World Psychiatry

OFFICIAL JOURNAL OF THE WORLD PSYCHIATRIC ASSOCIATION (WPA)

Volume 9, Number 2 *June 2010*

ELSEVIER

FIRST IMPACT FACTOR: 3.896

ISSN 1723-8617

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World Psychiatry

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2. McRae TW. The impact of computers on accounting. London: Wiley, 1964.
3. Fraeijs de Veubeke B. Displacement and equilibrium models in the finite element method. In: Zienkiewicz OC, Hollister GS (eds). Stress analysis. London: Wiley, 1965:145-97.

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Managing Director - Vincenzo Coluccia (Italy)
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Published by Elsevier S.r.l., Via P. Paleocapa 7, 20121 Milan, Italy.

***World Psychiatry* is indexed in PubMed, Current Contents/Clinical Medicine, Current Contents/Social and Behavioral Sciences, Science Citation Index, and EMBASE.**
All back issues of *World Psychiatry* can be downloaded free of charge from the PubMed system (http://www.pubmedcentral.nih.gov/tocrender.fcgi?journal=297&action=archive).

Mistakes to avoid in the implementation of community mental health care

Mario Maj

President, World Psychiatric Association

In this issue of the journal, we publish the first WPA guidance produced as part of the WPA Action Plan 2008-2011 (1,2), dealing with steps, obstacles and mistakes to avoid in the implementation of community mental health care. Two further documents are almost ready and will soon appear in the journal: the WPA guidance on how to combat stigmatization of psychiatry and psychiatrists, and the WPA guidance on mental health and mental health care in migrants.

The guidance we present in this issue can be regarded as a "second-generation" document in the area of community mental health care, because it takes advantage of the experience of the countries in which the development of community care has been most active, to point out not only what should to be done to implement the process, but also the errors which should not be repeated.

In this latter respect, the document contains several important statements, which I will now list and discuss briefly.

A balanced care model

The guidance affirms unambiguously that our objective should not be the complete, although gradual, shifting from hospital-based to community-based psychiatric care, but "the reform of mental health services according to an evidence-based approach, balancing and integrating elements of both community and hospital services". We have learnt from experience that public hospital beds are necessary in psychiatry (i.e., it is not true, as sometimes asserted, that "psychiatry does not need any beds"). While community mental health care is developed, the dignity and quality of hospital care must be secured. Hospital and community services have to be integrated, in order to ensure continuity of care, and the general hospital should be a place where psychiatry actively interacts with other medical specialties.

Preserving psychiatrists' clinical skills

The guidance states explicitly that there is a need to "cultivate psychiatrists' clinical skills, so that they are preserved in spite of the variety of new commitments". A psychiatrist who has become a first-class expert in furnishing residences in the community, but is not able to diagnose an organic psychosis or to plan the treatment of a girl with anorexia nervosa, should not be proud of himself. In order to be really useful to the community (and to other professionals, whom they are supposed to train), psychiatrists have to bring to the community their clinical expertise. The practice of community care will certainly enrich psychiatrists' skills, but the new skills will have to be added to the traditional ones, not to replace them.

Avoiding an exclusive focus on psychotic conditions

The guidance mentions, among the "issues that may compromize the integrity of community based services", "an exclusive focus on psychotic conditions, so that the vast majority of people with mental disorders are neglected or dealt with by professionals who do not have the appropriate expertise". A community mental health service with an identified catchment area whose human resources are almost exclusively used to address all the needs of twenty or thirty chronic psychotic patients, while all other people with mental disorders in the catchment area are even not aware of the existence of the service, is not really fulfilling its mandate. The appropriate resources and synergies must be developed in order to ensure an adequate coverage of the whole range of mental disorders existing in the community.

Protecting patients' physical health

The guidance is probably the first of its kind to highlight the neglect of patients' physical health as an issue which may compromize the integrity of community based services. Indeed, the fact that professionals of a community service are not motivated to deal with physical problems of their patients, or that the service is far away from any hospital, is not a good reason to allow deterioration of patients' physical health. The appropriate synergies with general practitioners in the relevant catchment area must be developed. Furthermore, the fact that antipsychotic medications are not regarded by the staff of the service as the most essential ingredient of care is not a good reason to use them irrationally or to ignore currently available guidelines aimed to prevent and address their side effects.

An evidence-based approach

The guidance repeatedly emphasizes the need for an evidence-based practice in the community. Indeed, the development of community care is often driven by passion and enthusiasm, but passion and enthusiasm are not sufficient to manage mental disorders. These disorders require evidence-based interventions, which must be available in all community mental health services. Community care cannot be a continuing, unlimited experiment (and experimentation has its rules, which should apply also to this case). Furthermore, it should be clear that community care "can allow treatment to be offered to a patient, but is not the treatment itself" (3). What is actually done in the community is not a marginal issue; it is the essence of the problem.

Avoiding linkage of mental health care with narrow political interests

The guidance affirms that "a common mistake is linking inappropriately the reform of mental health care with narrow ideological or party political interests". This bold statement, which appears for the first time in a document of this kind, will certainly be welcome by many psychiatrists. Ideological fanaticism has been, in fact, in several countries a major source of derailment of the process of development of community care and of division of the mental health movement.

The need for a carefully considered sequence of events

The guidance emphasizes the need for "a carefully considered sequence of events linking hospital bed closure to community service development". Indeed, it is not uncommon that hospital-based services are closed without sustainable alternatives in the community. The transfer of chronic patients from a very "visible" public mental hospital, which *must* be closed, to "invisible" (and uncontrolled) private facilities has been unfortunately a not rare modality of deinstitutionalization. For thousands of other people, as repeatedly reported in the literature, the landing place has been a street or a prison.

Long-term planning is essential

The guidance clearly and repeatedly points out that the implementation of community mental health care requires a strong and continuing commitment by the relevant administrations, and that planning (including investments in terms of facilities, staff and training) should be made on a long-term basis. Furthermore, a long-term monitoring of the process is essential, and such indicators as suicide rates, family burden and mental health problems in prison populations should be continuously evaluated, in addition to patients' clinical outcomes, perceived quality of life and satisfaction with care.

The importance of psychosocial rehabilitation and social inclusion

The guidance repeatedly mentions psychosocial rehabilitation and social inclusion of people with mental disorders as crucial aspects of community mental health care. Having transferred a chronic patient from a mental hospital to a residence in the community, where he will stay forever, is not sufficient, if the patient is left there with just a minimal basic assistance.

Empowerment of families is a priority

The need to involve carers, as well as users, in the process of development of community mental health care is repeatedly emphasized in the guidance. Indeed, it has happened too often that families of discharged patients with severe mental illness have been left alone with their problem, without any kind of practical and emotional support. Overlooking or minimizing this issue is unjust and dishonest, especially since evidence-based family interventions are now available and have been proved to be effective.

The WPA supports the development of community mental health care worldwide, so that people with mental disorders can have services available as close as possible to their locality, can be treated in the least restrictive environment, and can maintain their links with the community. We expect the implementation of community mental health care to improve patients' clinical outcomes, perceived quality of life and satisfaction with care. On the other hand, there are lessons we have learnt from the experience of those countries in which the development of community care has been most active in the past few decades. By this guidance, the WPA intends to bring these lessons to the attention of psychiatrists (as well as other professionals and policy makers) of countries in which the process has just started or is going to start in the near future.

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WPA guidance on steps, obstacles and mistakes to avoid in the implementation of community mental health care

Graham Thornicroft[1], Atalay Alem[2], Renato Antunes Dos Santos[3], Elizabeth Barley[1], Robert E. Drake[4], Guilherme Gregorio[3], Charlotte Hanlon[2], Hiroto Ito[5], Eric Latimer[6], Ann Law[1], Jair Mari[3], Peter McGeorge[7], Ramachandran Padmavati[8], Denise Razzouk[3], Maya Semrau[1], Yutaro Setoya[5], Rangaswamy Thara[8], Dawit Wondimagegn[2]

[1]Health Service and Population Research Department, Institute of Psychiatry, King's College London, UK; [2]Department of Psychiatry, Faculty of Medicine, Addis Ababa University, Addis Ababa, Ethiopia; [3]Department of Psychiatry, Universidade Federal de São Paulo, Brazil; [4]Dartmouth Psychiatric Research Center, Lebanon, NH, USA; [5]National Institute of Mental Health, National Centre of Neurology and Psychiatry, Tokyo, Japan; [6]Douglas Mental Health University Institute and McGill University, Montreal, Canada; [7]New Zealand Mental Health Commission, Wellington, New Zealand; [8]Schizophrenia Research Foundation (SCARF), Chennai, India

This paper provides guidance on the steps, obstacles and mistakes to avoid in the implementation of community mental health care. The document is intended to be of practical use and interest to psychiatrists worldwide regarding the development of community mental health care for adults with mental illness. The main recommendations are presented in relation to: the need for coordinated policies, plans and programmes, the requirement to scale up services for whole populations, the importance of promoting community awareness about mental illness to increase levels of help-seeking, the need to establish effective financial and budgetary provisions to directly support services provided in the community. The paper concludes by setting out a series of lessons learned from the accumulated practice of community mental health care to date worldwide, with a particular focus on the social and governmental measures that are required at the national level, the key steps to take in the organization of the local mental health system, lessons learned by professionals and practitioners, and how to most effectively harness the experience of users, families, and other advocates.

Key words: Community mental health care, balanced care model, mental health services, human rights, community awareness, human resources, psychiatrists, training, quality assurance

(World Psychiatry 2010;9:67-77)

In 2008 the WPA General Assembly approved the Action Plan of the Association for the triennium of the Presidency of Professor Mario Maj. One of the items of the Plan is the production of guidelines on practical issues of interest to psychiatrists worldwide (1,2). The present document, providing guidance on lessons learned and mistakes to avoid in the implementation of community mental health care, is part of that project. In subsequent publications we shall describe in more detail the particular challenges and solutions identified in the various regions worldwide.

Mental health problems are common, with over 25% of people worldwide developing one or more mental disorders at some point in their life (3). They make an important contribution to the global burden of disease, as measured by disability-adjusted life years (DALYs). In 2004, neuropsychiatric disorders accounted for 13.1% of all DALYs worldwide, with unipolar depressive disorder alone contributing 4.3% towards total DALYs. In addition, 2.1% of total deaths worldwide were directly attributed to neuropsychiatric disorders. Suicide contributed a further 1.4% towards all deaths, with 86% of all suicides being committed in low- and middle-income countries (LAMICs) each year (4). A systematic review of psychological autopsy studies reported a median prevalence of mental disorder in suicide completers of 91% (5). Life expectancy is lower in people with mental health problems than in those without (in some countries dramatically so) also due to their higher levels of physical illnesses (6). Mental health problems, therefore, place a substantial burden on individuals and their families worldwide, both in terms of diminished quality of life and reduced life expectancy. The provision of high-quality mental health care is vital in reducing some of this burden (7).

In this context, the aim of this report is to present guidance on the steps, obstacles and mistakes to be avoided in the implementation of community mental health care, and to make realistic and achievable recommendations for the development and implementation of community-oriented mental health care worldwide over the next ten years. It is intended that this guidance will be of practical use to psychiatrists and other mental health and public health practitioners at all levels, including policy makers, commissioners, funders, non-governmental organizations (NGOs), service users and carers. Although a global approach has been taken, the focus is mainly upon LAMICs, as this is where challenges are most pronounced.

WHAT IS COMMUNITY-ORIENTED MENTAL HEALTH CARE?

There are wide inconsistencies between, and even within, countries in how community-oriented care is defined and interpreted. Historically speaking, in the more economically developed countries, mental health service provision has been divided into three periods (8):

- The rise of the asylum (from around 1880 to 1955), which was defined by the construction of large asylums that were far removed from the populations they served.
- The decline of the asylum or "deinstitutionalization" (after around 1955), characterized by a rise in community-based mental health services that were closer to the populations they served.
- The reform of mental health services according to an evidence-based approach, balancing and integrating elements of both community and hospital services (8-10).

Within a "balanced care model", most services are provided in community settings close to the populations served, with hospital stays being reduced as far as possible, and usually located in acute wards in general hospitals (11). Differing priorities apply to low, medium and high resource settings:

- In low-resource settings, the focus is on establishing and improving the capacity of primary health care facilities to deliver mental health care, with limited specialist back-up. Most mental health assessment and treatment occurs, if at all, in primary health care settings or in relation to traditional/religious healers. For example, in Ethiopia, most care is provided within the family/close community of neighbours and relatives: only 33% of people with persistent major depressive disorder reach either primary health care or traditional healers (12,13).
- In medium-resource settings, in addition to primary care mental health services, an extra layer of general adult mental health services can be developed as resources allow, in five categories: outpatient/ambulatory clinics; community mental health teams; acute inpatient services; community-based residential care; and work, occupation and rehabilitation services.
- In high-resource countries, in addition to the above-mentioned services, more specialized ones dedicated to specific patient groups and goals may be affordable in the same five categories described for medium-resource settings. These may include, for instance, specialized outpatient and ambulatory clinics, assertive community treatment teams, intensive case management, early intervention teams, crisis resolution teams, crisis housing, community residential care, acute day hospitals, day hospitals, non-medical day centres, recovery/employment/rehabilitation services.

