representatives of ten psychology faculties to discuss suicide prevention strategies. Results until now include the formation of groups specialized in the support for suicide attempters in these faculties' clinics and the improvement of their academic curricula concerning suicide.

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Suicide prevention: the urgent need in developing countries

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Data on suicide is not available for roughly half the countries (53%) of

the world and one third (27%) of the population. Seventy-three percent of suicides in the world occur in developing countries, though data is unavailable for 73% of countries. More than half the suicides (54%) in the world

occur in China and India. Considering that under-reporting of suicide is a major issue in developing countries, the enormity of the problem and the urgent need for suicide prevention is evident.

There are marked differences in suicidal behaviour between developed and developing countries. In developed countries suicide rate is high in the age group of 15 to 24 years and highest in the elderly; the male/female ratio is wider at 3:1 and the divorced/widowed/separated have a higher risk of suicide. In developing countries the highest rate is found in the young (below 30 years), the male/female ratio is narrower (India 1.4:1, China 1:1.3) and the married women are at a higher risk. The methods used in developed countries are firearms, car exhaust and poisoning, whereas in developing countries they are pesticide poisoning, hanging, and self-immolation. Research in developed countries reveals that above 90% of people who die by suicide have mental disorders, while it is only 60–90% in developing countries. Studies from developed countries reveal that over 70% of those who died by suicide had a diagnosable depressive disorder, whereas it was only 35–40% in China and India (1, 2). The crucial and causal role of depression in suicide has limited validity in Asia. Only 7–10% of those who committed suicide had ever seen a mental health professional.

The social stressors associated with suicide are loneliness, rejection, and marital conflicts in developed countries, whereas inter-generational conflicts, love failure, and exam failure are found in developing countries. A highly significant relationship between domestic violence and suicidal ideation in women has been found in many developing nations in population-based studies (3). In Brazil (48%), Egypt (61%), India (64%), Philippines (28%), Indonesia (11%) and Thailand (41%), women who had experienced physical violence by an intimate partner had significant suicidal ideation. Suicide pacts and family

suicides are frequent in India, China and Sri Lanka. Women outnumber men in pacts, which are often for social and economic reasons and as a protest against societal norms and expectations. Religious beliefs discourage suicidal behaviour. A study in India found that religiosity was a protective factor, and lack of belief a risk factor for suicide (odds ratio, OR 6.83; confidence interval, CI 2.88–19.69) (4).

José Bertolote emphasizes the need to integrate public health and clinical actions to prevent suicide. This is a necessity in developing countries. South East Asia and Africa, which account for 89% of the world population, have only 0.44 and 0.34 mental health professionals per 100,000 population (5).

The different risk and protective factors and the scarcity of human and economic resources necessitates the development of integrated suicide prevention strategies in developing countries, which function at the individual, family, community and societal level. Specially designed programmes for the women and the

young, who are the most vulnerable populations, need to be initiated. Forming alliances with non-governmental organizations, native/faith healers and practitioners of alternate medicine would be necessary. More importantly, suicide prevention programmes need to be locally relevant, culturally appropriate and cost effective.

Suicide prevention in developing countries is more a social and public health objective than a traditional exercise in the mental health sector.

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Looking back and ahead. Suicidology and suicide prevention: do we have perspectives?

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The suicide prevention movement started more than half a century ago. Looking back, a great effort has been made to understand what is suicide and how to prevent it. Pioneers have been magnificent. This historical and classic taboo topic has been widely discussed but maybe insufficiently understood (1). Strategies of suicide prevention are regularly implemented and countries have set up national

programs. A major impulse has been produced by the World Health Organization (WHO) with the SUicide PREvention (SUPRE) program and its six publications “Resources for preventing suicide” (2).

One could say that, with all those efforts, suicide rates should have diminished greatly. We all know that unfortunately this is not the case. Ringel, founder of the International Association for Suicide Prevention (IASP), wrote: “The aim of suicide prevention is not so much to reduce

the suicide rates (after all we know how unreliable the figures are anyway), but to help people..."(3).

Looking ahead is facing several "topical" issues in a realistic approach. Josè Bertolote writes: "Not always one finds clinicians, suicidologists and public health officers working hand in hand". It may be, but there are many different situations where suicide is a risk. Besides, too many authors seem to be more scientists than practitioners in suicide prevention. Edwin Shneidman makes the difference by distinguishing "therapeutic suicidologists" from others (4). Up to this point, is there a difference or not between suicidology and suicide prevention?

At this time several issues remain unclear. There is no consensus on the definition of suicide and not even on the different levels of suicide prevention (5). Is suicide only a mental health problem or a public health problem? Probably the combination of the two. If suicide risk has been extremely well documented, very few authors have discussed and insisted on the fact that suicide prevention should start by studying the predictability of suicide and therefore reinforce the notion of protective factors. It may be then that the notion of predictability has been insufficiently explored (5). If it is admitted that a negative environment predicts the suicide risk, very seldom this notion is associated with the necessity of evaluating protective factors.

Hawkes, in a large study of predictability comparing risk factors to protective factors, writes: "The term protective factor is given to those characteristics that tend to protect an individual from following through with dangerous behavior. Therefore, a factor that positively influences an individual and decreases risk for harm is a protective factor"(6).

By all means, we know that risk and protective factors may differ according to the sites, institutions, psychological profile, profession, etc. But it seems that there is a list of common factors that can be exam-

ined. It goes from educational programs to community and family bonding, religions, insight capacities, psychological defenses and access to social and health care. However, protective factors will specifically be different in schools, jails and, needless to insist, within the medical system (7). In this brief paper, it is impossible to enumerate them all. This remark has been confirmed by the work of the WHO International Committee on Suicide Prevention and Research and its publications mentioned above.

Danuta Wasserman pointed out clearly: "What makes the difference between life and death however, is not only the presence of risk factors, but also access to protective factors that strengthen the suicidal person's coping strategies" (8).

The figure 1 included by José Bertolote in his paper is certainly interesting. It corresponds to the proposals of the Task Force of the WPA Section on Preventive Psychiatry, approved by the WPA General Assembly at the 12th World Congress in 2002 (9). This needs some brief explanations: universal means information of the general public; selective refers to treatment of mental disorder and its related risk; indicated means high risk psychological disorder not identified as psychiatric. If this consensus statement is confirmed, it will certainly be important to adapt it to the prevention of suicide, which does not concern only mental disorders but is a matter of respect for the human being and for the value of human life (10).

Last but not least, it is important to decide how far we can go with the prevention of suicide. The dramatic issue of euthanasia, advanced death and the so-called assistance to suicide is now part of discussions during congresses and meetings on suicide prevention, as seen in September 2003 during the 22nd Congress of the IASP in Stockholm.

Therefore, looking ahead leads to several questions. Should we be surprised that the movement of suicide

prevention, which started in the early fifties to help people in despair as well as to help society to clearly understand that suicide was not to be considered anymore as only a mental illness, has led now to philosophical and ethical issues such as the right or not to kill oneself for people seeking help not to live better but to die with comfort? Should all this be legalized? What are the perspectives? Have we reached the limits of suicide prevention? Is suicidology progressively reduced to a political issue? Let's be hopeful, since we have now within the WPA a Section on Suicidology ready to collaborate with other scientific Sections.

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Suicidal behaviour: comments, advancements, challenges.

A European perspective

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Suicidality is one of the most drastic indicators of mental ill being. Considering the complexity of biological, psychological, existential and social causes behind it, as well as the suicide preventive effect of mental well-being, the utmost way of counteracting suicidality finally seems to be the promotion of mental health and activities belonging to it.

Suicidality in European countries marks out populations at risk, in whole societies but also in their different layers. Thus, it gives a hint about where the burden of stressful changes, at both the societal and the individual level, is most significant. The search for protecting factors seems here as important as the elucidation of the risk factors for suicide: for example, when it can be seen that young males in one country, young females in another society, elderly males in a third country are utmost afflicted, whilst elderly males in a fourth country have no suicidality at all.

Often a polarity has been claimed to exist between those who support the idea of suicide being the consequence of mental disorder and genetic biology and those underlining specific causalities related to psychosocial, economic and existential factors. However, in modern suicide research, this split finally seems having been overcome by the recognition of the mutual interaction between nurture and nature, between biological factors and mental as well as psychosocial, existential and spiritual influences. Thus, to see and to pay regard to the depression behind the majority of all completed suicides is not to medicalize and not to deny the complex multidimensional and multifactorial

causality behind depression as such, even if a biological predisposition can be found.

In most individual cases, the existing and complex sociological, psychological and existential burden needs the depressive perceptual distortion to get its decisive suicidogenic effect. As a consequence, effective suicide prevention programs have to be complex. They have to address the depressive disorder, with its symptomatology and cognitive distortion to be recognised in strategies improving clinical practice, but they have also to involve the sectors of society afflicting individual human's life. That needs multidisciplinary teams of psychiatrists, psychologists, nurses, social workers and sociologists, with access to anthropological and existential advice.

Regional, national and local suicidal preventive programs designed according to these principles exist in Europe today and show their efficacy. However, evidence is not always easy to collect. In order to get statistical power, often completed suicides as well as single and multiple suicidal attempts are pooled together as suicidal behaviour. By doing this, however, rather different groups are evaluated together. Many factors are different between multiple suicidal attempts and completed suicides. This is valid regarding gender distribution, age distribution, as well as social variables such as employment and marital status. Actually, some elements of suicide attempting behaviour are preventive with respect to completed suicide: in particular, help seeking through showing helplessness and suicidal desperation.

However, it is true that suicide is a rare event and statistical power should be gained.

To accomplish this, a better idea

might be to cluster together completed suicide and death by external or "undetermined" causes, related to risk taking and destructive behaviour in the traffic and on working places. Experience from European countries, especially from Eastern Europe societies, shows that the numbers of deaths by accident or external causes is more closely related to the number of completed suicides than the number of suicidal attempts, especially the multiple ones.

It is amazing how disparate the results of the evaluation of various types of suicide prevention programs can be. This is especially true for programs aiming at only one of the complex spectrum of factors behind completed suicides. More consistent, often positive results, however, can be obtained from more complex programs, that respond to the problem of suicide in a more comprehensive way and that today are the suicide prevention policy recommended by the World Health Organization (WHO) in Europe.

Another challenge is the present demand for control and randomisation in evaluation designs, which often are difficult to obtain in suicide research. In suicidology, as well as in other fields of mental health research, concepts of evidence probably should be widened to integrate qualitative research and quasi-experimental designs, as for example having one population as its own control, comparing the situation before and after the intervention.

Another challenge is represented by gender issues. The possible existence of a male depressive, aggressive, and very suicidal syndrome might be one of the explanations for the overrepresentation of males with substance abuse, personality disorder and psychopathy amongst suicidal persons. Thus, it seems crucial to recognise the psychopathic behaviour or the alcohol addiction often seen in suicidal males as being a depressive syndrome, often different from that of females. Its complex and comprehensive treatment must be an important

intervention in order to fight male excessive suicidality and destructivity. Especially in Eastern European countries, where male excessive suicide, violence and accident mortality has become a public health problem, it seems urgent to develop and implement gender specific suicidal preventive strategies.

To prevent suicide does not only mean to counteract suicide provoking and facilitating factors. It means also strengthening resilience and protective factors that could be identified. For example, female populations, in many countries of dramatic transition, seem to be protected against the consequences of societal stress, e.g. the loss of identity, the helplessness and the loss of social cohesion which have such a strong impact on males. One lesson to be learned from female behaviour, in order to decrease male excessive suicide mortality, would be a strategy of increasing men's help seeking capacity, to facilitate men's possibilities to keep socially connected and to counteract loss of identity, status and helplessness in countries and times of transition.

However, screening male risk populations and identifying male depression and suicidality in time is a tricky task. Diagnostic criteria focusing on the male way of being depressed must be used in specific questionnaires. Here the Gotland Scale for Male Depression has proved to be of value. Even screening instruments, such as

the WHO-5-Well-being Scale, not focusing on depressive symptoms but on well-being, have been shown to be a useful tool.

Amongst comprehensive ways to prevent suicides, two approaches have been of special importance. One is the reduction of access to means of suicide. The other are training programmes directed to the first line of contact (in the community, in emergency psychiatry or in primary health care), in order to increase knowledge about suicide and depression, especially its risk assessment and management. Even awareness raising and educational projects directed to schools and working places have been useful.

In Europe, an ardent and partly inflamed discussion is ongoing about the role of antidepressants in the prevention of suicide. Experiences from several European countries show that an increase of antidepressant medication on a population base seems to have a suicide preventive effect, especially when embedded in a comprehensive programme of detecting, treating and monitoring depression. Others claim a potential risk that especially serotonergic antidepressant medication could trigger aggressive and even auto-aggressive behaviour, increasing suicide risk.

Even if there is evidence for the existence of such cases, which would be in line with known paradoxical or rebound effects of other drug treatments, there seems, however, today

no doubt that many more suicides are prevented by antidepressant medication than provoked by it. Even if overtreatment with antidepressants is occurring, it is the undertreatment with regard to depression and the prevention of suicide that is the dominant problem in Europe today.

Finally, suicide is not an isolated phenomenon. It has to be seen as part of a cluster of illness and death, related to stress, helplessness, loss of identity and social insignificance.

A cluster linked to the lack of existential cohesion and manifested by a pattern of conditions, not only including depressive reactions, but also addiction and alcoholism, cardiovascular disorders as well as risk taking lifestyles and self-destructive behaviour.

The fight against suicide must be integrated in public health programmes of health promotion and primary prevention, directed against patterns of mortality and excessive morbidity related to stress and mental ill health in a society.

Modern and redefined social psychiatric approaches, utilising recent knowledge about the interaction between nurture and nature, between body and mind, as well as creating integrated, multisectorial public mental health policies, are the most important activities in order to counteract the ever increasing suicidality in Europe, foreseen by the WHO for the years to come.

Premorbid characterization in schizophrenia: the Pittsburgh High Risk Study

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Prospective studies of young relatives at risk for schizophrenia can shed light on the possible premorbid precursors of the disease. Ongoing studies in Pittsburgh suggest that young non-psychotic high risk relatives have neurobehavioral, brain structural, physiological, and neurochemical deficits that may date back to childhood or earlier. We summarize these data, review the relevant literature in this emerging field, and provide some new data suggesting alterations in sleep architecture in young relatives at risk for schizophrenia. Collectively, such data are likely to help us to predict the eventual emergence of schizophrenia, schizophrenia spectrum or non-spectrum psychopathology.