It is this balanced care model approach that has been taken here in considering community-oriented care. In low-resource settings, community-oriented care will be characterized by:

- A focus on population and public health needs.
- Case finding and detection in the community.
- Locally accessible services (i.e., accessible in less than half a day).
- Community participation and decision-making in the planning and provision of mental health care systems.
- Self-help and service user empowerment for individuals and families.
- Mutual assistance and/or peer support of service users.
- Initial treatment by primary care and/or community staff.
- Stepped care options for referral to specialist staff and/or hospital beds if necessary.
- Back-up supervision and support from specialist mental health services.
- Interfaces with NGOs (for instance in relation to rehabilitation).
- Networks at each level, including between different services, the community, and traditional and/or religious healers.

Community-oriented care, therefore, draws on a wide range of practitioners, providers, care and support systems (both professional and non-professional), though particular components may play a larger or lesser role in different settings depending on the local context and the available resources, especially trained staff.

FUNDAMENTAL VALUES AND HUMAN RIGHTS

Underpinning the successful implementation of community-oriented mental health care is a set of principles that relate on the one hand to the value of community and on the other to the importance of self-determination and the rights of people with mental illness as persons and citizens (14,15). Community mental health services emphasize the importance of treating and enabling people to live in the community in a way that maintains their connection with their families, friends, work and community. In this process it acknowledges and supports the person's goals and strengths to further his/her recovery in his/her own community (16).

A fundamental principle supporting these values is the notion of people having equitable access to services in their own locality in the "least restrictive environment". While recognizing the fact that some people are significantly impaired by their illness, a community mental health service seeks to foster the service user's self-determination and his/her participation in processes involving decisions related to his/her treatment. Given the importance of families in providing support and key relationships, their participation (with the permission of the service user) in the processes of assessment, treatment planning and follow-up is also a key value in a community model of service delivery.

Various conventions identify and aim to protect the rights of service users as persons and citizens, including the recently ratified United Nations (UN) Convention on the Rights of Persons with Disability (UNCRPD) (17) and more specific charters such as the UN Principles for the Protection of Persons with Mental Illness and for the Improvement of Mental Care adopted in 1991 (18).

The above-mentioned and other international, regional and national documents specify the right of the person to be treated without discrimination and on the same basis as other persons; the presumption of legal capacity unless incapacity can be clearly proven; and the need to involve persons with disabilities in policy and service development and in decision-making which directly affects them (18). This report has been written to explicitly align with the requirements of the UNCRPD and associated treaties and conventions.

METHODS USED BY THE WPA TASK FORCE

This guidance has been produced by taking into account the key ethical principles, the relevant evidence, and the combined experience of the authors and their collaborators. In relation to the available evidence, systematic literature searches were undertaken to identify peer-reviewed and grey literature concerning the structure, functioning and effectiveness of community mental health services or obstacles to their implementation. These literature searches were organized for most of the World Health Organization (WHO) Regions, reflecting the context of the report's main authors. There are limitations to this approach, in particular the WHO Eastern Mediterranean Region was not fully represented, and this report focuses upon adult mental health services. Accordingly, this guidance does not address the service needs of people with dementia or intellectual impairment, and of children with mental disorders.

Searches varied according to local expertise and resources. Medline was searched for every region. Other databases searched were EMBASE, PsycINFO, LILACS, SciELO, Web of Knowledge (ISI), WorldCat Dissertations and Theses (OCLC) and OpenSigle. Searches, adapted for each database, were for M.E.S.H. terms and text words relating to community mental health services and severe mental illness.

Other electronic, non-indexed sources, such as the WHO, Pan American Health Organization (PAHO), WPA, other mental health associations, and country-specific Ministry of Health websites, were also searched. Google was searched for PDFs published in European and African countries which contained the words "community mental health". Searches were limited to articles published in the languages spoken by the authors covering each WHO Region, and authors sought relevant advice from WHO Regional Advisors.

Electronic searches were supplemented by searches of the reference lists of all selected articles. Hand searches of issues from the past five years of three key journals relevant to Africa (African Journal of Psychiatry, South African Journal of Psychiatry, and International Psychiatry) were also conducted. In addition, key texts were identified: these included relevant papers and book chapters published by authors of the current work (19-24) and a special edition of the Lancet on Global Mental Health (25-29). WHO publications which provide information regarding community mental health services worldwide were also sourced (7,31-33).

For the Africa Region, original research was conducted in order to supplement published data. Twenty-one regional experts completed a semi-structured, self-report questionnaire concerning their experience in implementing community mental health care in sub-Saharan Africa (34). The experts were from 11 countries and one NGO active in several countries across sub-Saharan Africa.

COMMON ISSUES IDENTIFIED IN IMPLEMENTING COMMUNITY MENTAL HEALTH SERVICES

International and inter-cultural differences can play a significant role in shaping what mental health services are needed and possible within local settings (most particularly, the level of financial resources available (28)). Nevertheless, in preparing this report, we have been surprised to find that the most fundamentally important themes (both in terms of challenges and lessons learned) apply to many countries and regions. We therefore discuss next each of these key themes in turn.

Policies, plans and programmes

One challenge common to many countries worldwide is the difficulty in putting community mental health intentions into practice. We distinguish here between:

- National policy (or provincial or state policy in countries where health policy is set at that level): an overall statement of strategic intent (e.g., over a 5-10 year period) that gives direction to the whole system of mental health care.
- Implementation plan: an operational document setting out the specific steps needed to implement the national policy (e.g., what tasks are to be completed, by whom, by when, with which resources, and identifying the reporting lines, and the incentives and sanctions if tasks are completed or not completed).
- Mental health programmes: specific plans either for a local area (e.g., a region or a district) or for a particular sector (e.g., primary care) that specify how one component of the overall care system should be developed.

According to WHO's Mental Health Atlas (31), 62.1% of countries worldwide had a mental health policy, and 69.6% had a mental health programme in place in 2005 (with 68.3% and 90.9% of the global population covered respectively). Many of the countries without such policies were LAMICs. Even where comprehensive evidence-based mental health policies are in place, problems in implementing these policies are common (33,35). Some of the reasons may include health staff not complying with policies due to difficulties in accepting and implementing changing roles (33), the lack of accessible evidence-based information or guidelines for health staff, inadequate funding mechanisms, inadequate training of health care personnel, the lack of mechanisms for training and coaching health staff, poor supervision and support, and an overall lack of human resources (35). Detailed and highly practical implementation plans (taking into account available resources) are therefore necessary in enabling effective community mental health care provision.

Scaling up services for whole populations

A further challenge that needs to be addressed worldwide is the massive gap between population needs for mental health care (true prevalence of mental illness) and what is actually provided in mental health care (treated prevalence) (7), highlighting the importance of scaling up services for whole populations. The evidence concerning the substantial burden of mental disorders has not been translated into adequate investments in mental health care (29). The treatment gap is particularly pronounced in LAMICs, where commonly over 75% of people with mental disorders receive no treatment or care at all, and less than 2% of the health budget is spent on mental health (7). Whilst the high-income countries of the world have an average of 10.50 psychiatrists and 32.95 psychiatric nurses per 100,000 population (median figures), in low-income countries there are only 0.05 and 0.16 respectively (31). Furthermore, even within countries, the quality and level of services often vary greatly according to, for instance, patient group, location (with service provision usually being higher in urban areas), or socio-economic factors (3).

Similarly, only 10% of global mental health research is directed to the health needs of the 90% of population living in LAMICs, and only a fraction of this research activity is concerned with implementing and evaluating interventions and services (36). Methods to estimate resource needs are necessary in scaling up services. A systematic methodology for setting priorities in child health research has been developed taking into consideration that interventions should be effective, sustainable and affordable to reduce the burden of disease (37). A similar methodology was applied by the Lancet Global Mental Health Group, which focused on four groups of disorders whilst setting priorities for global mental health research: depressive, anxiety and other common mental disorders; alcohol- and other substance-abuse disorders; child and adolescent mental disorders; and schizophrenia and other psychotic disorders (30). It was recommended that interventions should be delivered by non-mental health professionals within existing routine care settings, and specialists should play a role in capacity building and supervision (38). A comprehensive review of packages of care for six leading neuropsychiatric disorders – attention/deficit hyperactivity disorder (ADHD), alcohol abuse, dementia, depression, epilepsy and schizophrenia – have also recently been proposed as means to extend treatment in LAMICs (20-24). An extensive set of treatment guidelines, also suitable for LAMICs, will be published by the WHO in 2010 as a part of their mhGAP programme. A survey of availability and feasibility of various treatments for the most prevalent mental disorders in the various age groups has been recently carried out by the WPA with its Member Societies (39).

Community awareness about mental illness

A further common barrier in identifying and treating mental disorders worldwide is the lack of awareness about them within communities, with stigma towards, and discrimination against, people with mental health problems being widespread. This is important, because effective awareness-raising campaigns can result in increased presentation of persons with mental illness to primary health care (40).

Three main strategies have been used to reduce public stigma and discrimination: protest, education, and social contact (41). Protest, by stigmatized individuals or members of the public who support them, is often applied against stigmatizing public statements, such as media reports and advertisements. Many protest interventions, for instance against stigmatizing advertisements or soap operas, have successfully suppressed negative public statements and for this purpose they are clearly very useful (42). However, it has been argued (41) that protest is not effective for improving attitudes toward people with mental illness.

Education interventions aim to diminish stigma by replacing myths and negative stereotypes with facts, and have reduced stigmatizing attitudes among members of the public. However, research on educational campaigns suggests that behaviour changes are often not evaluated.

The third strategy is personal social contact with persons with mental illness (43). For example, in a number of interventions in secondary schools, or with the police, education and personal social contact have been combined (44,45). Social contact appears to be the more efficacious part of the intervention. Factors that create an advantageous environment for interpersonal contact and stigma reduction may include equal status among participants, a cooperative interaction, and institutional support for the contact initiative (46).

For both education and contact, the content of programmes against stigma and discrimination matters. Biogenetic models of mental illness are often highlighted because viewing mental illness as a biological, mainly inherited, problem may reduce shame and blame associated with it. Evidence supports this optimistic expectation (i.e., that a biogenetic causal model of mental illness will reduce stigma) in terms of reduced blame. However, focusing on biogenetic factors may increase the perception that people with mental illness are fundamentally different, and thus biogenetic interpretations have been associated with increased social distance (47). Therefore, a message of mental illness as being "genetic" or "neurological" may be overly simplistic and unhelpful for reducing stigma. Indeed, in many LAMICs, conveying a message emphasizing the heritable nature of mental illness fuels stigma, for instance making marriage more difficult.

Anti-stigma initiatives can take place nationally as well as locally. National campaigns often adopt a social marketing approach, whereas local initiatives usually focus on target groups. An example of a large multifaceted national campaign is *Time to Change* in England (48). It combines mass-media advertising and local initiatives. The latter try to facilitate social contact between members of the general public and mental health service users as well as target specific groups such as medical students and teachers. The programme is evaluated by public surveys assessing knowledge, attitudes and behaviour, and by measuring the amount of experienced discrimination reported by people with mental illness. Similar initiatives in other countries, such as *See Me* in Scotland (49), *Like Minds, Like Mine* in New Zealand (50), or the WPA anti-stigma initiative (51), along with similar programmes in other countries, including Japan, Brazil, Egypt and Nigeria, have reported positive outcomes (40).

In sum, there is evidence for the effectiveness of measures against stigma and against discrimination (52). On a more cautious note, individual discrimination, structural discrimination and self-stigma lead to innumerable mechanisms of stigmatization. If one mechanism of discrimination is blocked or diminished through successful initiatives, other ways to discriminate may emerge (53,54). Therefore, to substantially reduce discrimination, stigmatizing attitudes and behaviours of influential stakeholders need to change fundamentally.

Developing powerful consensus for engagement

The collaborative engagement of a wide variety of supportive stakeholders is critical to successful implementation of community-oriented mental health care. It is important to have a systemic view of the change process. The support is needed of politicians, board members and health managers whose primary focus may not be on mental health, clinicians, key members of the community including NGO providers, service users and their families, and traditional and religious healers. To involve them in the imperative for change will require different strategies and a change management team that includes people with a variety of expertise. Overall, having clear reasons and objectives for the shift to community-oriented care is essential. Messages should be concise, backed by evidence and consistent.

Developing consensus for change requires a lot of work in meeting and communicating with people. The main means of communication need to include written material and opportunities to meet with stakeholder groups. Politicians and administrators will require a compelling business case. However, others will need summaries of plans, slide presentations and the opportunity to meet and work through proposals and concerns. E-mails and website information and surveys are now valuable supplements to the process. The emphasis must be on a willingness to communicate in good faith and to do so openly and honestly doing "what it takes" to convince people of the benefits of the change process.

It is important to bear in mind that in some cases prejudice and self-interest will have to be confronted. It is helpful, at the beginning of the process, to identify both those who are likely to support change, and those who are likely to oppose it. A willingness to listen to concerns and to find ways of incorporating them, if possible, into the planning and implementation process is essential because, when such an attitude is communicated, there is an opportunity for people to feel included in the process. That done, boldness and firmness will communicate to remaining detractors the seriousness of the intent to implement change; it will also encourage supporters to believe that their aspirations for better mental health care will be realized, and thus embolden them in turn.

Engaging stakeholders requires both formal and informal opportunities to meet, receive advice and work through issues. The establishment of reference groups early on in the change process is a key formal mechanism to achieving this. These should include all the key stakeholders, in particular service users, families, clinicians and service providers, with the latter being essential to facilitate integrated systems of care further on in the process. While it is important to structure the overall process with formal meetings and communications, it is also important to be willing to convene informal meetings upon request to "trouble-shoot" situations of concern. The consultation process should result in an amalgam of "bottom-up" and "top-down" contributions to the change process. Reports on progress are an essential way of maintaining trust and building excitement to the process of successful implementation.

It is also important to bear in mind that good mental health services have established processes for ensuring that the voices of service users, their families and community providers are heard on an ongoing basis. The aim is not simply to achieve discontinuous change, but to promote an ongoing quality improvement in which consumers of mental health services know they have a major stake. Without such effective and united consortia, policy makers may find it easy to disregard the different demands of a fragmented mental health sector, and instead respond positively to health domains (e.g., HIV/AIDS) which demonstrate the self-discipline of united approach with a small number of fully agreed priorities.

Mistakes to be avoided

Several key mistakes are commonly made in the process of attempting to implement community mental health care. First, there needs to be a carefully considered sequence of events linking hospital bed closure to community service development. It is important to avoid closing hospital-based services without having successor services already in place to support discharged patients and new referrals, and also to avoid trying to build up community services while leaving hospital care (and budgets) intact. In particular, there needs to be at each stage of a reform process a workable balance between enough (mainly acute) beds and the provision of other parts of the wider system of care that can support people in crisis.

A second common mistake is to attempt system reform without including *all* the relevant stakeholders. Such initiatives especially need to include psychiatrists, who may otherwise feel subject to "top-down" decision making and react, either in the interests of patients or in their own interests, by attempting to delay or block any such changes. Other vital stakeholders to be directly included in the process will often include policy makers and politicians, health service planners, service users and carers, service providers including those in state and private practice, national and international NGOs, and those working in alternative, complementary, indigenous and religious healing traditions, and relevant national and professional associations. Typically, those groups not fully involved in a reform process will make their views known by seeking to undermine the process.

A further common mistake is linking inappropriately the reform of mental health care with narrow ideological or party political interests. This tends to lead to instability, as a change of government may reverse the policies of their predecessors. Such fault lines of division or fragmentation may also occur, for example, between service reforms proposed by psychologists and psychiatrists, or between socially and biologically oriented psychiatrists, or between clinicians and service user/consumer groups. Whatever the particular points of schism, such conflicts weaken the chance that service reforms will be comprehensive, systemic and sustainable, and they also run the risk that policy makers will refuse to adopt proposals that are not fully endorsed by the whole mental health sector.

Additional issues that may compromize the integrity of community based services include: a) an exclusive focus of community services on psychotic conditions, so that the vast majority of people with mental disorders are neglected or dealt with by professionals who do not have the appropriate expertise; and b) the neglect of patients' physical health.

Payment for services

A fundamental component in the successful implementation of mental health service provision is that of funding (10). As indicated above, funding for mental health services in LAMICs tends to be very low. This may be due in part to a stigmatizing attitude toward mental disorders, and to an absence of the recognition of the economic benefits that can accrue from improved mental health care. Ideally, the share of its health funding that a country devotes to mental health care will be informed by careful consideration of the comparative health benefits of spending on alternative forms of care. The data needed to carry out such an analysis are, however, typically not available in LAMICs.

Furthermore, whatever funding there is also tends to be concentrated on inpatient services. Correcting this is, initially, a matter of budgetary re-allocation: using resources that could have been used for other purposes to increase funding for community-oriented care.

The issue then arises of how to pay public providers (hospitals, stand-alone programs, and possibly independent individual providers such as psychiatrists) for the services that they render. The simplest forms of payment are global budgets for facilities and programs, which may be carried over from year to year with minor adjustments for inflation, and salaries for individual providers. These simple payment mechanisms have the advantage of administrative simplicity. At the same time, they have at least two important drawbacks. First, they provide no incentive for increasing either the quantity or the quality of service provision. Second, population shifts are likely to cause the demand for the services of different providers to evolve and, without taking changes in local demand into account, inequities in payment across providers are likely to emerge and grow over time. This in turn will compromize access to overburdened providers, while possibly resulting in overprovision (e.g., excessive lengths of stay) by other providers. Accordingly, countries with the technical and administrative capacity to introduce more complex payment systems should consider doing so.

For hospitals, a fairly simple alternative which is applicable where care is sectorized is to modulate budgets on the basis of the population of the facility's catchment area. Countries with the technical capacity to do so may wish to adjust the payment level per person on the basis of socio-demographic variables known to be related to the need for inpatient mental health care (for example, poverty).

For hospitals that have overlapping catchment areas, a combination of prospective payment (payment on the basis of number of admissions) and retrospective payment (payment on the basis of bed-days actually provided) may be preferable to exclusive reliance on one or the other. Pure retrospective payment encourages overprovision of services; pure prospective payment, given the difficulty of assessing reliably the degree of need for care of a person admitted for a psychiatric condition, may encourage underprovision.

For stand-alone programs or individual providers, the two main options beyond a fixed budget or a salary are fee-for-service and capitation. Fee-for-service payment encourages a higher volume of services without regard to outcomes. If certain services (e.g., prescription of medications) are paid at a higher rate per unit time than others (e.g., psychotherapy), then fee-for-service payment will also influence the mix of services provided. In addition, fee-for-service payment tends to maximize contacts with patients who are less ill, more compliant, and easier to treat. Difficult or more severely ill patients receive less care unless payments are adjusted by severity – so-called case-mix adjustments. Efficient uses of clinical time such as telephone or computer contacts are ignored because they are not reimbursed.

Capitation payment encourages increasing the number of people served. It may lead to greater accountability for the care of specific patients. In and of itself, however, unless there is competition for patients across providers, it provides no incentive for quality. Furthermore, programmes often fill up to capacity and have difficulty shifting patients to less intensive services.

Countries with the technical and administrative capacity (and political leeway) to do so should consider introducing incentives for increasing quality, either for hospitals, programs, or individual providers. Following Donabedian's seminal work, quality is commonly conceptualized as related to structure, process and outcomes (55). Adjusting payments to hospitals, programs or individual providers on the basis of structure or process indicators (e.g., formal qualifications of staff, achievement of a certain score on a model fidelity scale) assumes that these indicators actually predict quality. To the extent that they do, providing incentives for achieving a high score on those indicators is likely to be beneficial, with a neutral effect on which types of patients the provider will seek to serve. Adjusting payments based on outcomes (for example, physiological indicators of metabolic syndrome, rehospitalisation rates, employment rates) has the advantage of being directly related to a system's ostensible goals. It encourages, however, selection of less ill patients. More research is needed on how to design effective systems for encouraging quality of community-oriented mental health care that are practicable in countries with more or less developed technical and administrative capabilities.

In sum, payment systems influence patient selection, quality and amount of treatments, and outcomes, in more or less favourable ways, and different ones require varying degrees of technical and administrative capacity to be implemented successfully. Determining the optimal system or combination of systems for a particular health care setting probably depends heavily on history, infrastructure, financial resources, human resources, and other factors.

Training staff, human resources and roles of psychiatrists

Human resources are the most critical asset in mental health service provision. The gradual transformation to community-based care has resulted in changes in the ways human resources have been utilized (56). The essential changes have been a reallocation of staff from hospital to community-based service settings, the need for a new set of competencies which include recovery and rehabilitation, and the training of a wider range of workers, including informal community care workers, within the context of the practical needs of a country (57). Further, in many LAMICs, trained psychiatrists work under conditions of heavy and relentless clinical activities, and may not have dedicated time during the week for any service development duties.

Another perspective to human resource development has been the increasing emphasis on integration of mental health into a primary care setting, thereby increasing access to the vast majority of the underserved. This has necessitated the training of general health staff in basic skills in mental health care such as detection of mental disorders, provision of basic care, and referral of complex problems to specialist care. In most developing countries, there is a need for a well-rounded generalist who is capable of coping with most psychiatric problems with little access to any mental health practitioner. Further important issues are lack of insurance, out of pocket expenses, and the economic burden falling on families.

The broadening scope and the shift to community-based mental health services introduce greater levels of complexity, affecting the role of psychiatrists, broadening it to areas such as promotion and social inclusion. Psychiatrists need to work in more settings, with more staff groups. Planning and management will take a more central place. Psychiatrists are seen to possess a unique expertise, and occupy leading positions in most countries, functioning as advisers to governments and chairing drafting groups that are responsible for the production of policies and action plans. There are countries where such groups comprise only psychiatrists. They have therefore a unique opportunity to shape the process of reform in the best interest of patients, families and carers, the public and staff.

While psychosocial rehabilitation is an important part of the overall process of successful management of chronic mental disorders, its practice is still rare compared to the use of medicines (58). In many developing countries, training is scarce for occupational therapists, psychologists or social workers. In countries with few psychiatrists, numerous medical, administrative and leadership duties leave psychiatrists little time to work with rehabilitation units. Even so, in many LAMICs other resources are available – e.g., strong family and community networks, faith groups, informal employment opportunities – that might be mobilized to support the rehabilitation of people with longer-term mental disorders.

Organization development, quality assurance and service evaluation

Initiation of community mental health care services generally requires strong leadership among stakeholders based on community-oriented care concepts. It is practical to learn from successful models by using basic tools including timetables, assessment forms, job descriptions, and operational policies (9).

Coaching and maintenance activities are needed to make services robust and sustainable. Manualization of operational procedures, reference materials and ongoing supervision are essential. As community-oriented care becomes established in several regions, service components are gradually standardized, and manualized standard care becomes available.

Quality assurance is feasible even in settings with limited resources. Quality monitoring can be incorporated into routine activities by selecting target services, collecting data, and using the results for system problem-solving and future direction. External evaluation takes place at different levels. Local government checks whether service providers meet the requirement of laws or acts, while payers focus on examining the necessity of services provided. Professional peers and consumers also participate in independent evaluation.

Since the primary purpose of mental health services is to improve outcomes for individuals with mental illness, it is crucial to assess outcomes of treatments and services. Also, the results can be used to justify the use of resources. More research is, therefore, needed to provide the best possible services that would directly link to better outcomes for those in need of care.

RECOMMENDATIONS

Drawing upon the literature reviewed by our WPA Task Force, and by our own accumulated experience, we have recognized a series of commonly occuring challenges and obstacles to implementing a community-oriented system of mental health care. At the same time we have identified related steps and solutions which may work in responding positively and effectively to these barriers (19,27), as set out in Table 1.

We recommend that people interested in planning and implementing systems of mental health care which balance community-based and hospital-based service components give careful consideration to anticipating the challenges identified here, and to learning the lessons from those who have grappled with these issues so far.

Table 1 Obstacles, challenges, lessons learned and solutions in implementing community-oriented mental health care

	Obstacles and challenges	Lessons learned and solutions
Society	Disregard for, or violation of, human rights of people with mental illness	- Oversight by: civil society and service user groups, government inspectorates, international NGOs, professional associations. - Increase population awareness of mental illness and of the rights of people with mental illness and available treatments.
	Stigma and discrimination, reflected in negative attitudes of health staff	- Encourage consumer and family/carer involvement in policy making, medical training, service provision (e.g., board member, consumer provider), service evaluation (consumer satisfaction survey).
	Need to address different models of abnormal behavior	- Traditional and faith-based paradigms need to be amalgamated, blended, or aligned as much as possible with medical paradigms.
Government	Low priority given by government to mental health	- Government task force on mental illness outlines mission as a public health agenda. - Mission can encompass values, goals, structure, development, education, training, and quality assurance for community-oriented mental health system from a public health perspective. - Establish cross-party political support for the national policy and implementation plan. - Effective advocacy on mental health gap, global burden of disease, impact of mental health conditions, cost-effectiveness of interventions, reduced life expectancy. - Use of WHO and other international agencies for advocacy, linking with priority health conditions and funds, positive response to untoward events. - Identifying champions within government who have administrative and financial authority.
	Absent or inappropriate mental health policy	- Advocate for and formulate policy based upon widespread consultation with the full range of stakeholder groups, incorporating a rationalized public health perspective based on population needs, integration of service components. - Consumer involvement in policy making.
	Absent, old or inappropriate mental health legislation	- Create powerful lobby and rationale for mental health law. - Modernize mental health law so that it is relevant to community-oriented care. - Watchdog or inspectorate to oversee proper implementation of mental health law.
	Inadequate financial resources in relation to population level needs	- Help policy makers to be aware of the gap between burden of mental illness and allocated resources, and that effective treatments are available, and affordable. - Advocate for improved mental health expenditure using relevant information, arguments and targets, e.g. global burden of disease, mhGAP unmet needs. - Recruit key political and governance champions to advocate for adequate funding of initiatives.
	Lack of alignment between payment methods and expected services and outcomes	- Design a system that directly relates required service components and financially reimbursable categories of care, e.g., for evidence-based practices. - Provide small financial incentives for valued outcomes. - Create categories of reimbursement consistent with system strategy. - Develop and use key performance indicators. - Reserve transitional cost to reallocate hospital staff to move to community.
	Need to address infrastructure	- Government to plan and finance efficient use of buildings, essential supplies and electronic information systems and other to direct, monitor, and improve the system and outcomes.
	Need to address structure of community-oriented service system	- Design the mental health system from local primary care to regional care to central specialty care and fill in gaps with new resources as funding grows.