Key words: High risk, schizophrenia, imaging, sleep, psychopathology

Genetic factors are among the best-established etiological factors in schizophrenia (1-3). The risk of schizophrenia increases relative to the general population in proportion to the proximity of the relationship and the number of affected relatives. Offspring of schizophrenic parents have about a 13% risk of developing the illness, and having two schizophrenic parents increases the risk to about 40% (4). Having a schizophrenic first-degree relative increases the risk by 5 times in parents, and 8 times in siblings. Prospectively studying relatives of schizophrenia patients with high genetic risk should therefore be instructive in our search of markers that may predict the onset of the illness.

Several high risk (HR) studies were initiated in the early 1960s and 1970s and some of these "first generation" studies have continued to date. These studies typically involved follow-up of offspring of schizophrenic parents, though younger siblings and discordant monozygotic (MZ) twins have also been studied as at-risk populations. Three HR studies, the New York Infant Study (5), the Swedish High Risk Study (6) and the Israeli Infant Study (7), followed the offspring from birth onwards. The New York High Risk Project (NYHRP) (8) and the Israeli Kibbutz High Risk Study (9) studied offspring from elementary school ages, and the Copenhagen High Risk Project (CHRP) (10) and the Edinburgh High Risk Study (EHRS) (11) studied subjects from adolescence onwards. Some, but not all, of these studies have followed subjects through the risk period, and have provided data on risk for schizophrenia and related disorders. Rates of axis I schizophrenia and related psychotic disorders among the offspring of schizophrenia patients have ranged from 8% (NYHR study) to 21% (CHRP study), and these risks have been substantially higher than in control offspring. Offspring of schizophrenia parents also have significantly elevated risk for cluster A personality disorders (8).

Earlier HR studies, however, suffered from a lack of statistical power, and were therefore relatively modest in cost effectiveness. Further, the findings are highly variable across studies, and often lack specificity (see 12-16 for reviews). Additionally, predictive information from these

studies was limited by the state of neurobiological understanding of the schizophrenic illness at the time the studies had been initiated.

The advent of *in vivo* neuroimaging and electrophysiological studies over the past two decades has raised the possibility of elucidating altered brain structure and function in the premorbid phase of schizophrenia. New *in vivo* approaches to examine the brain biology of abnormal neurodevelopment are beginning to be developed. In recent years, two prospective HR follow-up studies have been initiated: the EHRS and the Pittsburgh Risk Evaluation Program (PREP). Cross-sectional and early longitudinal data from these studies have provided preliminary evidence for premorbid clinical, neurobehavioral, electrophysiological, structural, functional and neurochemical brain alterations in young HR relatives, and will be reviewed here. We briefly summarize our approaches for assessment of the HR subjects and provide summary data on the results thus far. We also provide some previously unpublished sleep polysomnographic data showing alterations in HR subjects that are indicative of prefrontal dysfunction.

METHODS

Subjects

HR relatives were defined as subjects who had never had a diagnosis of a psychotic disorder, and had at least one first- or second-degree relative with schizophrenia or schizoaffective disorder. HR subjects were identified by approaching parents or older relatives who were patients at the Western Psychiatric Institute and Clinic (WPIC) or related clinical sites. Eighty-one young first-degree relatives, aged 6 to 25 years, and a series of healthy control subjects of similar age and gender distribution, from the same neighborhoods, have been recruited. We excluded subjects with a DSM-IV diagnosis of mental retardation, significant head injury, significant history of or current medical or neurological illness. All experimental protocols were approved by the University of Pittsburgh School of

Medicine Institutional Review Board. All subjects provided written informed consent following full description of the studies. The parent or guardian also provided informed consent for subjects aged less than 18. Diagnoses were ascertained by using the Schedule for Affective Disorders and Schizophrenia for Children (K-SADS) for children below age 15 and the Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I) in older subjects. Parental psychopathology was determined using the SCID-I. The subjects were diagnosed by DSM-IV criteria at consensus conference meetings.

Neurobehavioral and clinical assessments

The choice of neurobehavioral and clinical instruments was driven by the need to assess attentional impairments (known to be compromised in HR subjects), neurological soft signs (that are diagnostic for schizophrenia), and schizotypy, which may suggest a predisposition to psychosis (17).

The Continuous Performance Task (CPT) – Identical Pair version (18) was selected for its ability to detect attentional impairments in the HR population. The Buchanan and Heinrichs Neurological Evaluation Scale (NES) (19) is a structured instrument for the assessment of neurological signs in schizophrenia and was administered to all subjects. Schizotypy was assessed using two of the Chapman psychosis-proneness scales. The Perceptual Aberration and Magical Ideation Scales (20-21), in particular, were chosen because they have been shown to have some predictive power for future psychosis (17).

Imaging studies

T₁-weighted magnetic resonance imaging (MRI) (using the GE Signa 1.5 T whole body MR imager) was used for region of interest (ROI) based morphometric analyses conducted using the National Institute of Health (NIH) IMAGE software. Neuroanatomical changes were also assessed on a voxel-wise basis by voxel based morphometry (VBM). Proton magnetic resonance spectroscopy (MRS) studies were done using a single voxel placed in the anterior cingulate region. A doubly tuned transmit/receive volume head coil was used to acquire phosphorus (³¹P) MRS data. MRS data were processed using fully automated methods by research assistants blind to clinical data. In a small group of subjects, we have also conducted blood oxygen level dependent contrast (BOLD) functional MRI (fMRI) during oculomotor delayed response tasks using a GE Signa 3.0 Tesla whole body scanner.

Sleep polysomnographic studies

Subjects underwent two consecutive nights of polysomnographic recording in the WPIC sleep laboratory. Daytime napping was avoided. Sleep times used in the labo-

ratory were based on their habitual “good night” and “good morning” times, determined using a subject diary of recent sleep patterns. Electrodes were placed about one hour before bedtime. Sleep was recorded in the laboratory on a 24-channel polygraph (78B Grass Instruments) comprising an electroencephalogram (EEG), an electrooculogram (EOG), and a submental chin electromyogram (EMG). The EEG consisted of a C4 scalp placement referenced to linked mastoids. Sleep continuity, rapid eye movement (REM) sleep and slow wave sleep were measured using standard scoring methods as well as by power spectral and period amplitude analyses (for details see 22). Using the latter approach, which is a more sensitive measure of sleep indices, we can compute the number of delta sleep and REM waveforms (total and average per minute) during the night.

RESULTS

Table 1 provides an overall summary of findings derived from subsets of the dataset in the Pittsburgh HR studies thus far.

Table 1 Main findings from the Pittsburgh High Risk studies

Domain	Main findings
Clinical	High proportions of axis I psychopathology, especially ADHD and conduct disorders (23)
Psychosocial	Increased EE among relatives; trend for more psychopathology in offspring of high EE relatives (24)
Neurocognitive	Impaired attention, spatial working memory and executive functions; increased NES (25)
Brain structure	Volume reductions in amygdala and hippocampus, and in the STG; prefrontal gray matter reductions in schizotypal HR subjects (23,26-28)
Brain function	Decreased prefrontal activation with ODR on fMRI (25)
Brain chemistry	Decreased NAA/choline ratios; decreased PME and increased broad PDE (25,26)
Electrophysiology	Decreased SWS; decreased amplitude in P300

ADHD – attention deficit/hyperactivity disorder; EE – expressed emotion; fMRI – functional magnetic resonance imaging; HR – high risk; NAA – N-acetyl aspartate; NES – Neurological Evaluation Scale; ODR – oculomotor delayed-response; PDE – phosphodiester; PME – phosphomonoester; STG – superior temporal gyrus; SWS – slow wave sleep

Axis I psychopathology

HR relatives (n=81; offspring or siblings) were highly more likely to have a diagnosable disorder. Ten subjects, five of whom already had a psychotic disorder, were not included, as they did not meet study criteria. The sample of 71 eligible subjects included 36 males (age 14.3 ± 2.9 years) and 35 females (15.7 ± 4.5 years). In the order of frequency, the observed axis I disorders included attention-deficit/hyperactivity disorder (n=21), oppositional defiant disorder (n=11), depression (n=11), conduct disorder (n=8), and anxiety disorder (n=7). About a third of the subjects (n=27) did not have any axis I disorder (please note

that the total adds up to more than 71 because of many subjects having more than one disorder). Less frequent diagnoses included bipolar, adjustment and substance use disorders and uncomplicated bereavement. Male HR relatives had higher rates of psychopathology. Subjects with axis I disorders had higher scores on schizotypy, soft neurological signs and ratings on teacher or parent observed behavioral disturbance (Child Behavior Checklist). The increased frequency of axis I disorders in our sample suggests that children from families of schizophrenic and schizoaffective patients are at greater risk for developing psychopathology. Longitudinal follow-up is needed to determine whether non-psychotic psychopathology would predict schizophrenia spectrum disorders, and eventually schizophrenia or other related psychotic disorders.

Schizotypy and other behavioral measures

Schizotypy represents a set of personality dimensions that may underlie the predisposition to schizophrenia. Adolescents with schizotypal personality traits appear to be at a particularly higher risk for future psychosis (21,29,30). We have observed elevations in magical ideation and perceptual aberration scores in young HR relatives, especially in those with attentional impairments (23).

Neurocognitive measures

The strongest evidence of impairment in relatives of schizophrenia patients appears to be in sustained attention, abstract thinking and perceptual motor speed (31). Among the various neuropsychological measures, the CPT appears to be consistently associated with liability to schizophrenia (32). In the NYHR study, attentional impairment in childhood predicted 58% of the HR subjects who developed schizophrenia spectrum disorders in adulthood (16). Attentional impairment is trait related, stable over time, and related to genetic vulnerability (33). Gross motor skills were also abnormal in 75% of offspring, while false positive rates were 27%. Short-term verbal memory was impaired in 83% of offspring who later developed schizophrenia (16), showing a high sensitivity, but with relatively high false positive rates (28%). By contrast, attentional impairments had lower sensitivity (58%) and also lower false positive rates (18%). In summary, therefore, attentional impairments may be among the most useful neurobehavioral measures for prediction of outcome in offspring at risk for schizophrenia. Data from the PREP study indicate attentional (CPT) and executive function (Wisconsin Card Sorting Test) alterations as well as increased soft neurological signs in young HR relatives (34).

MRI studies

Children at risk for schizophrenia, and non-psychotic adult relatives of patients with schizophrenia, manifest

structural brain abnormalities to a milder degree than patients with frank psychosis. A few MRI studies of the brain in relatives have demonstrated abnormalities in structures relevant to schizophrenia. Both younger and older non-psychotic relatives manifest volumetric abnormalities, especially in the prefrontal and temporal regions, suggesting that these abnormalities, at least in part, reflect vulnerability to the illness (see 35 for a review). Our data indicate volume reductions in amygdala and hippocampus (23) and superior temporal gyrus (27); we have also seen more prominent prefrontal gray matter reductions in HR subjects with schizotypal characteristics (28). Advances in understanding the biological vulnerability to schizophrenia will be facilitated by increasing the precision of measurement of the abnormalities, by evaluating whether putatively linked risk factors are related to each other, and by determining whether these deficits are associated with genetic and/or environmental factors.

MRS studies

MRS offers a noninvasive way of quantifying *in vivo* metabolism. Several studies have shown reductions in N-acetyl aspartate (NAA), an *in vivo* marker of neuronal integrity, in prefrontal and temporal brain regions in schizophrenia (see 36 for a review). Cross-sectional data from the PREP study suggest reductions in the ratio of NAA to choline in offspring at risk for schizophrenia (26). Similar observations have been reported in adult relatives of patients with schizophrenia (37), suggesting that MRS can potentially shed light on neurochemical underpinnings of the heritable diathesis in this illness.

In vivo ³¹P MRS studies have shown abnormal membrane phospholipid metabolism in the prefrontal cortex in the early course of schizophrenia. It is unclear, however, whether these alterations also represent premorbid risk indicators in schizophrenia. We have recently reported *in vivo* ³¹P MRS data on HR children and adolescents (34). We quantified the freely-mobile phosphomonoester (PME) and phosphodiester (PDE) levels, reflecting membrane phospholipid precursors and breakdown products respectively, and the relatively broad signal underlying PDE and PME peaks, which is due to less mobile molecules with PDE and PME moieties (e.g., synaptic vesicles and phosphorylated proteins). Compared to healthy comparison subjects, HR subjects had reductions in freely mobile PME and increases in the broad signal underlying the PME and PDE peaks in the prefrontal cortex. Similar observations have been reported by others (38). These data provide new evidence for decreased synthesis of membrane phospholipids and possibly increased synaptic vesicles and/or phosphoproteins in the prefrontal cortex of young offspring at risk for schizophrenia. These findings are similar to those observed in early course schizophrenia. Follow-up studies are needed to examine the predictive value of

these measures for future emergence of schizophrenia in at-risk individuals.

fMRI studies

Using BOLD and contrast fMRI, it has now become possible to study abnormal regional brain activation in adolescent HR subjects. While some fMRI data have been reported in the literature in adult relatives (39), few studies have investigated child and adolescent relatives. In a preliminary study, we have observed reduced activation in prefrontal brain regions in HR adolescents during a spatial working memory task (25).

Electrophysiological studies

A physiological measure that has received attention in HR studies is eye tracking abnormality (40), seen in about 50% of adult relatives. Studies of smooth pursuit eye movements in adolescent HR subjects have shown significant dysfunction compared to healthy comparison subjects (41). Eye movement studies have shown lack of age related improvements in oculomotor delayed response performance in young HR subjects (42). However, these measures have not been investigated as a predictor of schizophrenia risk in prospective studies.

Cognitive evoked potentials have also been proposed as measures of liability. Prolonged latency and reduced amplitude of N100, P300 and P50 components have been observed among relatives (43). Abnormal auditory event potentials (44) and electrodermal hypo- or hyper-responsiveness (45,46) have also been demonstrated, albeit less consistently. Our own data suggest reductions in P300 amplitudes in HR subjects.

Finally, several polysomnographic studies suggest reductions in slow wave sleep (SWS) in schizophrenia (see 47 for a review). Noted alterations include disrupted sleep

continuity and reductions in SWS, but less consistently rapid eye movement (REM) sleep reductions. Sleep changes are frequently the earliest symptom heralding the onset of psychopathology in schizophrenia; studies of sleep in the premorbid and prodromal phases of this illness are therefore important to identify potential precursors of later illness. However, few studies have investigated sleep in young relatives at risk for schizophrenia. We have found delta sleep and REM sleep reductions but no sleep continuity alterations in a small series of HR adolescents (Table 2). We also observed a steeper decline in delta counts with age in the HR subjects compared to controls.