Table 1 Obstacles, challenges, lessons learned and solutions in implementing community-oriented mental health care *(continued)*

	Obstacles and challenges	**Lessons learned and solutions**
Government	Inadequate human resources for delivery of mental health care in relation to the level of need in the population	- Assessment of population level needs for primary care and specialist mental health care services. - Build capacity of health workers engaged in providing general health care and mental health care in community. - Training current health and mental health professionals in community-oriented mental health care.
	Brain drain, failure to retain talent, staff retention, and weak career ladders	- UN agencies/international NGOs assure sustainability of their projects/programmes. - Exchange programmes between countries. - Set period of time medical students/registrars have to serve in their countries or rural areas. - Task shifting/function differentiating of psychiatrists to use their ability in their area of speciality. - Create financial incentives and reputation systems for psychiatrists who engage in community mental health. - Train other (less “brain drainable”) health professionals to deliver mental health care. - Payment for education may be attached to the allocation and preservation of resources to address equitable distribution and to prevent emigration without appropriate reimbursement.
	Non-sustainable, parallel programmes by international NGOs	- Close relations with ministries and other stakeholders and international NGOs. - Mental health plan in place, so NGOs can help achieve these goals sustainably. - Government to be proactive in collaborating with NGOs and private-public partnership.
Organization of the local mental health system	Need to design, monitor, and adjust organization of mental health system	- This includes plan for local, regional, and central mental health services based on public health need, full integration with primary care, rational allocation of multi-disciplinary workforce, development of information technology, funding, and use of existing facilities. All stakeholder groups can be involved in developing, monitoring, and adjusting plan. - Set implementation plan with clear coordination between services. - Development of policy/implementation plan with number of service needed per population. - Role differentiation of the hospital, community and primary care services, and private and public services, using catchment area/capitation system with flexible funding system. - Prioritization of target groups, especially people with severe and persistent mental illness.
	Lack of a feasible mental health programme or non-implementation of mental health programme	- Make programme highly practical by identifying resources available, tasks to be completed, allocation of responsibilities, timescales, reporting and accountability arrangements, progress monitoring/evaluation systems.
	Need to specify developmental phases	- Planners and professional leaders to design 5 and 10 year plans.
	Poor utilization of existing mental health facilities	- Improve awareness of benefits of facilities and services. - Specify pathways to care. - Inbuilt monitoring quality of care, especially process and outcome phases.
	Need to include non-medical services	- Include families, faith-based social services, NGOs, housing services, vocational services, peer-support services, and self-help services. All stakeholders involved in designing system. - Moving key tasks such as initial assessment and prescribing using a limited and affordable formulary to specially trained staff who are available at the appropriate local level. - Identify leaders to champion and drive the process. - More involvement in planning, policy making and leadership and management.
	Lack of multi-sectoral collaboration, e.g., including traditional healers, housing, criminal justice, or education sectors	- Development of clear policy/implementation plan by all stakeholders. - Collaborate with other local service to identify and help people with mental illness. - Provision of information/training to all practitioners. - Establish multi-sectoral advisory and governance groups. - Familiarization sessions between practitioners in the Western and local traditions.
	Poor availability or erratic supplies of psychotropic medication	- Educate policy makers and funders about the costs/benefits of specific medications. - Provide infrastructure for clozapine monitoring. - Monitoring prescribing patterns of psychotropic medication. - Drug revolving funds, public-private partnerships.
Professionals and practitioners	Need for leadership	- Psychiatrists and other professionals need to be involved as experts in planning, education, research, and overcoming inertia and resistance in the current environment.
	Difficulty sustaining in-service training/ adequate supervision	- Training of the trainers by staff from other regions or countries. - Shifting of some psychiatric functions to trained and available practitioners. - Lobby hard to ensure this is a priority and integral to the mental health plan.

Table 1 Obstacles, challenges, lessons learned and solutions in implementing community-oriented mental health care *(continued)*

	Obstacles and challenges	Lessons learned and solutions
Professionals and practitioners	High staff turnover and burnout, or low staff morale	- Introduction of recovery oriented services. - Collect case examples of recovery. - Build trust by involving staff leaders in oversight and decision making committees. - Sponsor social events to enable staff to team build in non-work situations. - Emphasize career-long continuing training programmes. - Training of supervisors. - Provide opportunities for attending out of area professional meetings. - Equip with sufficient skills and support.
	Poor quality of care/concern about staff skills	- Ongoing training and supervision. - Create and disseminate guidelines for professionals. - Cultivate psychiatrists' clinical skills, so that they are preserved in spite of the variety of new commitments. - Third party evaluation. - Encourage and reward quality by awards and similar processes.
	Professional resistance, e.g., to community-oriented care and service user involvement	- Government and professional societies promote the importance of community-oriented care and service user involvement. - Task shifting/function differentiating of psychiatrists to use their abilities more broadly in their area of speciality and work with a range of stakeholders including consumers and carers/families. - Develop training in recovery-oriented psychosocial rehabilitation as part of training of new psychiatrists, including at medical schools in LAMICs. - Collect case examples of recovery and successfully implemented community mental health initiatives.
	Dearth of relevant research to inform cost-effective services and lack of data on mental health service evaluation	- More funding on research, for both qualitative and quantitative evidence of successfully implemented examples of community-oriented care.
	Failure to address disparities (e.g., by ethnic, economic groups)	- All key stakeholders involved; advocacy for under-represented groups to develop policies and implementation plans.
Users, families, and other advocates	Need for advocacy	- Users and other advocates may be involved in all aspects of social change, planning, lobbying the government, monitoring the development and functioning of the service system, and improving the service system.
	Need for self-help and peer support services	- Users to lead these movements.
	Need for shared decision making	- Users and other advocates must demand at all levels that the system shift to value the goals of users and families and that shared decision making become the norm. - Continuing professional education on human rights and staff attitudes emphasizing attention to preferences of consumers and carers.

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Successful cognitive and emotional aging

Dilip V. Jeste, Colin A. Depp, Ipsit V. Vahia

Stein Institute for Research on Aging and Department of Psychiatry, University of California, San Diego, 9500 Gilman Drive, La Jolla, CA 92093, USA

We review the definitions, determinants, and ways of enhancing successful cognitive and emotional aging. Objective definitions of successful aging based on physical health emphasize outcomes including freedom from disability and disease, whereas subjective definitions center on well-being, social connectedness, and adaptation. Most older people do not meet objective criteria for successful aging, while a majority meet the subjective criteria. Older people with severe mental illness are not excluded from successful aging. The determinants of successful aging include complex interactions of lifestyle behaviors and social environment with genes. Depression interferes with nearly all determinants of successful aging. Evidence-based means of enhancing successful aging include calorie restriction, physical exercise, cognitive stimulation, social support, and optimization of stress. Future directions for successful aging research and implications for geriatric psychiatry are discussed.

Key words: Successful aging, physical exercise, cognitive stimulation, social support

(World Psychiatry 2010;9:78-84)

While most of the focus of psychiatry is rightfully placed on the definitions, mechanisms, and treatment of mental disorders, we believe it is equally worthwhile to investigate positive states of mental health, including successful cognitive and emotional aging.

Aging will become increasingly more relevant to psychiatry in the years to come, by virtue of the unprecedented global demographic redistribution toward older adults – for example, in the United States there are more older adults than children younger than 14 for the first time in recorded history (1). There will be a disproportionately greater rise in the numbers of older adults with psychiatric disorders (2). Preventing or slowing the progression of brain illnesses, including psychiatric disorders, represents one of the major challenges in the coming decades. Broadening our understanding of processes involved in successful aging can potentially help us develop innovative approaches to prevention of psychiatric illness and promotion of mental health.

In this review, we discuss the various ways in which successful aging has been defined, the evidence for predictors and mechanisms of successful aging, and interventions that may positively alter the course of aging in people with and without psychiatric disorders.

HOW IS SUCCESSFUL AGING DEFINED?

Although "successful aging" was not an explicit theme in the biomedical literature until the early 1960s (3), there have long been efforts to understand how to promote longevity and positive states of health in later life. The writings of ancient philosophers reveal disagreements in views of positive emotional outcomes in later life. Aging has been described as a largely intractable process (4) versus one involving possibilities for adaptation to new roles (5). Modern psychiatrists and psychologists considered later life either as a product of early developmental tasks (6) or as a period of continued growth and conflicts that had to be negotiated (7,8).

In the 1970s and 1980s, formal models of successful aging emerged. In their influential 1987 article, Rowe and Kahn (9) noted that research on aging was historically dominated by efforts to discriminate between pathological and "normal" aging, with little effort being devoted to understanding the upper end of the continuum (i.e., successful aging). Successful aging was characterized as involving three components: a) freedom from disease and disability, b) high cognitive and physical functioning, and c) social and productive engagement. The MacArthur Network on Successful Aging operationalized these criteria, and followed over a period of seven years a sample of 1000 older adults who met the criteria. Another prominant model of successful aging proposed around the same time period was that of Baltes (10), who described successful aging in terms of lifespan developmental trajectories, with a focus on behavioral and psychological adaptation to losses.

During the subsequent two decades, there have been a number of epidemiological studies that have examined the population frequency and predictors of successful aging using various operationalized definitions. Depp and Jeste (11) identified 28 studies with sample sizes greater than 100, published in English-language journals, and including adults over age 60. Across the operational definitions provided in these studies, there were 14 components of successful aging used. Physical functioning and freedom from disability were included in nearly every definition, but no other component was present in more than 50% of the studies. Overall, in 28 studies there were 29 different definitions used for successful aging. Therefore, little agreement existed among researchers regarding the elements of successful aging, beyond physical functioning.

A smaller subset of studies has used qualitative methods (e.g., focus groups, surveys, personal interviews) to identify the components of successful aging (12-14). These studies provide an interesting contrast to quantitative studies, which focused more on physical and functional attributes. In qualitative studies, older adults were much more likely to emphasize adaptation to illnesses and other psychological traits (e.g., optimism; sense of purpose) as well as engagement (e.g., social relationships) in their concepts of successful aging. Among qualitative studies, the perspectives of older adults appeared to differ somewhat by the method used (e.g., focus groups emphasized shared experiences related to aging (13), whereas individual interviews focused more on developmental trajectories) and by culture of origin (e.g., older Japanese people cited belonging vs. American emphasis on independence (15)).

Just as successful aging defies consensus definition, parallel efforts to define positive states in psychiatric conditions have also proven challenging. As with successful aging, there is a tension between models of "sustained remission" in chronic mental illness and those of "recovery" (16). The former term corresponds to freedom from syndromal levels of symptoms associated with functional impairments for a period of time (e.g., 2 years), whereas definitions of recovery center on adaptation to enable attainment of goals (e.g., "a journey of healing and transformation enabling a person … to live a meaningful life in a community of his or her choice while striving to achieve his or her full potential" (17). Recovery, like subjectively defined successful aging, is less of an outcome than a process, is more personalized, and does not require an absence of symptoms or illness.

The limited consensus on successful aging or recovery from psychiatric disorders reflects some of the difficulties in defining positive states. In part this difficulty stems from a lack of clinical or policy imperatives to attain consensus such as those required to define diagnostic terms. Another difficulty in delineating positive states from others is that some individuals are excluded from being categorized as "successful". Nevertheless, there are some areas of agreement. Definitions of successful aging, remission, and recovery are all multi-dimensional and integrate multiple domains (e.g., physical, cognitive, emotional, and social functioning). Subjective definitions tend to represent processes and emphasize attainment or maintenance of goals, positive attitudes toward the self and future, and attainment of social milestones and connectedness. Objective definitions tend to emphasize freedom from disease and disability. In terms of trajectories, successful aging definitions tend to emphasize mitigating deterioration, whereas recovery or remission represents lengthening periods of inter-episode wellness.

HOW COMMON IS SUCCESSFUL AGING?

Given the lack of consensus on what constitutes successful aging, it is of little surprise that estimates of its frequency in the community vary widely. Nevertheless, there are interesting trends in the reported rates of successful aging depending on the components of the definitions as well as the source of the assessment. In the review of 28 studies described above, the rate of successful aging in researcher-defined studies (11) ranged from 0.4% to 96%. The median percentage of people who met criteria for successful aging was 35%. This is similar to that seen in the MacArthur Network on Successful Aging, in which one third of older adults met the operationalized Rowe and Kahn criteria for successful aging (18). Aggregating across the studies reviewed, the more components included in the model, the lower the rate of successful aging. In examining the contribution of individual components of successful aging to overall rate, it is apparent that the presence of disability or chronic disease is more often the rate-limiting factor, whereas most older adults sampled were socially engaged and had relatively unimpaired cognitive functioning.

Relatively few studies have asked older adults to rate themselves in terms of successful aging. In such a study of 205 community dwelling older adults, Montross et al (19) noted that most older adults viewed themselves as aging successfully, despite having physical illnesses and disability. In a study that expanded on this finding, we administered a survey questionnaire to a sample of 1,979 women over age 60, who were enrolled in the San Diego site of the Women's Health Initiative (20). Respondents were asked to rate themselves on a scale from 1 (not successful) to 10 (very successful). As seen in Figure 1, the vast majority of older people rated themselves with a score of 7 or higher, with only a small percentage of people rating themselves as "unsuccessful". That most people rated themselves as aging successfully, even when they did not meet objective criteria for successful aging (Table 1), is consistent with several other studies (14,21).

Little is known about rate of successful aging in persons with severe mental illness. In schizophrenia, long-term follow up studies led by Bleuler (22), Harding (23), and Ciompi (24) indicate that, in contrast to earlier assumptions about progressive deterioration, a majority of patients experience significant improvement in later life. More recently, Bellack estimated that 50% of people with schizophrenia attain at least short-lasting recovery during their lifetime (16).

This estimate is higher than that associated with sustained remission (i.e., freedom from symptoms for two years or longer): in a sample of 251 older adults with schizophrenia, Aus-

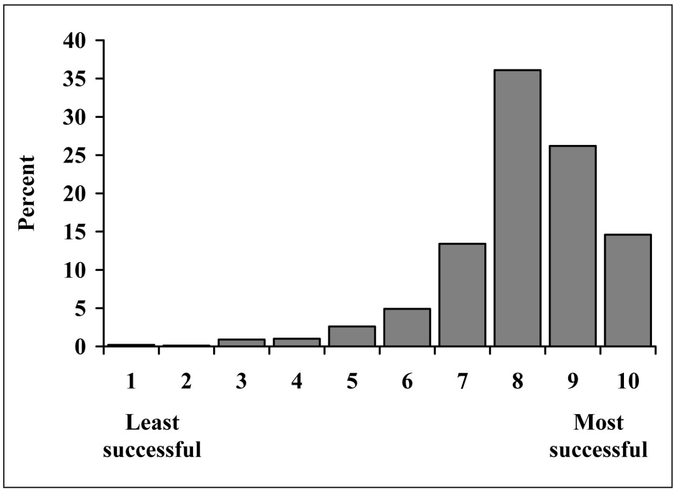

Figure 1 Distribution of self-rated successful aging in older women (n=1,979)

Table 1 Percent of sample (n=1,979) meeting criteria for domains of successful aging

Domain	Operational definition	% of sample meeting criteria
Absence of disease[a]	Absence of self-reported cancer, diabetes, high blood pressure, heart attacks, other heart disease, stroke, osteoporosis, Parkinson disease, and respiratory disease[b]	15%
Freedom from disability	SF-36 scores of "no limitation" in the ability to a) lift or carry groceries, b) climb one flight of stairs, c) bend/kneel/stoop, d) walk one block, or e) bath/dress oneself[b]	38%
Normal cognitive functioning	Score of 18 or higher on self-administered Cognitive Assessment Screening Test	71%
Active engagement with life	Visiting family and/or friends at least once a week *and* having three or more close friends[b]	74%
Mastery/growth	Score of "often true" or "true nearly all of the time" on the item "I am in control of my life"[c]	81%
Positive adaptation	Score of "often true" or "true nearly all of the time" on the following two items: a) "I am able to adapt to change," and b) "I tend to bounce back after illness or hardship"[c]	81%
Life satisfaction	Score of at least 73 on the SF-36 emotional health/well-being subscale	84%
Self-rated successful aging	Score ranging from 7–10 on a 1–10 scale item asking "Where do you rate yourself in terms of successful aging?"[b]	90%
Independent living	Living independently in own home or retirement community; not residing in a skilled nursing facility[d]	94%

SF-36 – Short Form 36

[a] As outlined by Phelan and Larson (64) literature review of successful aging

[b] Modeled after the Strawbridge et al. (21) operational definition of successful aging; % is reported from Montross et al (19) sample

[c] Items derived from the Connor-Davidson Resilience Scale (CD-RISC) (36)

[d] Living independently used by Roos and Havens (65)

lander et al (25) found a sustained remission rate of about 10%. In a study of older persons with schizophrenia, Cohen et al (26) compared outcomes using five separate positive constructs: recovery, remission, community integration, subjective successful aging, and objective successful aging. In this study, the authors compared schizophrenia patients with an age-matched community dwelling control group of older persons without major mental illness. In the schizophrenia group, 23% met criteria for community integration (vs. 41% of comparison group), 13% met criteria for subjective successful aging (vs. 27% of comparison group), and only 2% met full criteria for objective successful aging (vs. 19% of comparison group).

On the basis of this evidence, it seems likely that only a small proportion of older adults are aging successfully according to objective criteria based on physical health, whereas a remarkably high percentage believe they are aging successfully and meet other psychosocial criteria for successful aging. Similarly, while a minority of older people with schizophrenia experience sustained remission from symptoms, far fewer appear to meet objective criteria for successful aging.

WHAT ARE THE DETERMINANTS AND MODIFIERS OF SUCCESSFUL AGING?

In epidemiological studies, the predictors of successful aging, as defined by objective criteria, appear to correspond to predictors of chronic medical illness (11). This is consistent with the reliance on physical functioning in the objective definitions. Similarly, in longitudinal epidemiological studies, the best predictors of successful aging include younger age, freedom from arthritis or diabetes, and not smoking. However, in predicting self-rated successful aging, somewhat different responses are revealed. For example, when examining the sample of 1,979 women described above (Table 2), we identified several significant predictors of self-rated successful aging. Depression emerged as a potent negative correlate with self-rated successful aging. Positive correlates included optimism, resilience, cognitive ability, and physical and mental health-related quality of life. However, chronological age was not associated with self-ratings of successful aging, whereas income and education were minimally related to successful aging.

The contribution of genetic factors to successful aging is an emerging field of research. Glatt et al (27) reviewed studies

Table 2 Correlates of self-rated successful aging in older women (n=1,979)

Variable	Pearson correlation coefficient
Chronological age	-0.044
Level of education	0.081**
Income	0.060*
Attitude toward aging (Philadelphia Geriatric Morale Scale)	0.302**
Physical activity participation (Godin Leisure Activity Scale)	0.156**
SF-36 Mental Health Composite	0.161**
SF-36 Physical Health Composite	0.266**
Cognitive Ability Screening Test	0.098**
Cognitive Failures Questionnaire	-0.149**
Connor-Davidson Resilience Scale	0.274**
Optimism (Life Orientation Test)	0.229**
Depressive Symptoms (CES-D)	-0.275**
Perceived Stress Scale	-0.225**

*p<0.01; ** p<0.001

SF-36 – Short Form 36; CES-D – Center for Epidemiological Studies Depression Scale that examined the influence of genes on multi-dimensional definitions of successful aging in samples of older people. In case-control studies examining single nucleotide polymorphisms (SNPs), allelic variation that was significantly different across "successful" vs. comparison groups in two or more reports included six genes: APOE, GSTT1, IL6, IL10, PON1, and SIRT3. Although there were only 29 studies with limited consensus on phenotypes of successful aging, these genes have plausible relationships to biological processes and risk factors for disease in aging. Nevertheless, there is clearly a substantial degree to which variation in aging phenotypes stems from non-heritable influences. In twin studies, lifespan is approximately 20-30% attributed to heritability and the proportion of variation due to heritability in functioning in an older sample was 22% (28). Both longevity and functioning appear less heritable than cognitive ability (30-50%) (29).

The goal of altering the fundamental biological processes that govern the rate of aging represents a shift from the focus on specific diseases (30). Although there is no unifying theory of aging, and it remains unclear what the nature of mechanisms of aging is, there is a great deal of interest in the role of inflammation and oxidative stress. In humans, chronic exposure to stress is associated with chromosomal alterations, damage to brain structures, and early mortality (31). Caloric restriction, which may result in lengthening the lifespan in mice and in humans, appears to reduce the levels of inflammatory markers (32). Greater social integration in older adults is also associated with reduced inflammation (33). Yet, the relationship with stress and biology is not monotonic. Mild levels of stress, such as those produced by exercise, cognitive activity, or caloric restriction, may stimulate tropic factors which lead to greater resistance to stress (a process called hormesis) (34). Thus, interventions targeting multiple domains may have shared pathways (e.g., reducing inflammation; stimulating increased stress resistance). These studies also point to the need to quantify resilience, in addition to stress. There are self-report measures of resilience that evidence good psychometric properties in older adults (35,36), yet there is a need for objective and experimental paradigms assessing resilience to be developed for use with older adults.

In a deviation from older concepts, it now appears that the window of opportunity for modifying processes regulating brain aging is not restricted to early life, but extends into later adulthood. The brains of older animals provided with enriched environments show evidence of synaptogenesis (37) and neurogenesis in select brain regions (e.g., dentate gyrus of the hippocampus). There is evidence from functional neuroimaging investigations that high-performing older adults exhibit greater bilateral activation on cognitive tasks, suggesting that "successful" brain aging may involve reorganization and compensation for deterioration (38). In the largest study of its kind, the Advanced Cognitive Training for Independent and Vital Elderly (ACTIVE) randomized controlled trial found that, among older adults without dementia, brief cognitive training in a variety of modalities improved performance on cognitive tests (39). Similar improvements in cognitive ability have been seen with cognitive training in schizophrenia, associated with a number of efforts to develop pharmacologic and non-pharmacologic interventions (40).

Beyond the individual, social networks and social engagement, as shown by novel approaches to network analyses, appear to be vectors for positive states of health such as happiness (41) as well as negative ones such as loneliness, obesity, and smoking (42,43). In older adults, loneliness predicts increased risk for Alzheimer's disease (44). Overlaying the social network, the built environment also influences access to health behaviors, socialization, and cognitive activities (45). Therefore, the influences on successful aging are complex and operate on multiple levels, from genes to neighborhoods.

Positive psychological traits have remarkable effects on mortality, with a number of longitudinal studies indicating that, even after controlling for other relevant variables, higher sense of purpose in life (46), optimism (47), and more positive attitude toward aging (48) are associated with longer lifespans. To understand how these traits modify outcomes in aging, it will be imperative to refine these broad constructs and to learn how they may relate to brain function and development.

Wisdom is a complex trait often associated with aging. It is notable that the modern Western construct of wisdom is largely similar to that found in ancient religious and philosophical texts, including the Bhagavad Gita – an Indian religious/philosophical text probably written around 2000 B.C. (e.g., rich knowledge about life, emotional regulation, insight, acting in face of uncertainty, and a focus on common good/compassion) (49).

In unpublished work, we studied associations between domains of wisdom in a community dwelling sample of 1,973 older women described above. We constructed measures for the domains of social/pragmatic decision making, emotional homeostasis, management of uncertainty, self-reflection/understanding, and spirituality using items drawn from multiple scales measuring cognition, emotion, and positive personality traits. Using item response theory, we found that measures for each domain had acceptable internal consistency and reliability, and that the domains of social decision making, emotional homeostasis, and management of uncertainty were strongly associated with each other. Self reflection/understanding was also significantly associated with other three domains, but to a lesser degree. Spirituality, as measured in our study was, however, not significantly associated with the other domains of wisdom.

Wisdom maps onto neurobiological structures (50). Emotional regulation, decision making, value relativism may involve top-down regulation of limbic and striatal brain regions. The lateral prefrontal cortex facilitates calculated, reason-based decision making, whereas the medial prefrontal cortex is implicated in emotional valence and prosocial attitudes/behaviors. Reward neurocircuitry (ventral striatum, nucleus accumbens) is also important for promoting prosocial attitudes/behaviors. The characteristics of wisdom seem to be impaired by specific brain lesions. For example, frontotemporal dementia is characterized by impulsivity, diminished empathy, and emotional reactivity. The same brain structures (e.g., prefrontal cortex) are implicated in both wisdom and frontal lobe deficits, harkening back to the changes in character exhibited by the historic case of Phineas Gage (51), as well as more recent reports outlining cognitive deficits secondary to ventromedial prefrontal lobe damage (51). Hence it may be possible to study wisdom as a neurobiologically determined trait.