Our observations of reduced SWS in HR subjects are consistent with those observed in the early course of the schizophrenic illness (22). Decreased SWS in nonpsychotic HR subjects suggests that this abnormality might be a trait related alteration that may underlie predisposition to the illness. Our observation of steeper reductions with age in the HR subjects is consistent with the view that adolescents at risk for schizophrenia might have an exaggeration of the normative peri-adolescent process of SWS reductions, perhaps related to synaptic pruning (see 48 for a review). Previous data suggest that SWS reductions may correlate with negative symptoms, brain structural alterations, reduced prefrontal metabolism and cognitive impairment (see 48 for a review). SWS is largely prefrontally generated (49). Thus, the polysomnographic changes convergently suggest altered prefrontal physiology in young relatives at increased risk for schizophrenia.

CONCLUSIONS

In summary, recent HR studies, such as the EHRS and PREP studies, have begun to yield valuable data concerning the possible premorbid precursors of schizophrenia. Observations of neurobehavioral, brain structural, physiological, and neurochemical alterations in young nonpsy-

Table 2 Sleep architecture in high risk (HR) relatives and healthy comparison (HC) subjects

	HR (n=9)	HC (n=10)	Group F (df=1,14)	P (two tailed)
Sleep continuity measures				
Total sleep time in minutes (mean ± SD)	496.1 ± 55.9	528.7 ± 48.7	0.7	0.41
Sleep latency in minutes (mean ± SD)	22.3 ± 12.1	18.2 ± 12.1	2.0	0.18
Awake time in minutes (mean ± SD)	14.2 ± 11.7	5.4 ± 3.4	4.0	0.065
Slow wave sleep measures				
Delta %, visually scored (mean ± SD)	23.1 ± 6.8	28.2 ± 8.2	1.3	0.27
Delta counts/minute (mean ± SD)	50.3 ± 16.5	68.5 ± 19.3	9.5	0.008
REM sleep measures				
REM latency in minutes (mean ± SD)	117.0 ± 53.5	87.6 ± 28.7	3.5	0.08
REM sleep % (mean ± SD)	20.7 ± 4.0	25.5 ± 4.0	6.9	0.02
REM counts/minute (mean ± SD)	4.6 ± 2.5	9.2 ± 4.0	4.8	0.04

REM – rapid eye movement

chotic HR relatives strongly suggest that the neurobiological diathesis of this illness may have its beginnings in childhood or earlier. However, only a small proportion of these individuals will eventually develop schizophrenia, though a much larger proportion will likely develop features of schizophrenia spectrum disorders or other non-spectrum psychopathology. A critical question for the field is to know which of these subjects are likely to develop the illnesses later in life, and which measures, singly, or in combination, will provide us the best predictive power.

The PREP study has been limited by small sample sizes and the cross sectional nature of the data thus far. However, efforts to expand this sample and to conduct longitudinal follow-up are currently in progress. Several other promising future directions are also worth outlining. First, the fields of HR and prodromal research are beginning to converge, such that measures of early illness, derived from the latter, may potentially serve as outcome measures to be examined in HR subjects prospectively (50). Second, the use of high field neuroimaging and spectroscopy studies (4T or higher) (51) may allow us to more precisely delineate the neurochemical and microstructural alterations that may characterize the premorbid phase of schizophrenia. Third, the recent identification of replicable candidate genes conferring susceptibility, such as catechol-O-methyl transferase (COMT) and RGS4 (52,53) provides an additional and powerful set of possible predictive measures to examine in longitudinal HR studies. Finally, given the large samples needed for statistical power in HR studies, prospective multi-center studies of carefully ascertained HR subjects, using uniform neurobiological and genetic methods, are critically needed for effective and timely progress in this pivotal area of schizophrenia research.

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Application of the Eating Attitudes Test (EAT-26) in a rural, Zulu speaking, adolescent population in South Africa

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This study was undertaken as part of an exploration of the potential risk for future eating disorders in the black female population of South Africa. Previous research has documented eating attitudes suggesting that such a risk exists in urban populations. A translated version of the Eating Attitudes Test (EAT-26) was applied in a Zulu speaking, rural population (n=361). A prevalence of 3% for abnormal eating attitudes was established. In keeping with the hypothesis, the findings suggest that the risk for developing an eating disorder in a rural population is somewhat lower. In this regard, there does appear to be an urban-rural divide, which may have implications for the prevention of the emergence of eating disorders in black, South African adolescents. However, the validity of the EAT-26 in this population is a consideration in interpreting the data.

Key words: EAT-26, Zulu, adolescent, South Africa

Whilst eating disorders have been described in South Africa since the 1970s (1,2), such descriptions involved exclusively white females, with the first series of cases amongst black females described in 1995 (3). Since then, there have been numerous community based cross-cultural studies examining prevalence rates of eating attitudes and behaviours associated with eating disorders (4-7). These studies have predominantly involved urban samples and English versions of questionnaires used to assess eating attitudes and behaviours. The suggestion from the studies is that eating disorders will emerge within the black community to the same extent as within the white community. Whilst increasing numbers of black sufferers have presented for treatment, this has not as yet reached equivalent levels to the number of those presenting from within the white community (8). In South Africa there has been a dramatic political and social change as a background to the emergence of eating disorders in black, urban females (9).

The current study sought to examine eating attitudes in a rural, Zulu speaking, adolescent female population, using a Zulu version of the Eating Attitudes Test (EAT-26) (10). At the time the study was conducted, no comparable data existed. It was hypothesised that the prevalence of abnormal eating attitudes and the potential risk for the development of eating disorders in the rural setting would be lower than in the urban setting. Such findings would have significant implications not only for resource allocation but also for future research into the basis of any differences.

METHODS

The methodology of the current study did not differ from that of an urban study carried out at the same time (7). The total number of participants in the current study was 361, comprising all female scholars present on the day

of the study. There were two participating schools, chosen on the basis of their rural but accessible location. All participants were black and ethnically Zulu. No absentee figures were available.

The choice of a Zulu sample was influenced by the fact that KwaZulu-Natal is the province of South Africa with the largest population (20.3% of the total population of the country) (11). In addition, Zulu is spoken in more homes (22%) than any other language in the country (11). KwaZulu-Natal is predominantly populated in non-urban areas (56.5%), compared to other provinces that are almost exclusively urban (96.4%) (11). The rural sample size was determined primarily by the resources available to the researcher in terms of time, funding and accessibility. In this instance, practical constraints rather than statistical methods determined the sample size of approximately 400.

The EAT-26 is a self report questionnaire. The questions relate to attitudes, beliefs and behaviours concerning food, body shape and weight. A total score and three subscales (dieting, bulimia and oral control) are generated. A score of 20 or above denotes the existence of disturbed eating attitudes and behaviour, which may indicate the presence of eating related psychopathology (12), with the subscales giving a profile. The questionnaire was translated into Zulu even though the language of instruction at the chosen schools, according to the headmasters, was English. This involved translation into Zulu, back translation into English and modification of the Zulu version according to the back translation. The final version was then sent to the headmasters for their comments and suggestions.

RESULTS

The mean age of the recruited girls was 17.87 (SD=2.77) years. The mean weight was 59.16 (SD=11.41) kilograms,

the mean height was 1.57 (SD=0.06) metres and the mean body mass index was 23.8 (SD=3.95).

Socio-economic status was determined primarily through paternal occupation (13). Where none existed, maternal occupation was used. The socio-economic profile of the sample was as follows: I (professional occupations; e.g., engineer, medical doctor): 2.7%; II (managerial and technical occupations; e.g., physiotherapist, teacher): 9.2%; III (skilled occupations; e.g., clerks, typists): 13.6%; IV (partly skilled occupations; e.g., construction worker): 18.0%; V (unskilled occupations; e.g., road sweeper, domestic worker): 56.5%.

Within this sample, 3% (11/361) scored 20 or more on the EAT-26. The mean score for the total sample was 7.47 (SD= 5.5), with mean scores of the subscales as follows: 'dieting' 5.36 (SD=3.7), 'bulimic' 0.81 (SD=1.63), 'oral control' 1.29 (SD=1.94).

For those scoring 20 or above (n=11), the mean total score was 24.63 (SD=4.45), with subscale scores as follows: 'dieting' 13.72 (SD=3.49), 'bulimic' 5.27 (SD=3.6), 'oral control' 5.63 (SD=3). For those scoring below 20 (n=350), the mean total score was 6.93 (SD=2.77). The sub-scale scores were as follows: 'dieting' 5.1 (SD=3.39), 'bulimic' 0.67 (SD=1.31), 'oral control' 1.16 (SD=1.74).

Measuring internal consistency, Cronbach's coefficient alpha was 0.61. A principal component factor analysis with varimax rotation revealed that 24.8% of the variance could be explained by three factors, with factor 1 accounting for 12% of the total variance. The eigen values of the first three factors were 3.1, 1.7 and 1.6 respectively. An orthogonal transformation matrix demonstrated 6/13, 4/6 and 1/7 items for factors 1, 2 and 3 respectively, with a factor loading >0.4.

DISCUSSION

An urban study of black and white respondents, conducted at the same time as the current study, detected a prevalence rate of abnormal eating attitudes of 18.7% in the black and 18.6% in the white sample (7). The prevalence rate of 3% in the rural black sample of the current study demonstrates a substantial difference. This finding is in keeping with the original hypothesis that the extent to which abnormal eating attitudes exist in the rural setting would be less than in the urban setting, for this population group. Directly comparable data do not appear to exist within the South African setting. Regarding the findings amongst rural respondents, potentially comparable data exist from studies conducted in Northern India (14) and Pakistan (15), both of which used translated versions of the EAT-26. The former study (14) conducted in a rural setting, found a prevalence of abnormal eating attitudes of 29%. This finding was regarded as inappropriately high, given the very low prevalence of eating disorders in the community. The latter study, using an Urdu version of the EAT-26, established a prevalence of abnormal eating atti-

tudes of 7% (15). A South African study reported 13.3% of a sample of university attending respondents of urban and rural *origins* scoring above 21 on the EAT-26 (16).

The current study established a mean EAT-26 score of 7.47, which is somewhat lower than that for urban samples (white 12.27; black 12.48) established earlier (7). Senekal et al (16) did not detect significant differences in mean EAT-26 score between respondents of urban or rural origin, which is not necessarily akin to being a dweller in either setting, with a mean score of 12.1 for the entire sample. The study by King and Bhugra (14) provided no information on the total mean score or any of the subscale scores, whereas the study of Choudry and Mumford (15) reported a mean EAT-26 score of 11.1 for their sample.

Researchers have cautioned against the use of the EAT-26, in a translated form, cross-culturally (14). It was felt that questions are misinterpreted and that conceptually the questionnaire is problematic. It must be re-emphasized that the EAT-26 is a screening questionnaire with a relatively low positive predictive value in terms of a high scorer having an actual eating disorder (17). Whilst King and Bhugra (14) were somewhat sceptical of the utility of the EAT-26 in certain settings, the prevalence rate of 3% (for abnormal eating attitudes) of the current study appears to be realistic, specifically in comparison to an urban figure of 18.7% amongst black respondents (7). During the actual process of conducting the study in the rural schools, no problems were encountered with the understanding of the questions. The principal of each school had reviewed the questionnaire and teachers were present and involved in administering the questionnaire, together with the researcher. Further evidence relates to the internal consistency (Cronbach's coefficient alpha) value of 0.61, which is acceptable for research purposes (18). This finding suggests adequate reliability in the sample, certainly comparable to South African data in this regard which cited a value of 0.62 in a black, university sample (16). This value was not mentioned in the study by King and Bhugra (14). A subsequent study conducted in Mirpur, Pakistan (15) found that the EAT-26 could be translated (into Urdu in this instance) and used in a non-Western setting, based on the questionnaire demonstrating adequate linguistic, scale and conceptual validity.

A further procedure involved a confirmatory factor analysis. In the original version of the EAT-26, the three factors accounted for 40.2% of the total variance (10), whereas in the current rural black sample the three factors accounted for 24.8% of the total variance. In our urban white sample (7), 44% of the variance could be explained by the three factors, with factor 1 accounting for 28% of the total variance. In our urban black sample (7), 31% of the variance could be explained by the three factors, with factor 1 accounting for 16.6% of the total variance. In essence, it appears that, relative to the original study (10), in South Africa, urban white respondents perform in a similar fashion (7), whereas rural respondents (current

study) perform somewhat differently, with urban black respondents closer to urban white respondents in this regard (7).

In conclusion, the current study appears to be the first to make use of a Zulu version of the EAT-26 in a black South African, adolescent, female population. There are no earlier or subsequent studies to date that are directly comparable. Whilst the findings are in keeping with the original hypothesis, it would be prudent to regard them as preliminary. Further research is required, specifically related to refining current instruments or developing alternative, culture-specific, instruments used to explore eating related psychopathology. Whilst the suggestion is that there is less risk for eating disorders emerging among rural dwelling black South Africans, there is nonetheless a risk. The basis of the relatively low prevalence of abnormal eating attitudes in rural compared to urban dwellers requires exploration. This may yield information of relevance for community based preventive interventions, related to eating disorders, that may be of utility not only within South Africa but also globally.

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Developing a New Zealand casemix classification for mental health services

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This study aimed to develop a casemix classification of characteristics of New Zealand mental health services users. Over a six month period, patient information, staff time and service costs were collected from 8 district health boards. This information was analysed seeking the classification of service user characteristics which best predicted the cost drivers of the services provided. A classification emerged which explained more than two thirds of the variance in service user costs. It can be used to inform service management and funding, but it is premature to have it determine funding.

Key words: Casemix classification, mental health services users, service management

Over recent decades, recognition that variations in the characteristics of patients would be reflected in variations in service costs has led to the development of casemix classifications in medicine. The purpose of these is to classify episodes of care based on those factors which best predict the need for, and the cost of, care. Each class should contain episodes with similar patterns of resource consumption and which are clinically similar. This has been particularly represented by the diagnosis related groups (DRG) casemix classification, which currently forms the basis for the purchasing and cost weighting of personal health services by several governments worldwide.

The mental health sector has lagged behind the general health sector in casemix development (1). A number of earlier attempts were based solely on diagnosis: they performed poorly in predicting resource use, had an unwieldy number of classes and/or were limited to inpatient settings (2-9). Several studies identified the following patient factors as predictive of resource use: diagnosis, severity of symptoms, risk of harm to self or others, level of functioning and social support, co-morbidity, sociodemographic characteristics and stage of illness (10-27).

A large study in Australia (28) found similar results. A number of patient and provider characteristics contributed to a casemix classification model that allowed explanation of two thirds of the variations in service cost. This was the major impetus to developing a New Zealand version of that study, the Mental Health Classification and Outcomes Study (CAOS) (29).