WHAT ARE THE IMPLICATIONS OF THE DETERMINANTS OF SUCCESSFUL AGING FOR LATE-LIFE PSYCHIATRIC DISORDERS?

Consistent with the large negative correlation between self-rated successful aging and depression, nearly all of the determinants of successful aging reviewed above are negatively impacted by depression. Depression is associated with lower rates of exercise and worse nutrition, greater social isolation and diminished engagement in productive activity, and negative outlook on the future and the self. Even subsyndromal symptoms of depression relate to broad negative effects across aging-related phenotypes (20). Inflammation and stress-related biological processes are implicated as a shared pathway to both depressive symptoms and cognitive impairment in older people (52). These relationships are likely to be bi-directional; for example, diminished social engagement leads to greater depression, and vice versa (53). It is also evident that, while trends in some health behaviors are improving (e.g., reduction in smoking), others such as healthy diets, physical activity, and social integration may be declining despite all of the evidence of their benefits (54).

At the same time, it appears that interventions to improve lifestyle behaviors or social engagement, while not specifically targeting depression, may have anti-depressant effects in older people. Indeed, randomized controlled trials support the role of exercise in treating late-life depression (55), and there is emerging evidence that cognitive training targeting speed-of-processing (56) as well as dietary patterns (57) may reduce or prevent depressive symptoms. Multi-component interventions aimed at increasing healthy lifestyles appear to produce changes in brain function as detected with neuroimaging (58). This suggests that the armamentarium of geriatric psychiatric treatments may need to expand to include lifestyle interventions.

WHERE DO WE GO FROM HERE? FUTURE DIRECTIONS IN SUCCESSFUL AGING

Although there is clearly great public interest and imperative to define and promote successful aging, its definition remains controversial. How can we attain greater consensus about successful aging? As in the definition of recovery versus remission from psychiatric disorders (16), there is a gulf between researcher and lay definitions – the former describes freedom from disease and disability, and the latter focuses on adaptation, meaningfulness, and connection. It should be possible to better integrate these perspectives, incorporating both subjective and objective elements into definitions. Moreover, some constructs included in subjective definitions, such as resilience and wisdom, are not yet adequately operationalized; better instruments to measure such constructs will enable them to be incorporated into epidemiological studies. "Toolbox" initiatives that unify the measurement of constructs and use more dimensional ratings could also advance the consistency among studies (59). Many studies have reported age effects in cross-sectional studies, though the real interest is in understanding the causal and dynamic processes in aging. Methodological advances that enable more efficient collection of longitudinal data, such as accelerated longitudinal designs (60), could aid in increasing the power to detect processes rather than outcomes. Studies of this kind could link broad phenotypes (e.g., social engagement) with intermediate phenotypes that can be measured more objectively (e.g., extroversion) and with biomarkers (e.g., oxytocin). The operationalization of frailty represents a useful example of defining a complex phenotype based on its basic biological processes (61), and could provide a model in this regard. We have taken steps in this direction, by deconstructing wisdom into its collection of putative neurobiological constituents (50).

Fortunately, even with the difficulty in defining successful aging, there is remarkable convergence in some of the components and their environmental influences. In particular, there are many shared pathways between stress and inflammation, obesity and sedentary behavior, and risk for impaired cognitive ability, depression, and cardiovascular disease. Interventions such as caloric restriction may work at the beginning of this pathway. Alternatively, interventions addressing multiple targets, such as those that combine physical activity and cognitive stimulation, may have a synergistic effect on basic biological processes. New technologies, such as exergames that use video games to combine physical activity, pleasant activity, and cognitive stimulation, may reduce late-life subsyndromal depression (62). Multilevel interventions, for example those that target the individual and the built environment, are also promising routes to behavior change (63).

Given the leverage that depression has on successful aging, as well as the increasing prominence of brain health as a public health issue, psychiatric treatments could impact the likelihood of successful aging for many people. Psychiatry, including geriatric psychiatry, should broaden its scope to include enhancement of lifestyles, social functioning, and other aspects of recovery. Given that the peak ages for most physiological functions occur in late adolescence (30), altering age-related trajectories should begin early. Conversely, given what we now know about the plasticity of the aging brain, it is never too late to strive for successful aging in people with and without mental illnesses.

Acknowledgements

This work was supported, in part, by National Institute of Mental Health grants K23MH077225 and P30MH066248, and by the Sam and Rose Stein Institute for Research on Aging.

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Problematic Internet use: an overview

ELIAS ABOUJAOUDE

Impulse Control Disorders Clinic, Stanford University School of Medicine, 401 Quarry Rd., Stanford, CA 94305, USA

There is wide agreement that the Internet can serve as a tool that enhances well-being. It is more difficult, however, to find consensus around the issue of problematic Internet use. That may be in part because scientific investigation has lagged far behind technological advances and media attention. The diagnostic schemas that have been proposed since 1996, and the screening tools that have been developed, stress similarities with substance use, impulse control disorders, and obsessive-compulsive disorder. Prevalence figures vary as a function of the diagnostic definition used, the age group studied, and whether the surveys were conducted online. Studies suggest high comorbidity rates with mood disorders and, among younger individuals, attention-deficit/hyperactivity disorder. Treatment should address any comorbid conditions present, as those may be causing, or exacerbating, problematic Internet use. Interventions that may specifically target problematic Internet use include cognitive behavioral therapy and selective serotonin reuptake inhibitors, but detailed guidelines must await further studies. For a medium that has so radically changed how we conduct our lives, the Internet's effects on our psychology remain understudied. More research is needed into the pathophysiology, epidemiology, natural course, and treatment of problematic Internet use. In addition, the more subtle psychological changes, such as disinhibition, that seem to characterize people's online behavior also deserve attention, even if they cannot be seen as necessarily pathological.

Key words: Internet, problematic use, impulse control disorders, comorbidity, cognitive behavior therapy

(World Psychiatry 2010;9:85-90)

The "global village", a metaphor used to describe how the Internet has shortened distances and facilitated the flow of information, has grown to over one billion users (1).

Statistics from across the world highlight its reach and penetrance: 90% of South Korean households connect to high-speed, inexpensive broadband (2); Londoners spend an average of 45 days a year online, more than they spend watching TV (3); and the rate of increase in the number of Internet users in Africa and the Middle East exceeded 1,300% between 2000 and 2009 (4).

For the majority of Internet users, the World Wide Web represents a tremendous wellspring of opportunity that enhances well-being. For others, however, it can lead to a state that appears to meet the DSM definition of a mental disorder, described as a "clinically significant behavioral or psychological syndrome… that is associated with present distress… or with a significantly increased risk of suffering death, pain, disability, or an important loss of freedom" (5).

Scientific understanding of that state has lagged behind media attention (6), in part because of inconsistency in defining the problem (7), disagreement about its very existence (8), and the variable research methodology used in studying it. Still, a body of data by scientists from the East and West (with the East increasingly leading the way) tells a cautionary tale about the Internet's potential to bring about psychological harm.

DIAGNOSTIC DEFINITION

In 1996, the psychologist K. Young became the first to publish a detailed case report of problematic Internet use (9). Her "patient zero" was a non-technologically oriented 43-year-old homemaker with a "content home life and no prior addiction or psychiatric history", who, within three months of discovering chat rooms, was spending up to 60 hours per week online. She reported feeling excited in front of the computer, and depressed, anxious, and irritable when she would log off. She described having an addiction to the medium "like one would to alcohol". Within one year of purchasing her home computer, she was ignoring household chores, had quit social activities she used to enjoy, and had become estranged from her two teenage daughters and her husband of 17 years.

Based on this and other patients she interviewed, Young proposed the first set of diagnostic criteria for what she termed "Internet addiction". She modeled them on the DSM-IV definition for substance dependence because of similarities she observed with the states of tolerance (needing more of the substance to achieve the same effect) and withdrawal (psychological and physical discomfort upon reducing or stopping the substance) (9).

Others conceptualized problematic Internet use as a *behavioral* addiction not involving an intoxicant (10), and Young subsequently updated her definition, adapting the DSM-IV criteria for pathological gambling, an impulse control disorder often described as a behavioral addiction, into her Diagnostic Questionnaire (11) (Table 1). The questionnaire, which required at least five of the eight criteria be met for the Internet addiction diagnosis, has not received adequate psychometric testing.

Shapira et al (12) proposed five years later a more inclusive diagnostic schema in the general style of the impulse control disorders. They argued that definitions based solely on substance dependence or pathological gambling were too narrow to capture the population of problematic Internet users and could lead to premature conclusions about the new disorder and the patients. They eschewed the "Internet addiction" label for lack of scientific proof for true addiction and favored the less controversial "problematic Internet use", defining it as: a) maladaptive preoccupation with Internet use, experienced as irresistible use for periods of time longer than intended; b) significant distress or impairment resulting from the behavior; and c) the absence of other Axis I pathology that might explain the behavior, such as mania or hypomania.

To date, only two studies have attempted to develop diagnostic criteria empirically by testing them against the diagnosis made on the basis of a systematic psychiatric interview. Ko et al (13) tested a set of criteria in 468 Taiwanese high school students. Starting with 13 candidate criteria, they eliminated those with low diagnostic accuracy, and determined that a cutoff of six out of the nine remaining criteria had the best diagnostic accuracy while maintaining high specificity (97.1%) and acceptable sensitivity (87.5%). The criterion for functional impairment was listed separately as criterion B and was required for the diagnosis (Table 2). In a second study, Ko et al (14) confirmed the diagnostic accuracy of their criteria in an older cohort of 216 Taiwanese college students. However, the relatively small size of both studies and the non-representative nature of the groups studied limit the applicability of the proposed criteria to the general population.

Several assessment scales have been proposed to screen for, and help diagnose, problematic Internet use. As a group, these instruments show no consensus on the underlying dimensions that constitute the condition (6,15). In addition to Young's Diagnostic Questionnaire, two are in relatively common use in research and/or clinical settings: Young's Internet Addiction Test (16) and the Chen Internet Addiction Scale (17).

Young's Internet Addiction Test (16) consists of 20 "how-often" questions, each rated on a scale of 1 to 5 (1=rarely; 2=occasionally; 3=frequently; 4=often; 5=always.) A score of 80 or above is consistent with problematic use (Table 3). The psychometric properties of the instrument were studied in 86 subjects (18). Six factors were extracted from the questionnaire: salience, excessive use, neglect of work, anticipation, lack of control, and neglect of social life. These factors showed good concurrent validity and internal consistency. Salience explained most of the variance and was also found to be the most reliable as in-

Table 1 Young's Diagnostic Questionnaire for Internet addiction (11)

Diagnosis suggested by five or more "yes" answers to:

1. Do you feel preoccupied with the Internet (think about previous online activity or anticipate next online session)?
2. Do you feel the need to use the Internet for increasing amounts of time in order to achieve satisfaction?
3. Have you repeatedly made unsuccessful efforts to control, cut back, or stop Internet use?
4. Do you feel restless, moody, depressed, or irritable when attempting to cut down or stop Internet use?
5. Do you stay online longer than originally intended?
6. Have you jeopardized or risked the loss of significant relationship, job, educational or career opportunity because of the Internet?
7. Have you lied to family members, therapist, or others to conceal the extent of involvement with the Internet?
8. Do you use the Internet as a way of escaping from problems or of relieving a dysphoric mood (e.g., feelings of helplessness, guilt, anxiety, depression)?

Table 2 Ko et al's proposed diagnostic criteria for Internet addiction (13)

A. Six or more of:
   1. Preoccupation with Internet activities
   2. Recurrent failure to resist the impulse to use the Internet
   3. Tolerance: a marked increase in Internet use needed to achieve satisfaction
   4. Withdrawal, as manifested by either of the following: a) symptoms of dysphoric mood, anxiety, irritability, and boredom after several days without Internet activity; b) use of Internet to relieve or avoid withdrawal symptoms
   5. Use of the Internet for a period of time longer than intended
   6. Persistent desire and/or unsuccessful attempts to cut down or reduce Internet use
   7. Excessive time spent on Internet activities
   8. Excessive effort spent on activities necessary to obtain access to the Internet
   9. Continued heavy Internet use despite knowledge of physical or psychological problem caused or exacerbated by Internet use

B. Functional impairment. One or more of:
   1. Recurrent Internet use resulting in a failure to fulfill major obligations
   2. Impairment in social relationships
   3. Behavior violating school rules or laws due to Internet use

C. The Internet addictive behavior is not better accounted for by another disorder

Table 3 Young's Internet Addiction Test (16)

Answer the following questions on the Likert scale:
1=rarely; 2=occasionally; 3=frequently; 4=often; 5=always

1. How often do you find that you stay on-line longer than you intended?
2. How often do you neglect household chores to spend more time on-line?
3. How often do you prefer the excitement of the Internet to intimacy with your partner?
4. How often do you form new relationships with fellow on-line users?
5. How often do others in your life complain to you about the amount of time you spend on-line?
6. How often do your grades or school work suffer because of the amount of time you spend on-line?
7. How often do you check your e-mail before something else that you need to do?
8. How often does your job performance or productivity suffer because of the Internet?
9. How often do you become defensive or secretive when anyone asks you what you do on-line?
10. How often do you block out disturbing thoughts about your life with soothing thoughts of the Internet?
11. How often do you find yourself anticipating when you will go on-line again?
12. How often do you fear that life without the Internet would be boring, empty, and joyless?
13. How often do you snap, yell, or act annoyed if someone bothers you while you are on-line?
14. How often do you lose sleep due to late-night log-ins?
15. How often do you feel preoccupied with the Internet when off-line, or fantasize about being on-line?
16. How often do you find yourself saying "just a few more minutes" when on-line?
17. How often do you try to cut down the amount of time you spend on-line and fail?
18. How often do you try to hide how long you've been on-line?
19. How often do you choose to spend more time on-line over going out with others?
20. How often do you feel depressed, moody, or nervous when you are off-line, which goes away once you are back on-line?