After two years of preliminary planning for the project, eight district health boards (DHBs) contributed

data over a six month period in 2003, between them covering the whole range of DHB provided psychiatric services.

METHODS

Service use was conceptualized as made up of "episodes of care", which for the purposes of this study were defined as a period of contact between a consumer and a "provider" that occurred in one treatment setting. It was thus a managerial, rather than a clinical, concept and could be up to a maximum of 91 days. It did not necessarily coincide with an episode of illness, or with the patient management plans.

The following types of data were to be entered into a regression analysis approach: patient/consumer characteristics as currently provided by the DHBs to the Mental Health Information National Collection system, plus ratings on outcome scales such as the Health of the Nation Outcome Scales (HoNOS) (30); episode of care cost data provided by the DHBs; and staff time.

For this regression exercise, the episodes of care forming the units for analysis were created as shown in Figure 1.

All episode information was collected by the clinical staff members primarily responsible for the patient's care. The additional information collected included ratings on the HoNOS (including the HoNOS 65+ and HoNOSCA for older people and children respectively), the short version of the Life Skills Profile (LSP-16) (31), the Resource Utilisation Groups Activities of Daily Living Scale (RUG-ADL) (32) and the Children's Global Assessment Scale (CGAS) (33). The community based service staff recorded their team code, date of contact, service type, contact dura-

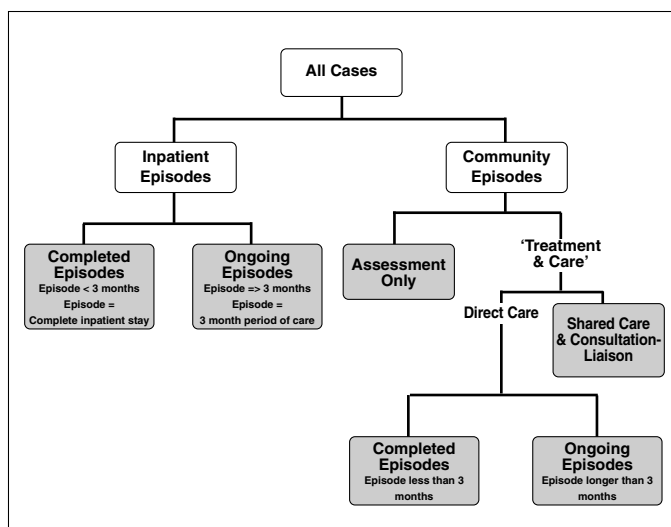


Figure 1 Episode of care model adopted in the study (shaded boxes represent the episode type)

tion, staff label category and the service setting. A resource allocation tool (RAT) was developed which recorded the allocation of inpatient nursing hours/patient. A composite measure reflecting the goal of care for the current episode (Focus of Care, FOC) (28) was added.

The national project team and the New Zealand Health Information Service established a process to match and encrypt all activity data and consolidate it into one file to avoid placing this additional burden on participating sites. Four design rules were adopted for use during the class finding analysis: a) consumer related cost drivers (the cost drivers used in the design of the classification should, wherever possible, be related to consumer characteristics and not to the type, or extent, of services utilised); b) variance reduction (the selection of the cost drivers should result in minimum variation within each class and maximum differences between classes); c) sensible clinical groups (the final classes should be clinically sensible); d) ease of collection (the variables used in the classification should be capable of routine collection, coding and data entry). The dependent or response variable was the cost of an episode of care. The independent variables were those characteristics of consumers that can be measured and that can be demonstrated to be predictive of cost.

PC-Group was used for the class finding. Independent variables were selected from the variety of demographic and clinical measurements recorded for consumers. The 'best' tree was selected as that which accounted for the largest proportion of variation in the cost of care. As this tree was not necessarily clinically the most sensible, PC-Group was also used to improve the clinical logic of the classification. For example, adult inpatient episodes were separated from child and youth episodes because this separation makes clinical sense.

The ultimate aim of the analysis was to form distinct

groups within the data, such that consumers within each group were similar to each other, but different from consumers in the other groups. Similarity and dissimilarity between consumers was measured by the cost of care. Independent variables were compared to find the one which could best split the data into two homogeneous groups that were as different from one another as possible. Successive binary splits were performed on the data until there were no significant improvements to be made. At that time, the best classification solution was reached. In parallel with this class-finding analysis, a number of multi-level models were fitted to the data, which confirmed the choice of variables to be included in the class-finding.

RESULTS

Profile of consumers and episodes

In total, 19,239 episodes of care were captured over the six month study period. These were provided to a total of 12,576 individual consumers. 98% of those consumers received their care only at one DHB. Overall, the male to female ratio was 53:47. 62% of the consumers identified themselves as New Zealand European/Pakeha, 20% as Maori and approximately 5% as Pacific Islanders. On the index of deprivation profile, the consumers were weighted towards the seventh to tenth deciles, this being particularly the case for males.

55% of consumers had only one episode of care during this study period, with a further 40% having two episodes. Approximately 10% of all episodes were inpatient based. The population diagnostic distributions are shown in the Tables 1 and 2.

Schizophrenia, paranoia and acute psychotic disorders accounted for 50% of Pacific people's episodes, 38% of Maori and only 24% of European episodes. In contrast, mood disorders accounted for 30% of European episodes, but only 16% of Maori and 14% of Pacific Island episodes. Anxiety disorders were uncommonly recorded for Maori and Pacific people (less than 1%) and accounted for 4.5% of European episodes.

There were 2,715 inpatient episodes with valid HoNOS ratings, representing 98.5% of all inpatient episodes. The HoNOS score pattern across the items was broadly similar for the three ethnicity groupings, with the average scores on item 1 (Overactive, aggressive, disruptive or agitated behaviour), item 6 (Problems associated with hallucinations and delusions) and item 9 (Problems with relationships) being the most elevated. There were some differences between the three ethnicity groupings for particular items. These differences will be explored in a separate outcome analysis. There were similar findings on all of the other clinical measures. The FOC findings showed major ethnic differences, with higher levels of 'acuity' in the Maori and Pacific inpatients.

The cost differences between the various types of episodes are shown in Table 3. The key general cost findings are: a) child and adolescent episodes cost more than adult

Table 1 Episodes of care by diagnosis – Adults

	Inpatient		Shared community care		Direct community care		All	
	No.	%	No.	%	No.	%	No.	%
Schizophrenia, paranoia and acute psychotic disorders	1328	48.2	222	24.7	3468	32.1	5018	34.7
Mood disorders	783	28.4	248	27.6	3129	28.9	4160	28.8
Personality disorders	124	4.5	27	3.0	344	3.2	495	3.4
Anxiety disorders	29	1.1	25	2.8	430	4.0	484	3.3
Organic disorders	106	3.8	33	3.7	299	2.8	438	3.0
Stress and adjustment disorders	53	1.9	25	2.8	360	3.3	438	3.0
Substance abuse disorders	75	2.7	11	1.2	182	1.7	268	1.9
Eating disorders	9	0.3	35	3.9	82	0.8	126	0.9
Obsessive-compulsive disorders	11	0.4	2	0.2	59	0.5	72	0.5
Mental retardation	23	0.8	7	0.8	20	0.2	50	0.3
Behavioural syndromes associated with physiological disturbances	3	0.1			40	0.4	43	0.3
Disorders of psychological development	6	0.2	1	0.1	26	0.2	33	0.2
Disorders of childhood and adolescence	1		1	0.1	25	0.2	27	0.2
Somatoform disorders	3	0.1	3	0.3	13	0.1	19	0.1
Sexual disorders	4	0.1			10	0.1	14	0.1
Other/missing	197	7.2	257	28.7	2328	21.5	2782	19.2
Grand total	2755	100.0	897	100.0	10815	100.0	14467	100.0

Table 2 Episodes of care by diagnosis – Child/Youth

	Inpatient		Shared community care		Direct community care		All	
	No.	%	No.	%	No.	%	No.	%
Disorders of childhood and adolescence	11	11.8	22	23.9	983	31.0	1016	30.3
Mood disorders	23	24.7	7	7.6	420	13.3	450	13.4
Stress and adjustment disorders	12	12.9	5	5.4	317	10.0	334	10.0
Anxiety disorders	1	1.1	2	2.2	199	6.3	202	6.0
Disorders of psychological development	5	5.4	5	5.4	125	3.9	135	4.0
Substance abuse disorders	1	1.1			104	3.3	105	3.1
Schizophrenia, paranoia and acute psychotic disorders	27	29.0	2	2.2	71	2.2	100	3.0
Mental retardation			1	1.1	54	1.7	55	1.6
Eating disorders	4	4.3	2	2.2	35	1.1	41	1.2
Obsessive-compulsive disorders			2	2.2	34	1.1	36	1.1
Personality disorders	2	2.2			15	0.5	17	0.5
Organic disorders	2	2.2	2	2.2	5	0.2	9	0.3
Somatoform disorders	1	1.1			7	0.2	8	0.2
Behavioural syndromes associated with physiological disturbances					1		1	
Other	4	4.3	42	45.7	797	25.2	843	25.1
Grand total	93	100.0	92	100.0	3167	100.0	3352	100.0

Table 3 Episode cost profile by episode type

	No. of episodes	Mean	Median	Minimum	Maximum	Percentile 25	Percentile 75	CV
Child inpatient - Ongoing	26	\$74,772	\$79,543	\$23,869	\$122,916	\$56,775	\$90,715	0.29
Adult inpatient - Ongoing	1094	\$43,545	\$39,821	\$1,764	\$227,596	\$31,160	\$50,062	0.44
Child inpatient - Complete	67	\$25,762	\$17,633	\$1,612	\$77,175	\$9,374	\$37,366	0.82
Adult inpatient - Complete	1661	\$11,757	\$7,635	\$284	\$108,041	\$3,329	\$15,201	1.08
Child shared community care - Complete	10	\$4,209	\$2,332	\$218	\$17,797	\$885	\$5,349	1.27
Adult shared community care - Ongoing	681	\$1,971	\$1,105	\$64	\$40,837	\$600	\$2,332	1.47
Child direct community care - Ongoing	2613	\$1,867	\$1,207	\$56	\$33,490	\$584	\$2,338	1.15
Child direct community care - Complete	554	\$1,744	\$1,192	\$59	\$17,783	\$476	\$2,272	1.07
Adult direct community care - Ongoing	9034	\$1,694	\$1,085	\$37	\$36,517	\$561	\$2,116	1.14
Child shared community care - Ongoing	82	\$1,682	\$853	\$169	\$8,999	\$407	\$2,213	1.10
Adult shared community care - Complete	216	\$1,673	\$1,100	\$71	\$28,510	\$471	\$1,877	1.47
Adult direct community care - Complete	1781	\$1,560	\$1,010	\$46	\$14,328	\$577	\$1,960	1.06
Child assessment only	102	\$459	\$399	\$131	\$1,109	\$262	\$661	0.54
Adult assessment only	1318	\$423	\$366	\$71	\$1,412	\$233	\$549	0.58

CV – coefficient of variation

episodes; b) complete (short-term) episodes cost more on a per diem basis than ongoing (longer-term) episodes, but they cost less on an episode basis; c) shared care episodes cost at least as much as direct care episodes on both a per diem and an episode basis; d) child and adolescent inpatient episodes cost more than adult inpatient episodes on both an episode and a per diem basis; e) assessment only community episodes cost significantly less on an episode basis but, on a per diem basis, they are the most costly community treatment days. These findings lay the groundwork for the design of the casemix classification.

Pacific Island episodes had the highest average cost for adult episodes (\$9235), followed by Maori (\$7032) and then European (\$3776). The situation was different for child and youth inpatient episodes, where the 'all other' group has the highest child and youth episode cost, followed by European

episodes. There were no cost differences between Maori and Pacific child and youth episodes.

Casemix classification

After removing partial episodes, a total of 16,665 episodes were used for class finding (Table 4).

Figure 2 shows the final classification developed. It has a total of 42 classes. For adults, particular HoNOS items, Focus of Care ratings, legal status and ethnicity all contributed significantly as predictive variables for costs. Diagnosis did not. For children and youth, diagnosis (inpatients only), age and HoNOSCA items proved to be useful variables.

The end result is that nine variables were employed in the classification. They fell into three groups: a) a direct service measure, length of stay (used to define complete and ongo-

Table 4 Final data set used for class finding

Episode of care type	Adult		Child and youth		Total	
	No.	%	No.	%	No.	%
Inpatient	2279	16.6	77	2.6	2356	14.1
Assessment only (community)	1318	9.6	102	3.5	1420	8.5
Shared community care	774	5.6	77	2.6	851	5.1
Direct community care	9349	68.1	2689	91.3	12038	72.2
Total	13720	100.0	2945	100.0	16665	100.0

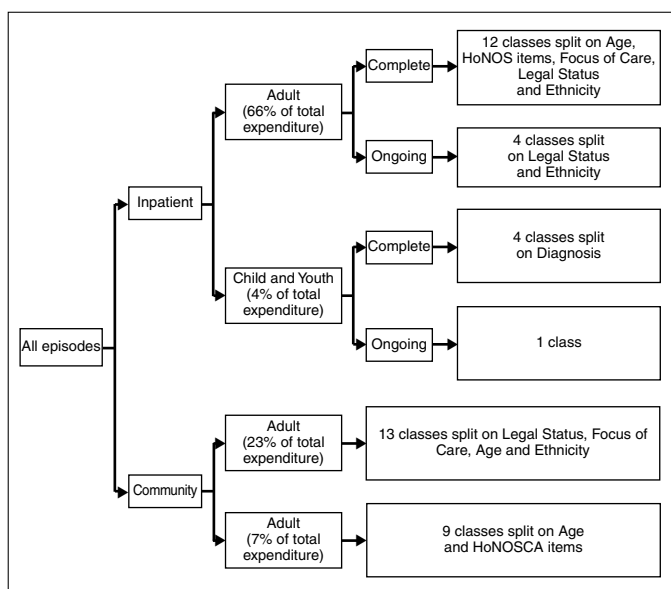


Figure 2 Classification of episodes

ing episodes in the inpatient branch); b) five direct consumer measures (age; ethnicity for adults; HoNOS ratings for adult inpatients; diagnosis for child/youth inpatients; HoNOSCA ratings for child/youth); c) measures which are a blend of consumer and service attributes: assessment only (community), legal status (adults) and FOC (adults).