Scoring: 20-49 points, average on-line user; 50-79 points, occasional or frequent problems because of the Internet; 80-100 points, Internet usage is causing significant problems

Table 4 Chen Internet Addiction Scale (17, adapted)

Focusing on the last three months, rate the degree to which each statement matches your experience (1=does not match my experience at all; 2=probably does not match my experience; 3=probably matches my experience; 4=definitely matches my experience)

1. I was told more than once that I spend too much time online
2. I feel uneasy once I stop going online for a certain period of time
3. I find that I have been spending longer and longer periods of time online
4. I feel restless and irritable when the Internet is disconnected or unavailable
5. I feel energized online
6. I stay online for longer periods of time than intended
7. Although using the Internet has negatively affected my relationships, the amount of time I spend online has not decreased
8. More than once, I have slept less than four hours due to being online
9. I have increased substantially the amount of time I spend online
10. I feel distressed or down when I stop using the Internet for a certain period of time
11. I fail to control the impulse to log on
12. I find myself going online instead of spending time with friends
13. I get backaches or other physical discomfort from spending time surfing the net
14. Going online is the first thought I have when I wake up each morning
15. Going online has negatively affected my schoolwork or job performance
16. I feel like I am missing something if I don't go online for a certain period of time
17. My interactions with family members have decreased as a result of Internet use
18. My recreational activities have decreased as a result of Internet use
19. I fail to control the impulse to go back online after logging off for other work
20. My life would be joyless without the Internet
21. Surfing the Internet has negatively affected my physical health
22. I have tried to spend less time online but have been unsuccessful
23. I make it a habit to sleep less so that more time can be spent online
24. I need to spend an increasing amount of time online to achieve the same satisfaction as before
25. I fail to have meals on time because of using the Internet
26. I feel tired during the day because of using the Internet late at night

dicated by its Cronbach's alpha. However, the selection bias introduced by online recruitment and the small size of the study limit its value.

The Chen Internet Addiction Scale (17) is a self-report instrument composed of 26 items rated on a 4-point Likert scale (adapted in Table 4). It assesses five domains of Internet-related problems: compulsive use, withdrawal, tolerance, interpersonal and health consequences, and time management difficulties. Scores range from 26 to 104. In a study of 454 Taiwanese adolescents who completed the scale and received a structured diagnostic interview, a cutoff of 64 was shown to have high diagnostic accuracy and specificity (88% and 92.6%, respectively) (19). The internal reliability of the scale and subscales in the original study ranged from 0.79 to 0.93 (17).

PREVALENCE

Due to the lack of consensus on diagnostic criteria and the dearth of large epidemiological studies, the prevalence of problematic Internet use in the general population has not been established. Overall, prevalence surveys conducted in various countries fall into two main categories, online vs. offline studies, with the former typically yielding higher rates, most likely because of inherent selection bias (20).

Only two epidemiological studies exploring the prevalence of problematic Internet use in the general population have been published. One was conducted in the US, the other in Norway (20,21).

The US study used random-digit telephone dialing (cellular phone numbers were not included) to interview 2,513 adults taken from all 50 states in a manner proportional to the population in each state (20). More than half of the people reached agreed to be interviewed. Participants' average age was 48, and 51% fell in the middle class socioeconomic stratum. 68.9% were regular Internet users. The authors' diagnostic definition, based on published criteria and on similarities with impulse control disorders, substance dependence and obsessive-compulsive disorder, required: a) Internet use that interferes in personal relationships; b) preoccupation with the Internet when offline; c) unsuccessful attempts at quitting or cutting down; and d) staying online longer than intended. This definition yielded a point prevalence of 0.7%. Less stringent definitions yielded higher prevalence rates, and individual features consistent with problematic Internet use were endorsed by as many as 13.7% (respondents who found it hard to stay offline for days in a row).

In the second study, Bakken et al (21) mailed Young's Diagnostic Questionnaire to 10,000 inhabitants of Norway, randomly selected from a database of the entire population. 3,399 completed questionnaires were returned (a somewhat lower response rate than the US study). Recipients of the mailed questionnaire also had the option of completing it online. Among respondents, 87% were Internet users. The prevalence of "addicted Internet use" (≥5 questions answered "yes") was calculated to be 1%, whereas the prevalence of "at risk" Internet use (3-4 questions answered "yes") was 5.2%. Multivariate analysis showed young age, male gender, higher educational achievement, and financial stress to be positively associated with "problematic Internet use" (defined by the authors to include both "Internet addicts" and "at risk" respondents).

Prevalence rates among adolescents have been researched more extensively, perhaps because the so-called "digital natives" grew up incorporating the Internet in many aspects of life and as a result are perceived to be at higher risk. However, even when online-based surveys are excluded, the results can vary widely and are difficult to compare, due to differences in Internet access, recruitment methodology, the exact age bracket studied, and the definitions utilized. Considering only relatively large and offline studies, research from China (22), South Korea (23,24), Greece (25), Norway (26), and Iran (27) has yielded prevalence estimates ranging between 2% and 11%.

COMORBIDITY

Problematic Internet use has not been

incorporated into large-scale epidemiological studies aimed at estimating the relative prevalence of mental disorders. Still, a review of published studies reveals that the presence of other psychiatric conditions in patients with problematic Internet use is the rule rather than the exception (6). The studies, however, were not designed or statistically powered to detect the nature of the association (cause, effect, or independent).

In Bakken's general-population study (21), based on subjects' self-report, 41.4% of Internet "addicts" reported feelings of depression in the 12-month period prior to the study, compared to 15.8% of non-problematic users. Sleep disturbances, anxious feelings, and alcohol and substance abuse were also more common (38.6% vs. 26.4%, 36.4% vs. 5%, and 13.6% vs. 1.1%, respectively). However, the questions used to assess co-occurring psychological impairment were not based on established criteria for mood, sleep, anxiety, or substance use disorders.

Two US case series involved face-to-face interviews of adult patients with problematic Internet use. Black et al (28) assessed 21 subjects with the Diagnostic Interview Schedule and found the lifetime prevalence of mood disorders and major depression to be 33% and 15%, respectively. Further, 38% had a lifetime substance use disorder and 19% had a lifetime diagnosis of anxiety disorder.

In a case series that included 20 patients, Shapira et al (29) found a very high (70%) lifetime prevalence for bipolar affective disorder, type I or II, compared with 15% for major depression. Fifty-five percent had a lifetime prevalence of substance abuse, and 45% met criteria for social anxiety disorder. Fifty percent of subjects had a lifetime diagnosis of an impulse control disorder. The authors highlight their observation that patients' Internet-related symptoms were more impulsive and egosyntonic than compulsive and egodystonic, concluding that problematic Internet use resembles the DSM-IV definition of an impulse control disorder more closely than that of obsessive-compulsive disorder. Our clinical experience supports this conclusion.

As a group, surveys conducted among high school and college students show similarly high comorbidity rates with mood and anxiety disorders, but a link between attention-deficit/hyperactivity disorder (ADHD) and problematic Internet use seems more obvious than among adults. One study in 752 South Korean elementary students found that 33% of those with ADHD also met criteria for problematic Internet use (30). Another study in 216 Taiwanese college students showed that 32% subjects with problematic Internet use also had ADHD compared to only 8% of regular Internet users (31). Whether Web-based activities appeal to the short attention span of ADHD sufferers or whether excessive Internet use may cause inattention remains to be elucidated.

TREATMENT

The clinical evaluation of the patient with problematic Internet use should include a careful assessment of the comorbid conditions frequently present. Those should then be treated according to established treatment guidelines. To the extent that the Internet-related problem may stem from another diagnosis (e.g., a patient with severe social anxiety who starts leading a "virtual" life at the expense of offline interactions), it might improve as the primary condition is addressed.

Pharmacotherapeutic and psychotherapeutic interventions specific to problematic Internet use have not yet received adequate testing in large, rigorous studies. Pharmacotherapy often begins with selective serotonin reuptake inhibitors (SSRIs). However, while effective in treating obsessive-compulsive disorder, SSRIs have shown mixed results in impulse control disorders (32-36). In light of the greater similarity between problematic Internet use and impulse control disorders compared to obsessive-compulsive disorder (29), it is unclear whether SSRIs will ultimately prove beneficial, and no double-blind placebo-controlled studies have been published so far.

One discontinuation study tested escitalopram, 20 mg/day, in 19 subjects with problematic Internet use (37). During the 10-week open-label phase, subjects showed significant decreases in weekly hours spent online (from a mean of 36.8 hours to 16.5 hours) and improvement in global functioning. At the end of the 10 weeks, subjects were blindly randomized to either continued escitalopram treatment or to placebo. Beyond that, they were followed for 9 weeks. No significant difference was seen between the two groups at the end of the second phase, as gains achieved at week 10 were maintained in both treatment groups. The authors speculate that nine weeks may have not been sufficient for the effect to be lost in the placebo group or for additional gains to be made in the escitalopram group, but do not rule out the possibility that the improvement seen in the open-label phase may have been a placebo response.

One case study reported successful treatment with naltrexone (38), a drug that has shown benefit in other impulse control disorders (39,40). The patient was a 31 year old male with compulsive cybersexual behavior who had failed antidepressants, group and individual psychotherapy, Sexual Addicts Anonymous, and pastoral counseling. Naltrexone (150 mg/day), gradually added to a stable dose of sertraline which on its own had been ineffective in treating his problematic Internet use, helped induce a three-year remission. The authors hypothesize that, by blocking the capacity of endogenous opioids to trigger dopamine release in response to reward, naltrexone may block the reinforcing nature of compulsive Internet sexual activity.

Another case study reported the successful use of an atypical antipsychotic, quetiapine, 200 mg/day, gradually added to citalopram, in a 23 year old subject with problematic Internet use (41). The improvement was maintained at four-month follow-up.

More recently, a study tested methylphenidate in 62 children with ADHD who were Internet video game players (42). Participants' average age was around 9. After 8 weeks of treatment (average dose 30.5 mg/day), Internet usage decreased significantly and correlated with reduction in ADHD symptoms. The authors cautiously suggest that methylphenidate might be beneficial as a treatment for problematic Internet use, especially when co-occurring with ADHD.

Of the psychotherapy approaches used, cognitive behavioral therapy (CBT) has received the most empiric investigation. The largest study enrolled 114 adult subjects and employed CBT interventions including: keeping a daily log of Internet activity, teaching time management skills, and confronting cognitive distortions and rationalizations frequently used by patients to justify continued Internet usage, such as "just a few more minutes won't hurt" (43). Most subjects were able to control their symptoms by the eighth session, and improvement was sustained over a 6-month follow-up.

For children and adolescents, family-based interventions that improve communication and teach family monitoring of Internet use can be helpful (44). However, the intensive (and typically very expensive) residential treatment options that have received much media attention have undergone little empiric investigation to warrant a strong recommendation (2,45). The same applies to online treatment websites that encourage the person with problematic Internet use to "click here if you are addicted to the Internet".

CONCLUSIONS

For a medium that has so radically changed the way we conduct our lives, the Internet's effects on our psychological health remain understudied. Simply stating that similar fears were raised when the radio, movies and early video games were introduced is not sufficient: the immersive and interactive qualities of the virtual world, and its sheer penetrance, make it potentially more serious.

Also deserving of exploration are the more subtle psychological changes that occur in the virtual world, such as online disinhibition and increased risk-taking (46). Those changes are not necessarily evidence of "Internet addiction", and may not be pathological, but, as important features of the new virtual psychology, should also be studied.

As our field continues to debate whether their condition belongs in the next edition of the DSM (47), patients continue to present with symptoms born out of the digital age, and their symptoms are changing as the technology evolves from browsers, to "crackberries", to "smart phones" that combine texting, talking, video games, and browsing in one device that to many is like a new appendage. Even the "problematic Internet use" designation now seems outdated, which is why some have wisely opted for "pathological use of electronic media", instead (47). Technology, like media outlets, remains far ahead of scientific investigation. Given the dramatic changes that our society is undergoing as a result of the Internet revolution, it behooves us to try to bridge the gap.