The average case complexity of the three broad ethnicity groupings is shown in Table 5. Pacific people inpatient episodes have an average weight that is 35% above the national average for inpatient episodes, while Maori inpatient episodes have a weight that is 22% above the national average. The European/Other grouping has an inpatient weight that is 14% below the national average. For community episodes, Pacific episodes have an average weight that is 44% above the national average for community episodes, while Maori inpatient episodes have a weight that is 5% above the national average. The European/Other grouping has a community weight that is 4% below the national average.

Table 5 Average case complexity of the three broad ethnicity groupings

Ethnicity Grouping	Average case weight - inpatient episodes	Average case weight - community episodes	Average case weight - all episodes
Pacific Island	6.00	0.51	1.93
Maori	5.40	0.37	1.49
European/Other	3.83	0.34	0.81
All	4.44	0.36	1.00

DISCUSSION

The statistical performance of the classification is satisfactory. Although this study is large and the results have

statistical strength, two fundamental points need to be borne in mind in discussing it. The first is that this is an essentially descriptive report of current practice reality and cannot be taken to represent best practice. The second is that this is a first ever study of its kind in New Zealand, and can in that sense be thought of as pilot. The amount of data collected, however, makes it very unlikely it will ever be replicated in a similar fashion.

It would have been preferable to use only direct consumer measures instead of including those with significant provider judgement contributions. They are used in the classification when no direct consumer measure could be found that would act as a proxy. In reality, no existing casemix classification consists solely of consumer-related variables. For example, over half the classes in the DRG system are defined on length of stay, the nature of the procedure or the type of intervention. These measures work in the DRG system in the same way that Assessment Only, Legal Status and FOC work in our classification. If the DRG system is the benchmark, the mix of consumer-related and service-related measures in our study is more than acceptable.

Setting an international precedent, this study has resulted in a casemix classification that includes some casemix classes based on ethnicity. The decision to include such classes was carefully considered by all key stakeholders during the design, implementation and analysis phases and makes sense in the New Zealand context. Consistent with clinical expectations, the study found that, after controlling for clinical differences in the mix of cases, there were still statistically significant differences between the three major ethnicity groupings.

In conclusion, the performance of this classification is satisfactory as a first version national classification. In total there are 42 classes, 20 for inpatient episodes and 22 for community episodes. Significant differences in episode costs for adult inpatient episodes are noted when ethnicity is taken into consideration. Diagnosis is not an important variable for adult inpatient episodes, but it is for child and youth inpatient episodes. There are significant differences in the case complexity between DHBs. The classification is not suitable to be used as a funding model, but it is sufficient to inform management and funding decisions. The CAOS dataset offers a rich source of data that DHBs could continue to use to further inform costing and clinical assurance initiatives.

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Hidden science? A glimpse at some work in Africa

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Even though Africa contributes a disproportionately small quantity to the world scientific information pool, much of what it produces may be unavailable to the scientific community. A number of scientific journals published on the continent but not listed in international indexes often report studies in mental health and related fields. An analysis of some of these publications revealed that, over the period 1999-2003, research issues addressed include substance abuse, neuroscience and neuropsychiatry, health services, and child mental health. Most of the studies are descriptive and based on convenient or clinical samples. Community-based epidemiological studies and those examining the cost-effectiveness of different forms of intervention are rare. Even though the strength of the studies reported varied considerably, they nevertheless suggest that a considerable amount of research activities is taking place on the continent. The number and types of studies reported highlight the poor investment in research in Africa.

Key words: Research, Africa, journals, mental health

It has been estimated that the countries of Africa, Latin America and the Middle East together have only 13% of the world's scientists (1). Not surprisingly, the contribution of Africa to full length articles in international epidemiological journals in 1989-1990 was reported to be 3.1% (2). Many reasons can be adduced for such comparatively small contribution to research literature. However, what is not commonly known is that there is a thriving, albeit small, group of scientific publications on the continent that have not made it to the restrictive club of international citation indexes. In the field of mental health research in Africa, a considerable amount of work is disseminated in such outlets, many of which have a broad general medical readership on the continent but may be unknown to readers elsewhere.

In sub-Saharan Africa, journals such as the West African Journal of Medicine, East African Medical Journal, African Journal of Medicine and Medical Sciences, Central African Medical Journal, South African Medical Journal, Ethiopian Medical Journal and the Ethiopia Journal of Health Development have a long tradition of regular publication. Health SA *Gesondheid*, published in South Africa and the Journal of College of Medicine, published in Nigeria, are examples of young journals. These are general medical journals and are particularly unlikely to be read by those with interest in specialist mental health literature. Indeed, given the diversity of language within the continent, some of these journals have only regional readership even within Africa. Apart from these medical journals, there are specialist journals in mental health and psychiatry. *Psychopathologie Africaine* has been published for several decades. On the other hand, the Southern African Journal of Child and Adolescent Mental Health is a relatively new but rapidly growing journal.

Apart from journals, there are several outlets for research products on the continent. In countries such as Egypt, South Africa and Nigeria, there is a tradition of

annual scientific meetings of psychiatrists and mental health workers. Thus, the Egyptian Psychiatric Association holds an annual conference that draws participants from both the Middle East and Europe. The Association of Psychiatrists in Nigeria has held an annual conference for over 20 years, and the 13th National Congress of the South African Society of Psychiatrists was held in 2003. Also, in east Africa, psychiatrists have started to hold annual scientific meetings since 1999, the latest of which was held in Arusha, Tanzania in April 2004. Other important annual or biennial scientific meetings are held by the Society of Neuroscientists of Africa, the Nigerian Society of Neurosciences, the South African Neurosciences Group and the South African Association of Biological Psychiatry. The Pan African Association of Neurological Sciences, in which psychiatrists take active part, had its latest biennial conference in Cotonou, Benin Republic in March 2004. Books of abstracts and proceedings associated with such meetings often provide a valuable access to current research activities on the continent. The Association of Psychiatrists in Africa is defunct (and so is the African Journal of Psychiatry, published by the association). However, a new and expanded Association of African Psychiatrists and Allied Professionals has taken its place and has held a major continental meeting in Nairobi, Kenya.

In this review, a brief summary of recent mental health publications in locally published journals is presented to highlight the diversity of research activities on the continent. The emphasis is on papers published in the period 1999-2003 in journals that appear regularly on the continent but which may not be available to a wide international audience.

METHODS

A search was conducted in African Journals Online, an electronic database that indexes journals published

on the continent (www.inasp.info/ajol/searchajol.cgi; www.inasp.info/psi/index.html). Only papers addressing mental health issues and published by researchers working in Africa in 1999–2003 are presented. Only full-length articles with sufficient details for citation are considered. Abstracts and proceedings of conference presentations are not included.

RESULTS

In the period under review, 103 articles addressing mental health issues were identified. Two journals, the East African Medical Journal and the South African Journal of Child and Adolescent Mental Health, published more than half of the articles identified (Table 1). Even though most of the journals were published quarterly or less frequently, the representation of mental health issues was still relatively low. For example, the West African Journal published more than 160 articles during the review period, but only 5 (3%) of these were on mental health issues.

Of the 103 articles, 38 (37%) were by researchers working in South Africa, 27 (26%) by Nigerians, 13 (13%) by Kenyan workers, and 7 (7%) by those from Zimbabwe. Other countries represented among the published papers included Ethiopia (4), Uganda, Cote d'Ivoire, Cameroon, Malawi (with 2 each), and Tanzania, Egypt, Republic of Benin and Burkino Faso (with 1 article each).

An arbitrary grouping of the papers has been done to aid comprehension, even though some of the papers may not fall neatly into the group into which they have been assigned. Table 2 shows the distribution of the papers identified. The largest body of work addresses substance use issues. Next in frequency are papers dealing with topics in neuroscience and neuropsychiatry (including epilepsy).

Mental illness in general practice

Studies of psychiatric disorders in primary care are becoming more frequent and more methodologically sound, even though the use of instruments for detection is not always preceded by validation. Adeyemi and Jegede (3) conducted an interesting study in Ibadan, Nigeria in which case detection by general practitioners (GPs) was compared to that by psychiatrists and confirmed the often reported low recognition by GPs. They showed that not only clinical experience but also personality traits as measured with the Eysenck Personality Questionnaire were associated with physicians' ability to detect psychiatric disorders in their patients. When cases are detected, the question arises as to what GPs do with them. Othieno et al (4) addressed this in their study of Kenyan GPs. They found a reluctance on the part of the GPs to refer patients to specialists even when referral was indicated, and that patients themselves were often resistant to being referred. Many doctors were of the opinion that they required fur-

ther training to equip them for the better management of their mentally ill patients.

Substance use

School surveys of substance use are important in identifying a group of disorders that commonly starts in adolescence. They are particularly popular in Africa, possibly because of the structure of the age pyramid in countries on the continent, with a very large segment of the population being in the school-going ages. They are of course relatively cheap to conduct as access to potential subjects is easy. Eide et al (5), using information obtained from teachers in 17 secondary schools drawn from some districts of Zimbabwe, concluded that, compared to surveys conducted a few years earlier, alcohol use was increasing among students, while drug use was largely stable. They found that, not surprisingly, teachers' assessment did not correlate with students' self-report in regard to use of drugs such as cannabis and inhalants. A study in Nigeria also reported an increasing trend in the use of alcohol and inhalants among secondary school pupils (6). Substance use by students in Africa is apparently not limited to alcohol, tobacco and inhalants. Taylor et al (7) studied secondary school students in KwaZulu-Natal, South Africa and reported use of a wide variety of substances, including not only an array of inhalants, but also cocaine and crack, with as many as 7.4% of male pupils reporting use of cocaine. The researchers from Zimbabwe presented

Table 1 Journals publishing papers on mental health issues in Africa in 1999-2003

Name of the journal	Number of papers
East African Medical Journal	29
South African Journal of Child and Adolescent Mental Health	25
Health SA Gesondheid: Interdisciplinary Research Journal	9
African Journal of Neurological Sciences	7
South African Medical Journal	6
Central African Journal of Medicine	5
Journal of College of Medicine	5
West African Journal of Medicine	5
Journal of Child and Adolescent Mental Health	3
Malawi Medical Journal	2
African Journal of Medicine and Medical Sciences	1
Annals of African Medicine	1
Global Journal of Medical Sciences	1
Nigerian Journal of Clinical Practice	1
Nigerian Journal of Health and Biomedical Sciences	1
Nigerian Quarterly Journal of Hospital Medicine	1
Scientific Medical Journal	1

another interesting report from the same schools, this time on the use of alcohol and tobacco by the teachers (8). They presented a worrying picture of what might indicate a “negative influence” on the students by their teachers, especially in regard to high consumption of beer by male teachers working in private schools. Along similar lines, Kebede (9) studied the use of tobacco and khat by university instructors in Ethiopia and suggested that the use of the former was declining while that of khat was increasing.

Other studies have reported on urban/rural differences in the use of substances among students (10) and among patients attending outpatient clinics (11). An Ethiopian study examined the health consequences of the use of khat (12).

Suicidal behaviour

One area in which reliable data is lacking in most African countries is suicide and suicidal behaviour. Indeed, suicide used to be regarded as very rare among Africans. This is partly a reflection of the stigma attached to suicide, which limits its reporting. Moreover, systematic collection of vital statistics is often absent. The common source of data is the hospital setting. Thus, Nwosu and Odesanmi (13) presented data on suicides using records of medico-legal autopsies performed at the Obafemi Awolowo University Teaching Hospital, Ile-Ife, Nigeria. They reported a rate of 0.4 per 100,000 and a male to female ratio of 3.6 to 1. A study among adolescent students in South Africa suggests that suicidal ideation is common (14). Indeed, lifetime rates of suicide attempts among not only Whites, but also Asians and Blacks, were comparable to those reported in industrialized countries of Europe and North America. A common finding among persons who have attempted

suicide in Africa is that many have diagnosable depression (15,16).

Family, caregiver and public education

Families continue to be crucial in the management of patients with mental illness in many African countries. Researchers have therefore continued to focus attention on family members of mentally ill persons. Ukpong and Makanjuola (17) reported that family caregivers of patients with dementia experience more psychological distress than those of patients with schizophrenia. Adebowale and Ogunlesi (18) found that relatives of persons with mental illness tend to proffer a supernatural causation for mental illness.

Wessels et al (19) presented preliminary observations on a television programme on psychiatric disorders in South Africa. The programme proved popular and indicated that television might be a useful medium for informing people about mental health issues. The use of education to change beliefs and practices was also explored by Adelekan et al (20) in Nigeria. They showed that, with a relatively short training programme, a group of traditional mental health practitioners became better informed about the causes of mental illness and the symptoms of mental disorders, and less likely to employ hazardous forms of treatment in their practice.

Child and adolescent mental health

A group of Ethiopian researchers have conducted extensive epidemiological surveys in Butajira, Ethiopia in what has turned out to be one of the best examples of population laboratories on the continent. Much of the work has been on adults and has been published in mainstream international journals. However, some of it has also been published in local journals. Their work on children has involved the validation of the Diagnostic Interview for Children and Adolescents (21) and an assessment of the prevalence of psychiatric disorders among children aged between 5 and 15 years (22) and a determination of the socio-demographic correlates of such disorders (23).

DISCUSSION

The diversity of papers presented in this review, even though not chosen with the aim of representativeness, reflects a broad range of interests. Many of the papers are of high scientific quality and could have probably been published in major international journals. However, some are not as scientifically rigorous. In this regard, the use of not validated measures of psychopathology or a failure to use any reliable tool (that is, to go beyond the ascertainment of disorders using only the skills of the clinicians) are examples of areas in need of improvement.

Most of the papers addressed mental health issues in

Table 2 Grouping of papers published in African journals in 1999-2003 according to their topic

Topic	Number of papers
Substance abuse	26
Neuroscience/Epilepsy/Neuropsychiatry	18
Health system/services	9
Child psychiatry	7
Family/caregiver/public education	7
Forensic psychiatry	7
Trauma	6
Prevention/Intervention	4
Suicidal behaviour	4
Sexual abuse	3
Old age	2
Miscellaneous	10

relatively small or special groups, such as students, teachers or among general practice attendees. Most addressed phenomenological issues or described occurrence of disorders. A particular focus is substance use disorders, with the main observation being that abuse of psychoactive substances is common, especially among the young. Large-scale epidemiological studies in which a representative sample of the community is studied are rare and so are investigations addressing the choice or efficacy of interventions for mental health problems. While it is possible that some of such studies are published in international journals, which are not the focus of this paper, it is certainly the case that such studies are generally few in Africa. Both types of study are expensive to run and often require considerable research and analytic expertise. Not many centers in Africa are endowed with either of these.

There are important research issues still to be addressed on the continent (24). There is still a paucity of knowledge about the occurrence and distribution of mental health problems. Knowledge of the epidemiology of mental disorders will be important in the formulation of policies addressing the provision of care for affected persons. Studies comparing the occurrence of disorders in various ethnic, or even racial, groups may throw light on why rates vary and present opportunities for the search for etiological factors. Of particular importance are studies examining cost-effective forms of intervention. Such studies should be designed to investigate how good and effective interventions can be delivered within the constraints of poor economies. Thus, health system research and research focusing on the effectiveness and appropriateness of policies require attention.

This review shows that there is much science on the continent of Africa that may not be accessible to a wide international audience. The situation is unlikely to improve until international indexes become less stringent in their criteria for listing journals and thus open such journals up to a broad international audience.

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Concurrent substance-related disorders and mental illness: the North American experience

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Ingredients of the evolving North American experience in addressing the management of patients with concurrent substance-related disorders and mental illness are presented. This experience as well as select data from Europe and Australia indicate a growing empirically-based consensus to provide an integrated approach to the care of these patients. It also highlights the necessity to conduct local surveys of needs and resources and adapt the published clinical experience to the local system of care, resources and culture.

Key words: Comorbidities, concurrent disorders, substance abuse, mental illness, integrated treatment

Over the last 20 years, the intricate relationship between substance use and mental disorders has received particular attention (1-3). In most countries of the Western world, the system addressing the needs of the addicted diverged from the system caring for the mentally ill between the 1950s and 1970s. This was not the case in most Eastern European, Asian and African countries. Most of the recent literature on concurrent disorders originates from the countries with separate systems of care (3,4).

In the US, the Epidemiologic Catchment Area (ECA) study found that the lifetime prevalence for any psychiatric disorder was 44% among people with an alcohol disorder and 64.4% among people with other drug-use disorders (5). The National Comorbidity Study (NCS) reported that most mental disorders were more common among persons with a current or lifetime substance use disorder than among those who had never experienced such a problem. Furthermore, most disorders had their onset prior to the onset of the substance use disorder, with the exception of mood disorders among male alcoholics, which usually developed after the onset of alcoholism (6). In Canada, the population study conducted in Edmonton in the 1980s elicited results essentially similar to those of the ECA (7). In the 1990s, the British Psychiatric Morbidity Survey reported general population prevalence rates of 4.7% for alcohol misuse and 2.2% for drug misuse (8). The 1997 Australian National Mental Health Survey reported 12-month prevalence figures of 6% for alcohol abuse/dependence and 3% for drug abuse/dependence (9). Corresponding ECA figures were 7.4% and 3.1% respectively.

In North America, mounting evidence points to the severe medical and social repercussions of concurrent substance-related disorders for severely mentally ill populations, including a high rate of relapse and rehospitalization, depression and suicidality, increased family problems, violence, incarceration, homelessness and human immunodeficiency virus (HIV) infection. Prospective studies showed repeatedly that treatment outcomes are

worse among patients with more than one disorder than among those with only one. The increased utilization of expensive hospital and emergency services results in higher treatment costs (4). In Germany and UK, studies addressing the use of resources by patients with schizophrenia have elicited mixed results: some are in support of the North American findings (10-12), others are not (13,14).

People with concurrent substance use and mental disorders attempting to obtain help from separate systems have met a bewildering array of services with contradictory philosophies and approaches. Individuals have faced mislabeling, rejection and automatic transfers and have fallen "between the cracks" of treatment systems. As both mental health and addiction treatment facilities became aware of the special needs of these patients, their attempts to remedy this unsatisfactory situation were conceptualized into three approaches (2): a) sequential treatment (patients are treated by one system and then by the other; which disorder is treated first depends very much on the clinician's orientation); b) parallel treatment (simultaneous involvement of the patient in both mental health and addiction treatment settings; as each setting's staff provide their own orientation and services to the patient, coordination of care is quite variable); c) integrated treatment (providing unified and comprehensive treatment programs for patients with concurrent disorders). Ideally, integrated treatment involves clinicians trained in both mental health and addiction, as well as unified case management to monitor and treat patients through crises arising from either disorder. Early approaches to integrated treatment involved merely adding a substance abuse treatment group to the usual mental health program or providing an intense substance abuse intervention with the goal of rapidly achieving abstinence. Eventually integration resulted in more comprehensive approaches, involving assertive outreach, intensive case management, individual, group and family substance abuse counseling and occasionally hospitalization to a dedicated unit or admission to a residential facility.

Differences in symptom severity and degree of impairment may affect the selection of one of the above models. For example, sequential and parallel treatment may be most appropriate for patients with a severe problem in one disorder but a mild problem with the other. It is noteworthy that, both in North America and in countries where separate systems of care have not evolved, the tendency for mental illness to be treated while neglecting substance use or vice versa still exists. Integrated care is a spreading but still unevenly distributed resource.

RESEARCH ON INTEGRATED TREATMENT

The bulk of research in the US has occurred within the public system involved with the care of the severe and persistently mentally ill. Much less is known about the broader range of mental illness receiving treatment for concurrent disorders in both public and private networks. In 1998, Drake (15) identified 36 completed studies of integrated treatment, dividing them into four categories as per the degree of integration: dual disorders treatment group (4 studies); intensive integrated treatments (9 studies); community support programs (CSP) for young adults with co-occurring disorders (13 studies) and comprehensive integrated dual diagnosis programs (10 studies). Of the 36 studies, 13 used a controlled design and the subjects were mostly individuals suffering from chronic psychosis. Promising orientations identified from both Drake's review and a complementary analysis by RachBeisel et al (16) include a comprehensive harm reduction approach, an assertive outreach and case management strategy, a stage-wise motivational approach, skills training through cognitive behavioral interventions, and a customized pharmacotherapy enhancing efficacy and compliance. The therapeutic management of disability benefits has also been shown to improve outcome.

DESIGNING LEVELS OF CARE FOR SYSTEMS AND PROGRAMS

The current realization is that comorbidity is so common that it should be expected rather than considered an exception. Research from the demonstration projects highlight that outcome depends on the extent to which support at the system level is provided (17). Thus, consensual standards have recently been developed to address managed care needs in the US. Two such examples are a panel report from the Center for Mental Health Services (18) and the American Society of Addiction Medicine (ASAM)'s placement criteria (19). The report from the Center for Mental Health Services conceptualizes five levels of strategic change required for a truly integrated system: a) health authority (building stakeholder consensus; conjoint planning; structural, regulatory, reimbursement/contracting mechanisms; defining standards; demonstration and training initiatives); b) programme

leadership (leadership and vision of integration; training; comprehensive integration; records; outcomes and quality assurance); c) clinical/supervisor (outcome-based supervision; new knowledge; new skills; specialty training); d) strategies for family (information; support; collaboration; skills and reinforcement; advocacy); e) strategies for consumer (information; peer discussion; counseling; rehabilitation; new roles in system). A complementary perspective in the ASAM criteria for use of the substance abuse network identifies two levels of program capability in handling individuals with concurrent disorders: a) dual diagnoses capable (DDC) programs (i.e., programs accommodating admissions with somewhat stabilized psychiatric disorders and with a primary focus on the treatment of substance-related disorders); b) dual diagnoses enhanced (DDE) programs (i.e., programs accommodating more unstable or disabled psychiatric admissions short of requiring 24 hours supervision).

CLINICAL OPPORTUNITIES FROM CROSS-FERTILIZATION

As both addictions and mental health treatment systems in North America have matured independently over the years, their recent collaboration in the treatment of concurrent disorders is presenting new skills development opportunities for both fields. Select examples follow.

From the addiction field

The change cycle. Individuals with concurrent disorders are recognized as particularly non-compliant and resistant to change. Prochaska and DiClemente's change cycle based on the experience with smoking cessation is now increasingly accepted within the mental health field as a leading concept to assess and monitor motivation. This framework underpins the specific engagement and persuasion strategies required to enlist the individual with concurrent disorders into treatment as described in the motivation-based treatment model for the severe and persistently mentally ill (20).

Relapse prevention. Relapse prevention strategies have been developed to promote and maintain abstinence from substances (21). These simple, repetitive exercises are now a basic tool utilized in many programs addressing most psychiatric disorders with a high prevalence of relapses.

From harm reduction to abstinence. In the early stages of alcohol abuse, "sensible drinking" techniques may be taught successfully. The upper limits of moderate drinking for a person suffering from mental disorder will, in general, be lower than for the general population. Methadone maintenance is also a demonstrated stabilizing factor for opiate-dependent individuals with concurrent disorders. The achievement of sobriety/abstinence for most substance dependent individuals is a cornerstone to recovery. The need to cast a wider supportive net to those for whom

abstinence is a foreboding objective is also acknowledged. For many people with mental illness, the initial engagement and persuasion strategies involve a harm reduction approach. Increased awareness of the impact of substance use has spurred the mental health field to pay particular attention to the use of substances as part of each admission's assessment and treatment plan. This increased scrutiny is now including the impact of smoking among mentally ill populations. The past pessimistic attitude regarding the outcome of cessation strategies in this group is being replaced by a more accurate awareness of the possibilities arising from tailoring cessation strategies to these particularly vulnerable diagnostic groups (22).

Roles of self-help and spirituality in recovery. The achievements of the fellowship of Alcoholics Anonymous and other self-help networks have contributed to the resurrection of the value of spirituality in the eyes of the mental health system. A supportive gradual introduction to a Twelve Step process as well as the help of a sponsor is now featured in most programs for concurrent disorders.

From the mental health field

The significance of valid diagnoses. The mental health field has developed an ever-increasing sophistication in differential diagnosis. This sophistication is required to be able to differentiate between temporary psychiatric symptoms commonly occurring during early recovery and valid comorbidities requiring systematic treatment.

The benefits and limitations of psychotherapy. The practice of individual insight-oriented psychotherapy was undervalued in the addiction field ever since the poor outcome of traditional analytical psychotherapy in this population was demonstrated in the late 1960s. The practice of psychotherapy for substance abusers has markedly matured since then. An initial focus on sobriety/abstinence is now considered a prerequisite prior to engaging the individual in insight-oriented psychotherapy. Cognitive-behavioral therapeutic approaches have made great strides in the field and lend themselves more readily to outcome evaluation. The development of innovative techniques such as network therapy as well as the development of manuals to support the individual in early recovery attest to the creative potential of psychotherapy in adapting to the needs of the addicted population (23-26).

The optimal group membership mix. Different diagnoses and functional activities result in heterogeneous interactive and coping skills. Familiarity with heterogeneous problems and levels of interactive functioning has also resulted in the mental health system developing expertise with optimal membership size and mix as well as tailored group therapy processes. The optimal group will consist of members who have a more or less equal predictive chance to participate in the activities and influence the group process therapeutically (27).

The benefits and limitations of pharmacotherapy. A

common experience in addiction is the switch of dependence from a substance to prescribed medications such as benzodiazepines and hypnotics. The problem of prescription abuse – particularly among females, the elderly and aboriginal populations – has rendered that field leery of psychotropic medication often based on misinformation and misperception. This prejudice is unfortunately compounded by the dearth of good pharmacological trials among comorbid populations. Substance abuse/dependence remains an exclusion criterion in most clinical trials. Individuals with a psychiatric comorbidity require an adequate trial of medication involving the right drug, the right dose and the right duration. There is a risk of under-medication and at the same time frequent re-evaluations of the prescription are required, particularly when combined medications are involved. Aside from the risk of dependence, another guide to the selection of a medication is its adverse effect profile. The patient exposed to the adverse effects of substance abuse is particularly sensitive to the adverse effects of a psychotropic medication, contributing to non-compliance. Pioneering anticraving medication, such as naltrexone and acamprosate, now add a new dimension to our pharmacotherapy and seem to be well-tolerated by comorbid populations.

DESIGNING A CONCURRENT DISORDERS PROGRAM: A STEPWISE APPROACH

The following recommendations are based on our 15 years' experience in designing a program in Calgary, a mid-sized city of Western Canada (population of about one million). We monitored the extensive experience in the US, largely based on the needs of the severely mentally ill segment of the population and a managed care strategy, and adapted it to Canada's more comprehensive medicare.

Needs and resources assessment

A local needs survey must be conducted to gather prevalence and clinical impact data. Differences in study settings, methods of assessment, definitions of substance use disorders and the clinical and sociodemographic characteristics of samples account for wide variations. A simplistic extrapolation from current literature data to the local scene can be misleading.

Our surveys in Calgary reinforce the perception that the prevalence data will depend on the availability of substances in one's community. The major substances used by the mentally ill may not be significantly different from those of the rest of the population, and the selective use by certain diagnostic groups (i.e., schizophrenia) of certain drugs (i.e., marijuana or stimulants) may be more related to larger urban centres' increased availability (28). The only universal finding may be a higher vulnerability to tobacco smoking in that population.

Special care must be exercised to differentiate between

the prevalence of symptoms and that of valid diagnostic categories. Diagnostic fads may also affect the perception of prevalence. This population is particularly sensitive to diagnostic “epidemics” of dissociative disorders, attention deficit and hyperactivity disorders, etc. (29).

Patients with concurrent disorders bring themselves to the attention of many services. A survey of the local impact on hospital emergencies, police arrests, school problems and burden on social services help shape the program to meet the local priority needs. Invariably, a program for concurrent disorders needs to optimize combined resources in the face of economic constraints. A cost-effective strategy for information dissemination to the public and professionals involved, as well as research services to ensure the evaluation of current experience and generation of new knowledge, are also required.

Creating the administrative/system sparks

From our consultative experience with several urban and rural settings in Canada, leadership may emanate from any segment or discipline within the network. It may also originate from the awareness of consumers and their families about their unmet needs. The survival of this leadership is enhanced if it resides with a small cadre of people ready to support each other in involving decision-makers while initial activities are designed, funding is sought, and public awareness is enhanced.

Drawing resources for the eventual coalition of services required is essential. Resources need not always be financial; it may be easier initially to enlist staff time. One source of funding in a multi-system network is likely to enable other involved parties to take a back seat and watch, delaying the active involvement required in the care of these patients.

Our experience argues in favor of starting perhaps with limited ambulatory care activities, while planning and further liaison meetings occur at regular intervals. Several ambitious projects never come to fruition despite their worthiness. The needs assessment will hopefully meet the anticipated concern about lack of “new” funds. Concurrent disorders patients currently utilize resources in an extensive but ineffectual manner. The choice is between the allocation of resources “by design” and their allocations “by default”.

Customizing the framework for integration

In many areas of the world, integrated programs limit their target population to the long-term mentally ill, with a focus on case management. In Canada, with universal health insurance and no separate public and private sectors, our program targets a population of concurrent disorders encompassing the range of diagnoses and functioning. Services address a range of needs.

Assessment. A significant step is to ensure that the use

of substances is recorded as part of any case history investigating a psychiatric disorder. A variety of valid and reliable screening instruments are available. Conversely, a mental status examination must be recorded as part of the history of any substance abusing/dependent individual. In our specialized program, the main intake instrument used is the Addiction Severity Index, which estimates the need for treatment along seven scales (alcohol, other substance use, as well as physical, work, family, legal and psychological assessments). These instruments require new psychometric validation when addressing a population with concurrent disorders (30,31). To help sort out the presenting symptoms and signs for the purpose of a differential diagnosis, their timing, the matching of the symptoms with the substance, the purpose of substance use, patterns of craving, family history and treatment response are of help (32-35). Sometimes gut feeling may initially have to suffice!

Prevention. The saying “an ounce of prevention is worth a pound of cure” is relevant in addressing the substance use of the mentally ill or the mental health of the substance abuser (4,36). Particularly for our young long-term mentally ill population, imbedding a prevention message about sensible or no substance use in a life skills module is recommended. Addiction programs should also incorporate awareness modules about mood or anxiety disorders. Those crossing the line from moderate drinking to problematic drinking can benefit from “five easy steps to sensible drinking”, i.e., keep track, pace yourself, spend time on other things, stay alert, do not use alcohol to cope. Smoking prevention or anti-smoking education is increasingly being incorporated in prevention strategies. Staff awareness training at regular intervals is an important prevention component.

The range of interventions. Continuity of care is optimal for this complex population. Case management staffing level for the long-term mentally ill was initially recommended to be 1 in 8; economic constraints have increased this estimate to 1 in 18. A comprehensive care plan from an integrated team across the inpatient, day hospital and outpatient components of care is important. Initially, our day hospital provided our main therapeutic milieu and patients were referred there for 3-week periods most often renewed once. Our outpatient services provided a range of time-limited interventions on an individual, group or family basis and facilitated referral back to community resources. Our experience through the last decade has enabled us to increase the levels of treatment provided on an ambulatory care basis, based on our assessment of the patient’s stage of change and level of engagement. We now offer time-limited (3-6 sessions) individual follow-up to those initially uncomfortable with a group experience; two psychoeducational sessions a week for those unable to attend more; three half-days for those at the contemplation stage and a fuller intensive outpatient (day hospital) for those at the action stage.

Patients with severe mental illness, mostly suffering

from schizophrenia and some from bipolar disorder, receive group support, meeting twice a week for one hour. The approach is both educational and supportive. The educational cycle is for 4 weeks (8 sessions) and mostly focuses on education about comorbidities and their integrated management as well as relapse prevention strategies. A comprehensive vocational and leisure assessment service is available as required and often results in referrals for workforce rehabilitation. Involvement of the family or of a significant other is valued. A selective couple therapy program based on O'Farrell's behavioral marital therapy model is provided as required (37). Once a week, a group discusses the opportunities presented by a range of mutual-help opportunities. For severe and persistent mentally ill, our program objective is stabilization. We resisted efforts to create a third system between mental health and addiction. Once stabilized, a process which can take a few months, the patient is referred back to the referring source.

The need for ongoing evaluation. There is no standard package for outcome evaluation. Ours was selected over 2 years. The need for a comprehensive package was balanced against the burden on the patient and system. Elements of the package may include (38): the Addiction Severity Index, which identifies the need for treatment across seven scales and has a briefer "follow-up" version useful for reassessments; the Treatment Services Review; the Psychosocial Functioning Inventory, a solid indicator of quality of life; the Socialization Scale, which identifies antisocial traits and personality; the Patient Requests (Lazare), which highlights the patients' perceptions of their needs; the Stages of Change, which identifies a person's position on the change cycle; the DSM-IV (diagnoses are reached using the Structured Clinical Interview for DSM-IV (SCID) for research or clinically through a team review). The recommended optimal follow-up schedule for patients is one year, with checks at discharge, 3, 6, and 12 month intervals.

The "hub and satellites concept". Not every location is required to have a comprehensive concurrent disorder program. An integrated centre with inpatient, day program and outpatient services as well as teaching and research components can become a cost-effective hub for a network of outpatient satellite teams in other locations.

CONCLUSIONS

In conclusion, while there are ample published North American strategies to design and implement a concurrent disorders program, there is also great latitude for creativity at a local level. Serendipity and the "art of the possible", in addition to needs assessments, have often guided our planning. This evolutionary review identifies the need for further investigation: a) it is hoped that the international experience in epidemiology and delivery of care for concurrent disorders will enrich the literature originating from the United States; b) broad practice guidelines exist focus-

ing on the management of the severe and persistently mentally ill in a public health system; the next frontier is to fine tune these guidelines and accommodate them to gender and age differences, cultural differences, different systems of care delivery as well as the range of psychiatric disorders; c) clinical trials are required to better the integration of psychological and pharmacological interventions as well as the impact of mutual help; it is unfortunate that concurrent disorders are often an exclusion criterion for pharmacological trials; d) professional staff with a primary mental health or addiction background can train each other, complement each other's expertise and through close interaction will transcend each other's knowledge and attitudes to build a resource more attuned to the complex needs of the disorders involved; e) the study of concurrent disorders presents a renewed opportunity for reassessment of our current screening instruments and general understanding of the etiology, course and treatment of most psychiatric disorders.

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

MARIO MAJ

Chairman, Organizing Committee

This Congress, which will take place in Florence, Italy from 10 to 13 November 2004, aims to provide a comprehensive and high-quality update on all evidence-based treatments currently available for the various mental disorders. Many of the most renowned experts in the various treatments areas will be among the speakers. More than 5000 participants are expected. CME credits will be provided by the WPA, the American Medical Association and the relevant European and Italian bodies. An extremely attractive social programme has been organized for participants and accompanying persons.

We provide here the preliminary programme of the Congress. Further information can be found on the website www.wpa2004florence.org.

Update Lectures

UL1. The context of treatment in psychiatry (*N. Sartorius, Switzerland*)

UL2. Empathy, meaning, and the therapeutic alliance in psychiatric practice (*A. Tasman, USA*)

UL3. The comprehensive management of schizophrenia (*N.R. Schooler, USA*)

UL4. Early psychosis: detection and interventions (*P. McGorry, Australia*)

UL5. The comprehensive management of recurrent major depression (*G.A. Fava, Italy*)

UL6. Comprehensive long-term management of bipolar disorder (*M.E. Thase, USA*)

UL7. Understanding and managing the consequences of violence and trauma (*A.C. McFarlane, Australia*)

UL8. Integrating pharmacotherapy and psychotherapy in the management of anxiety disorders (*J.M. Gorman, USA*)

UL9. Evidence based management of dementia (*A. Burns, UK*)

UL10. The multimodal treatment of eating disorders (*K.A. Halmi, USA*)

UL11. The principles and practice of cognitive-behavioural psychotherapy (*P. Salkovskis, UK*)

UL12. Psychodynamic psychotherapies: evidence-based and clinical wisdom (*P. Fonagy, UK*)

UL13. Integration of services in community mental health care (*G. Thornicroft, UK; M. Tansella, Italy*)

UL14. The challenge of primary prevention in psychiatry (*S. Saxena, Switzerland*)

Special Lectures

SL1. Current treatment in psychoses: did it change the outcome? (*A. Okasha, Egypt*)

SL2. Comprehensive diagnosis as a basis for integrated treatment and health promotion (*J.E. Mezzich, USA*)

Interactive Symposia

IS1. The future of psychotherapies (*Facilitator: S. Bloch, Australia*)

IS2. The contribution of neuroimaging research to clinical psychiatry (*Facilitator: N.C. Andreasen, USA*)

IS3. The future of pharmacotherapy for mood and anxiety disorders (*Facilitator: D. Baldwin, UK*)

IS4. Cultural issues in mental health care (*Facilitator: L.J. Kirmayer, Canada*)

IS5. The current management of personality disorders (*Facilitator: P.J. Tyrer, UK*)

IS6. The management of somatoform disorders and medically unexplained physical symptoms (*Facilitator: M. Sharpe, UK*)

IS7. New strategies in the management of sexual disorders (*Facilitator: S.B. Levine, USA*)

IS8. Partnerships in mental health care (*Facilitator: B. Saraceno, Switzerland*)

IS9. Current approaches to autism (*Facilitator: F. Volkmar, USA*)

IS10. Current approaches to sleep disorders (*Facilitator: C.R. Soldatos, Greece*)

IS11. The present and future of consultation-liaison psychiatry (*Facilitator: F. Creed, UK*)

IS12. Combining medications in psychiatry: advances and risks (*Facilitator: H.-J. Möller, Germany*)

IS13. The evaluation of psychiatric treatments (*Facilitator: M. Tansella, Italy*)

IS14. Advances in the diagnosis and treatment of bipolar disorder (*Facilitator: H.S. Akiskal, USA*)

IS15. Recent advances in pharmacogenomics (*Facilitator: M. Ackenheil, Germany*)

IS16. The present and future of rehabilitation in psychiatry (*Facilitator: M. Farkas, USA*)

IS17. Management of alcohol-related problems (*Facilitator: K.F. Mann, Germany*)

IS18. Non-pharmacological somatic therapies in psychiatry (*Facilitator: C.H. Kellner, USA*)

IS19. Ethical and legal aspects of treatments in psychiatry (*Facilitator: D. Moussaoui, Morocco*)

IS20. Diagnosis and treatment of attention-deficit/hyperactivity disorder (ADHD) (*Facilitator: C.E. Berganza, Guatemala*)

IS21. The current management of obsessive-compulsive disorder (*Facilitator: J. Zohar, Israel*)

IS22. Understanding and managing 'comorbidity' in psychiatry (*Facilitator: G.B. Cassano, Italy*)

IS23. Economic aspects of mental health care (*Facilitator: M. Moscarelli, Italy*)

IS24. Assessment and management of social anxiety disorder (*Facilitator: D.J. Stein, South Africa*)

IS25. The future of pharmacotherapy for schizophrenia (*Facilitator: W.W. Fleischhacker, Austria*)

IS26. Family interventions for mental disorders (*Facilitator: I.R.H. Fal-*

loon, New Zealand)

IS27. Molecular genetics and genomics of psychiatric disorders: identification of novel drug targets (*Facilitator: G. Racagni, Italy*)

IS28. Prevention and management of substance abuse (*Facilitator: A.H. Ghodse, UK*)

IS29. Psychotropic drugs and cognitive functions (*Facilitator: A.S. David, UK*)

IS30. 'Difficult' children and adolescents: underdiagnosis and overdiagnosis of mental disorder and relevant treatment issues (*Facilitator: S. Tyano, Israel*)

IS31. Gender-related issues in psychiatric treatments (*Facilitator: D.E. Stewart, USA*)

IS32. New strategies for the care of the mentally retarded (*Facilitator: N. Bouras, UK*)

IS33. Epidemiology and prevention of suicide (*Facilitator: J.M. Bertolote, Switzerland*)

IS34. Management of mental disorders in old age (*Facilitator: E. Chiu, Australia*)

IS35. The current management of panic disorder and generalized anxiety disorder (*Facilitator: C. Faravelli, Italy*)

IS36. The management of non-schizophrenic psychotic disorders (*Facilitator: W. Gaebel, Germany*)

Special WHO/WPA Symposia

SPS1. From advances in neuroscience of substance use disorders to new treatment approaches (*Chairpersons: B. Saraceno, Switzerland; M. Maj, Italy*)

SPS2. Nosological validity and diagnostic validity (*Chairpersons: J.E. Mezzich, USA; B. Üstün, Switzerland; C.E. Berganza, Guatemala*)

Advanced Courses

AC1. Management of patients with a severe mental disorder and substance abuse (*Director: R.E. Drake, USA*)

AC2. Management of the suicidal patient (*Director: D. Wasserman,*

Sweden)

AC3. Ethical and legal issues concerning psychiatric treatment (*Director: A. Carmi, Israel*)

AC4. The principles and practice of interpersonal psychotherapy (*Director: J.C. Markowitz, USA*)

AC5. Relevance of phenomenological/anthropological psychiatry to clinical practice (*Directors: M.A. Schwartz, USA; O.P. Wiggins, USA*)

AC6. Assessment of cognitive dysfunction in schizophrenia (*Directors: S. Galderisi, Italy; M. Davidson, Israel*)

AC7. The management of acute psychotic agitation (*Director: D. Naber, Germany*)

AC8. The psychiatrist in court (*Director: J.E. Arboleda-Florez, Canada*)

AC9. Implementing a cooperative or other enterprise run by psychiatric patients (*Director: G.P. Harnois, Canada*)

AC10. Managing HIV-related neuropsychiatric and psychosocial problems (*Director: F. Cournos, USA*)

AC11. The management of the 'difficult' child (*Director: S. Tyano, Israel*)

AC12. How to organize a comprehensive community mental health service (*Directors: G. Thornicroft, UK; M. Tansella, Italy*)

AC13. Treatment of mental disorders during pregnancy and post-partum (*Director: I.F. Brockington, UK*)

AC14. Fighting stigma related to schizophrenia (*Director: N. Sartorius, Switzerland*)

Forums

F1. Interacting with the media about psychiatric treatment issues (*Coordinator: H. Herrman, Australia*)

F2. Training to psychotherapies: problems and perspectives (*Coordinator: B. Martindale, UK*)

F3. Resources for mental health care in low and middle income countries (*Coordinator: S. Saxena, Switzerland*)

F4. Building mental health partnerships in Europe (*Special Forum organized by the European Union and the AEP/UEMS/WHO/WPA*

Task Force) (*Coordinators: J. Henderson, UK; B. Martindale, UK*)

F5. The role of non-psychiatric professions in mental health care (*Coordinator: J. Leff, UK*)

F6. The organization of forensic psychiatric services (*Coordinator: J.E. Arboleda-Florez, Canada*)

F7. The role of advocacy groups in supporting effective treatments in psychiatry (*Coordinator: P.L. Morselli, Italy*)

F8. The role of Editors of journals in enhancing mental health research in low and middle income countries (*Coordinators: S. Bloch, Australia; S. Saxena, Switzerland*)

F9. The World Mental Health Surveys: implications for mental health care (*Coordinator: R. Kessler, USA*)

Section Symposia (and other events organized by the WPA Sections)

SS1. Current questions in the treatment of bipolar disorders (*Organized by the WPA Section on Pharmacopsychiatry*)

SS2. Diagnosing personality disorders: does it matter for treatment? (*Organized by the WPA Section on Personality Disorders*)

SS3. The educational challenge of improving the quality of psychiatric treatment (*Organized by the WPA Section on Education in Psychiatry*)

SS4. Spirituality, treatment and health (*Organized by the WPA Section on Religion, Spirituality and Psychiatry*)

SS5. Art and therapeutic communication (*Organized by the WPA Section on Art and Psychiatry*)

SS6. Developing and implementing training in old age psychiatry (*Organized by the WPA Section on Old Age Psychiatry*)

SS7. Hormones as treatments of affective disorders (*Organized by the WPA Sections on Interdisciplinary Collaboration and on Affective Disorders*)

SS8. The effect of disability pension policy on outcome from mental illness (*Organized by the WPA Section on Public Policy and Psychiatry*)

SS9. Management of first episode schizophrenia (*Organized by the WPA Section on Schizophrenia*)

SS10. Stress, depression and cardiac events (*Organized by the WPA Sections on Conflict Management and Resolution; on Women's Mental Health; on Psychiatry, Medicine and Primary Care; and on Occupational Psychiatry*)

SS11. Sexual health educational programme: an update (*Organized by the WPA Section on Psychiatry and Human Sexuality*)

SS12. Conceptual and ethical issues in early diagnosis and treatment (*Organized by the WPA Sections on Humanities in Psychiatry and on Classification, Diagnostic Assessment and Nomenclature*)

SS13. Family functioning and family interventions in axis I and axis III disorders (*Organized by the WPA Section on Family Research and Intervention*)

SS14. Predictors of response to therapies for eating disorders (*Organized by the WPA Section on Eating Disorders*)

SS15. Psychiatric issues in psycho-oncology: a challenge for the new millennium (*Organized by the WPA Section on Psycho-oncology*)

SS16. Treatment of eating disorders in psychoanalytically informed psychiatry (*Organized by the WPA Section on Psychoanalysis in Psychiatry*)

SS17. Biological correlates of disturbed sleep (*Organized by the WPA Section on Psychiatry and Sleep Wakefulness Disorders*)

SS18. Treatment research on eating disorders (*Organized by the WPA Section on Eating Disorders*)

SS19. Psychopathology and treatment (*Organized by the WPA Section on Clinical Psychopathology, in collaboration with the Section on Psychopathology of the European Psychiatric Association, AEP*)

SS20. Childhood sexual abuse, paraphilias and sex offence: are they related? (*Organized by the WPA Section on Psychiatry and Human Sexuality*)

SS21. Labour, law and disability

(*Organized by the WPA Section on Forensic Psychiatry*)

SS22. European psychiatry from 1800 to 2004: institutions, concepts and policies (*Organized by the WPA Section on History of Psychiatry*)

SS23. Psychiatry, law and ethics (*Organized by the WPA Section on Psychiatry, Law and Ethics*)

SS24. Interventions in disasters (*Organized by the WPA Section on Military and Disaster Psychiatry*)

SS25. The role of the psychiatrist in the HIV/AIDS epidemic (*Organized by the WPA Section on Urban Mental Health, in collaboration with the American Psychiatric Association, APA*)

SS26. Psychophysiological characterization of mental disorders: therapeutic implications (*Organized by the WPA Section on Psychoneurobiology*)

SS27. Access to care impediments: African, American and European experiences (*Organized by the WPA Sections on Conflict Management and Resolution; on Women's Mental Health; on Psychiatry, Medicine and Primary Care; and on Occupational Psychiatry*)

SS28. Military psychiatry (*Organized by the WPA Section on Military and Disaster Psychiatry*)

SS29. Quality improvement: practice guidelines and suicide prevention (*Organized by the WPA Section on Quality Assurance in Psychiatry*)

SS30. New perspectives on neuroimaging in schizophrenia (*Organized by the WPA Section on Neuroimaging in Psychiatry*)

SS31. Well-being and quality of life in the 21st century (*Organized by the WPA Section on Mass Media and Mental Health*)

SS32. Ecological changes and mental distress: therapeutic perspectives (*Organized by the WPA Sections on Ecology, Psychiatry and Mental Health, and on Mass Media and Mental Health*)

SS33. Topics of prevention: evidence and research (*Organized by the WPA Section on Preventive Psychiatry*)

SS34. Updating suicidology (*Organized by the WPA Section on Suicidology*)

SS35. Psychoimmunology: evidence and perspectives (*Organized by the WPA Section on Immunology and Psychiatry*)

SS36. Evolutionary psychopathology: toward empirical and epigenetic explanations (*Organized by the WPA Section on Psychotherapy*)

SS37. Intervention strategies for mental retardation: an integrative approach (*Organized by the WPA Section on Mental Retardation*)

SS38. The use of psychoanalysis in today's urban mental health settings (*Organized by the WPA Sections on Urban Mental Health and on Psychoanalysis in Psychiatry*)

SS39. Violence against women across cultures (*Organized by the WPA Section on Women's Mental Health*)

SS40. Genetics and psychopathology of suicidal behaviours (*Organized by the WPA Section on Suicidology*)

SS41. The MIND clinical imaging consortium: a multimodality collaborative study of schizophrenia (*Organized by the WPA Section on Neuroimaging in Psychiatry*)

SS42. Rehabilitation of torture victims and the problems of these victims from the psychiatrist's viewpoint (*Organized by the WPA Section on Psychological Consequences of Torture and Persecution*)

SS43. Depression associated with medical conditions in primary care and other settings (*Organized by the WPA Section on Psychiatry, Medicine and Primary Care*)

SS44. Transcultural psychiatry in Europe: something is going on (*Organized by the WPA Section on Transcultural Psychiatry*)

SS45. Positive and negative impact of new technologies in psychiatric sciences (*Organized by the WPA Section on Informatics and Telecommunications in Psychiatry*)

SS46. The hidden burden of mental retardation (*Organized by the WPA Sections on Mental Health Economics and on Mental Retardation*)

SS47. Psychosis: meaning, mechanism and interpersonal consequences (*Workshop organized by the WPA Section on Psychoanalysis in Psychiatry, in collaboration with the International Society for the Psychological Treatment of Schizophrenia and other Psychoses, ISPS*)

SS48. The relevance of neuropsychophysiological research to psychiatric treatment (*Organized by the WPA Section on Psychophysiology*)

SS49. Attention-deficit/hyperactivity disorder in primary care (*Organized by the WPA Section on Psychiatry, Medicine and Primary Care*)

SS50. Violence: a man made disaster (*Organized by the WPA Section on Psychological Consequences of Torture and Persecution*)

SS51. Substance abuse and the family (*Organized by the WPA Section on Addiction Psychiatry*)

SS52. Settings and techniques of intervention in emergency psychiatry: a comparison of different models (*Organized by the WPA Section on Emergency Psychiatry*)

SS53. Common mental disorders in private practice (*Organized by the WPA Section on Private Practice*)

SM1. Hormonal treatment of menopausal women (*Meet-the-expert session organized by the WPA Section on Interdisciplinary Collaboration*)

SF1. How psychoanalysis can help psychiatric institutions to deal with patients' families (*Forum organized by the WPA Section on Psychoanalysis in Psychiatry*)

Zonal Symposia

ZS1. Interdisciplinary approaches to treatment of mental disorders: the experience of Eastern Europe (*Organized by the WPA Eastern Europe Zone*)

ZS2. Partnership in mental health care in Africa (*Organized by the WPA Southern and Eastern Africa Zone*)

ZS3. Mental health and psychiatry in Latin America (*Organized by the WPA Southern South America Zone*)

ZS4. Developing the identity of the contemporary European psychiatrist (*Organized by the WPA Western Europe and Northern Europe Zones*)

ZS5. Administration of health services and educational programs in Latin America (*Organized by the WPA Northern South America; and Mexico, Central America and Caribbean Zones*)

ZS6. Perspectives on psychotherapy from the US (*Organized by the WPA United States of America Zone*)

ZS7. Mental health services in North Africa (*Organized by the WPA Northern Africa Zone*)

ZS8. Psychiatry in Central European countries within the process of affiliation to the European Union (*Organized by the WPA Central Europe Zone*)

ZS9. Mental health and primary care services working together: the Canadian experience (*Organized by the WPA Canada Zone*)

ZS10. Modern and traditional treatments in the context of a developing country (*Organized by the WPA Western and Central Africa Zone*)

ZS11. Community psychiatry in the Mediterranean region and the role of psychiatric associations (*Organized by the WPA Southern Europe Zone*)

Workshops

WO1. Disasters, terrorism and trauma

WO2. Training in psychiatric treatment in different European countries

WO3. Diagnosis and treatment of catatonia

WO4. HIV/AIDS and psychiatric disorders

WO5. Methodological challenges in non-industry-sponsored multicenter clinical trials

WO6. Diagnosing and treating social phobia

WO7. Comparing mental health and risk factors across European Union countries

WO8. International perspectives

on coercive treatment in psychiatry

WO9. Recent advances in brain imaging of drug abuse

WO10. Successful implementation of evidence-based family treatment for mental disorders

WO11. Suicide prevention in major psychoses: risk factors and role of long-term treatment

WO12. The GABA neuron and schizophrenia morbidity: treatment implications

WO13. International perspectives on mental health services for youth in prison

WO14. European guidelines on privacy and confidentiality in health-care

WO15. Court-ordered psychiatric treatment in New York City

WO16. The prevalence of mental disorders in Europe and Italy: results of the European Study of Epidemiology of Mental Disorders (ESEMED)

WO17. Psychiatric therapies in movies

WO18. The atypical psychoses: from psychopathology to neurobiology

WO19. Epidemiology, clinical picture and treatment of childhood depression

WO20. How to organize a scientific congress

WO21. Treatments in psychiatry: young psychiatrists' knowledge and attitudes in various countries

WO22. Strategies for psychotropic drugs of the future

WO23. Current approaches to severe personality disorders

WO24. Targeted combination of drugs or polypharmacy? Evidence for and against combined drug treatment

WO25. Perspectives in psychiatric training: implications for treatment

WO26. Psychotherapy for childhood depression: a cross-national European study

WO27. Treatment of limits, limits of treatment

WO28. Involving patients and families in integrated psychiatric treatments

WO29. Mental health issues in HIV/AIDS

WO30. Implementation of psychoeducational interventions for schizophrenia in routine clinical settings

WO31. The evolution of community psychiatry in Italy

WO32. Predicting response to antipsychotics and antidepressants by functional imaging

WO33. Treatment of personality disorders: new perspectives

WO34. Biological correlates and treatment of pathological gambling

WO35. Psychiatry in the countries of Eastern Europe and the Balkans: similarities and differences

WO36. Autism in schizophrenia, today

WO37. Clinical research on impulsivity: new developments and directions for possible treatments

WO38. Teaching and learning core competencies of basic consultation/liaison psychiatry

WO39. The current role of psychotherapy in graduate psychiatric training

WO40. Innovative approaches to outcome assessment of psychosocial interventions in severe mental disorders

WO41. How to improve adherence to psychiatric treatments

WO42. Obsessive-compulsive disorder: from serotonin to other monoamines and back again

WO43. Guideline development and implementation in psychiatry

WO44. The current management of Alzheimer's disease

WO45. Coming-out and health care for young homosexuals

WO46. Cognitive dysfunction in schizophrenia: from evaluation to treatment

WO47. Early psychosis: new strategies for prevention and rehabilitation

WO48. Therapeutic factors in the different psychotherapeutic methods

WO49. Update on research in psychiatric treatment issues for lesbian, gay, bisexual and transgender patients

WO50. Psychiatry in forensic settings

WO51. Pharmacological and non-pharmacological treatment issues for

schizophrenia in Korea

WO52. Inpatient treatment of personality disorders

WO53. An integrated research-based approach to treating first episode psychosis

New Research Sessions

NRS1. Psychotic disorders (I)

NRS2. Primary care and liaison psychiatry

NRS3. Community psychiatry (I)

NRS4. Biological research

NRS5. Mood disorders (I)

NRS6. Improving psychiatric practice

NRS7. Personality disorders and aggressive behaviour

NRS8. Psychotic disorders (II)

NRS9. Mood disorders (II)

NRS10. Psychotic disorders (III)

NRS11. Child and adolescent psychiatry (I)

NRS12. Psychotic disorders (IV)

NRS13. Child and adolescent psychiatry (II)

NRS14. Cultural and preventive psychiatry

NRS15. New and traditional approaches in mental health care in developing countries

Poster Sessions

PO1. Psychotic disorders

PO2. Mood, anxiety and eating disorders; child psychiatry; substance abuse

PO3. Old age, consultation-liaison and forensic psychiatry; psychiatric services; psychotherapies

Sponsored Symposia

SAS1. Free your patients from depression: treating the spectrum of symptoms (*Organized by the Lilly/Boehringer Ingelheim Alliance*)

SAS2. Escitalopram: innovation through evolution (*Organized by Lundbeck and Innova Pharma*)

SAS3. Controversies and consensus in the management of bipolar depression (*Organized by Glaxo-SmithKline*)

SAS4. Novel ways to understand depression (*Organized by Servier*)

SAS5. The psychiatric patient: new treatment perspectives across the lifespan (*Organized by Janssen-Cilag*)

SAS6. Beyond depression and anxiety: understanding treatment myths and facts (*Organized by Pfizer*)

SAS7. Integrating science and medicine: strategies for the management of bipolar disorder (*Organized by Lilly*)

SAS8. Clinical strategies in managing schizophrenia and bipolar disorder (*Organized by AstraZeneca*)

SAS9. The many phases of bipolar disorders: epidemiology and management (*Organized by Sanofi-Synthelabo*)

SAS10. Attention-deficit/hyperactivity disorder (ADHD), a life-long impairing disorder: an international perspective (*Organized by Lilly*)

SAS11. Role of antipsychotics in the treatment of bipolar disorder: from acute symptom control to long-term management (*Organized by Pfizer*)

SAS12. The boundaries of anxiety (*Organized by Abbott*)

SAS13. Maintaining global patient health in the treatment of psychiatric disorders (*Organized by Bristol-Myers Squibb/Otsuka Pharmaceutical Co.*)

SAS14. Raising the bar in the treatment of patients with mood and anxiety disorders (*Organized by Wyeth*)

Sponsored Meet-the-Expert Sessions

SME1. New treatments for depressive disorders (*Organized by Lilly*)

SME2. Changing the paradigm in treating schizophrenia (*Organized by Janssen-Cilag*)

SME3. Management of schizophrenia: hypotheses and solutions (*Organized by AstraZeneca*)

SME4. May all atypical antipsychotics be regarded as equal? (*Organized by Lilly*)

SME5. Gender differences in bipolar disorders (*Organized by Glaxo-SmithKline*)

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