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Internet addiction over the decade: a personal look back

Kimberly Young
Center for Internet Addiction Recovery, Bradford, PA, USA

The Internet has certainly changed since I first began to study Internet addiction in 1994. Then, it cost $2.95 per hour to login. Applications such as *MySpace*, *Facebook*, *YouTube*, and *Second Life* did not exist. Modem speeds ranged from 14.4 to 28.8 mbps. Web sites started proliferating the Internet, and most without any graphics, sound, or video. Only a growing number of schools and businesses were connected to the Internet.

By the late 90s, the height of the Dot Com era before the bubble burst, everyone was clamoring to learn more about the Internet. Computer companies were dolling out new technologies faster than people could buy them and any company with dot com after its name was assumed to make millions. No one was worried about the potential for addiction.

Yet, after a friend called me to tell me of her divorce because her husband became addicted to AOL chat rooms, it made me wonder if others could get addicted to the Internet in the same way as people become addicted to drugs, alcohol, gambling, food, and sex. It was a daunting and challenging task. I was fresh out of graduate school with my doctorate in clinical psychology. I had studied neuropsychology, a far cry from being an Internet addiction expert, yet, hearing story after story about people suffering because of the Internet and how their use had taken over aspects of their lives, I knew that I had to share what I had learned.

In 1998, I wrote *Caught in the Net*, the first book to identify Internet addiction (1). Publishing the book changed my life. Once published, the publicity around the book took on a life of its own. I joked that I had become the Ann Landers of cyberspace, as letters and email from across the globe poured in. I heard from parents, spouses, and addicts themselves struggling to deal with an addiction that they could not understand. Yet, after reading *Caught in the Net*, they found validation and understanding to a disorder that they knew they were experiencing but had not been recognized by many professionals when they tried to seek help.

After *Caught in the Net* was published, many journalists and scholars did not believe that people could become addicted to the Internet. At that point, many laughed and scoffed at the idea. How could a tool so useful for information and communication be considered addictive?

These early studies and those of my colleagues such as D. Greenfield (2) and M. Orzack (3) opened the conversation to the darker side of what lied ahead. Could it be too much? Research in the field of Internet addiction has grown substantially. Studies have focused on clinical diagnosis, epidemiology, psychosocial risk factors, symptom management, and treatment outcome. Internet addiction has not only been identified as a national problem in the US, but in countries such as China, Korea, and Taiwan. Media reports suggest Internet addiction has reached epidemic proportions.

Healthcare professionals started seeing cases of people who suffered from Internet-related clinical problems. Pioneer treatment centers specializing in Internet addiction recovery emerged at McLean Hospital, a Harvard Medical School affiliate, and at the Illinois Institute for Addiction Recovery at Proctor Hospital in Peoria, Illinois. Inpatient addiction rehabilitation centers such as The Canyon, Sierra Tucson, and The Meadows started to include Internet-related compulsivity as one of the subspecialties they treat. Globally, the first inpatient treatment center opened in Beijing, China in 2006, and it is estimated that Korea has over 140 Internet addiction treatment recovery centers. Most recently, the first inpatient residential care center opened in the US: the Restart Program in Redmond, Washington.

It is difficult to estimate how widespread the problem is. A nationwide study led by E. Aboujaoude (4) estimated that nearly one in eight Americans suffer from at least one sign of problematic Internet use. Studies abroad have documented Internet addiction in a growing number of countries such as Italy, Pakistan, Iran, Germany, and Czech Republic, to name a few.

Globally, we see that science has greatly contributed to our understanding of compulsive or addictive use of the Internet and that new forms of treatment are emerging. These include traditional twelve-step recovery, cognitive-behavioral therapies, and more intensive forms of treatment such as residential inpatient care.

While much attention has been paid to Internet addiction in the academic and clinical fields, developing universal standards of care and assessment has been difficult, because the field is culturally diverse and terminology in the academic literature has varied, from Internet addiction to problematic Internet use or pathological Internet use. The American Psychiatric Association has proposed including the diagnosis of "pathological computer use" in the DSM-IV revision, concluding that this is the broadest term to use.

Overall, I can say that we are only beginning to understand the impact of the Internet. It is my hope that in the next decade we will understand so much more about its social and clinical implications.

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Problematic Internet use: a distinct disorder, a manifestation of an underlying psychopathology, or a troublesome behaviour?

Vladan Starcevic
University of Sydney and Nepean Hospital,
Sydney/Penrith, Australia

Aboujaoude's review of problematic Internet use is a timely contribution to the literature on a poorly understood behaviour that has apparently caught the attention of the media more than that of mental health professionals. And, while psychiatrists and clinical psychologists seem to be sceptical about many aspects of the problematic Internet use, concern in the community about the adverse effects of the Internet use seems to be growing exponentially. This revolves mainly around two issues. The first is the impact of violent video games and other violent online content; the second is what has increasingly been referred to as "Internet addiction". The focus of this commentary will be on the latter issue.

The problem starts with terminology, as the appropriate name for the condition or behaviour often labelled "Internet addiction" is not clear. Progress in this area can hardly be made without first reaching a consensus as to what terms to use. "Internet addiction" is a troublesome term, not only because of its pejorative connotations, but also because there is no evidence that this is really an addictive disorder, i.e., that it is characterized by the hallmarks of substance addiction such as tolerance and withdrawal. If adopted without sufficient evidence, "Internet addiction" will clearly be an arbitrary term. It is appropriate to be cautious and retain more descriptive and "neutral" terms, such as problematic (or problem) Internet use. Other terms have also been proposed, e.g., "pathological use of electronic media" (1), but "Internet addiction" still seems to dominate the literature and professional jargon.

The terminological rigour should go hand in hand with conceptual clarity. A part of the reason for the ongoing struggle with terminology is the lack of clarity about the key features of problematic Internet use. Several features have been proposed, but many of them seem to overlap and boil down to the basic two characteristics. The first pertains to the aspects of Internet use, described as excessive or compulsive, along with preoccupation with and loss of control over the Internet use. The second refers to various adverse consequences of spending too much time on the Internet, such as neglecting social activities, relationships, health and work or school duties, and altering sleep and eating habits in a detrimental way. Further research is needed to ascertain more precisely to what extent these features characterize problematic Internet use.

Problematic Internet use appears to be too heterogeneous as a concept. It has been suggested that it consists of at least three subtypes: excessive gaming, problematic sexual behaviour, and e-mail/text messaging (2). The Internet may also be used excessively and with negative consequences to gamble, shop, or chat. These different purposes of using the Internet may be associated with different patterns of use, different underlying psychopathology, and different adverse consequences. It may then be inappropriate to lump together all the instances of problematic Internet use and perhaps more useful to consider online gambling as a manifestation of pathological gambling, Internet-related problematic sexual behaviour as a feature of a sexual or some other disorder, and so on. In accordance with this approach, we have formulated and tested preliminary criteria for problem video game use (3), but these require further study.

"New" disorders or patterns of behaviour may be no more than alternative expression of various psychopathological entities. Accordingly, it has been debated whether addictive disorders, including problematic Internet use, represent primary conditions in their own right or whether they can be better understood as a manifestation of some underlying psychopathology or poor coping, that is, a "secondary addiction" (4,5). Various mental and other disorders often co-occur with problematic Internet use, which suggests that in many cases the latter may be conceived of as being related to the former. The co-occurring conditions and corresponding dimensions of psychopathology include depressive and bipolar disorders, anxiety disorders (especially social anxiety disorder, generalized anxiety disorder, and obsessive-compulsive disorder), sleep disturbance, substance use disorders, impulse control disorders, attention deficit and hyperactivity disorder, personality disorders and traits (especially borderline, narcissistic, antisocial, and avoidant), and psychotic disorders.

Several issues should be addressed when elucidating whether and when problematic Internet use is primary or secondary. First, prospective studies need to ascertain the sequence in the development of problematic Internet use and psychiatric disorders. Second, it is important to understand to what extent the relationship between problematic Internet use and the associated psychopathology is specific. Finally, treatment of individuals with problematic Internet use crucially depends on whether an underlying condition accounts for problematic Internet use, as that condition should then be targeted by treatment.

There have been calls to conceptualize problematic Internet use as a mental disorder, include it in the DSM-V, and classify it as a "compulsive-impulsive spectrum disorder" (2). However, doing so seems premature in view of the following: a) it is not yet clear whether and how problematic Internet use can be distinguished from a pattern of behaviour usually labelled by others as undesirable or disturbed; b) the boundary between normal and problematic Internet use has not been established; c) it remains to be ascertained whether problematic Internet use possesses conceptual validity, including distinct presentation and sociodemographic and neurobiological correlates, internal homogeneity, and sufficient longitudinal stability with distinct course, prognosis, and response to treatment.

Not endowing problematic Internet use with the status of a mental disorder would prevent its psychiatric reification at the time when so little is known about it, while fostering an open-minded attitude towards further research.

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Problematic Internet use and the diagnostic journey

Nady el-Guebaly, Tanya Mudry

Foothills Addictions Program, Addiction Division, University of Calgary, Canada

Elias Aboujaoude's thoughtful overview of problematic Internet use allows us to reflect on the various strategies currently available to buttress claims for a distinct diagnostic category along the impulsive, compulsive, and/or addiction disorders spectrum.

The presence of physiological tolerance and withdrawal, which initially underpinned the diagnosis of substance dependence, has become increasingly optional in recent nomenclatures, while behaviors such as impaired control, preoccupation/compulsive use, continued use despite harmful consequences, and craving have been added. These behavioral constructs have ushered the consideration of an ever-growing list of activities liable to excess, without the physiological requirements.

These adapted criteria borrow terminology from related disorders but, so far, have received only limited empirical testing. The DSM nomenclature also utilizes "exclusion criteria" such as "the behavior is not better accounted for by a manic episode", disclaiming the real possibility of two primary disorders. Further, the categorical dichotomy abuse/dependence is increasingly recognized as lacking empirical support, many arguing for a continuum perspective for excessive behaviors.

Among the attempts to identify core components of behavioral addiction, including Internet addiction, Griffiths (1) has suggested salience, mood modification, tolerance, withdrawal symptoms, conflict, and relapse. Other researchers have created a typology of Internet addiction such as online gaming, online sexual preoccupations, and emailing/texting (2). Could the Internet just be the medium used to enact or fuel excessive behaviors? (1). Those displaying problematic Internet use through activities such as online gambling, shopping, sexual activity or viewing pornography, may be selecting to conduct their chosen behavior on the Internet. If the Internet were not available, these same persons would spend their time at casinos, shopping malls, utilizing the sex trade industry, or viewing print pornography.

Finally, an additional measure to consider is the Problematic Internet Use Questionnaire (PIUQ), created by Thatcher and Goolam (3). Based on the South Oaks Gambling Screen (SOGS) and Young's Internet Addiction Scale (IAS), this measure is self-completed and contains 20 items on a 5 point Likert scale, from 1 (rarely/not applicable) to 5 (always). The measure taps into three factors: online preoccupations (10 items), adverse effects (7 items), and social interactions (3 items). The results of a pilot and larger validation studies provided good evidence for the reliability and construct validity of the PIUQ; however, participants were recruited via an online IT magazine, which may reflect a sampling bias.

Prevalence estimates among interest groups, such as Internet users or treatment samples, are fraught with sampling bias. Studies examining behavioral addictions may overestimate the prevalence of these phenomena, as they often sample from populations already engaged in these excessive behaviors. Of note, in contrast with the common occurrence of the behaviors investigated, i.e., exercise, sex, or Internet use, the point prevalence of these problematic behaviors in the general population is typically low, i.e., less than 1% for the severe end of the spectrum, as in the case of Internet addiction or pathological gambling, with an average 2-3% added for less severe problematic use.

Weakening the epidemiological perspective is the lack of estimates of incidence, due to a dearth of longitudinal prospective studies. In candidate disorders derived from a rapidly developing technology such as the Internet, longitudinal studies exploring rates of incidence should be a priority to shed further light on groups at particular risk.

Associated "birds of a feather" provide insights about potential etiological links. High comorbidity rates with substance abuse, for example, have buttressed the consideration of behavioral disorders under the "addiction" umbrella, such as is the case in pathological gambling. In our experience, features of impulsivity, compulsivity, and addiction are encountered in most of our clinical samples and, to various degrees, in individual patients. The relative frequency of these features remains an open question.

It is sometimes assumed that, if a treatment strategy applied to a specific disorder is equally successful with another disorder, this may argue in favor of classifying both disorders together. A string of pharmacological trials applied to severe problematic behaviors based on a putative affiliation with impulsive, compulsive, or addiction disorders have, so far, resulted in limited benefit. The quest continues.

By comparison, psychotherapeutic approaches, particularly cognitive behavioral therapy, are currently supported by the broadest empirical evidence over longer follow-up periods. Should we further explore a nomenclature of cognitive distortions rather than investigating new disease entities?

Lastly, the popularity of 12-steps mutual help groups have been seen by some as further evidence of the benefit of an addiction model applied to problematic behaviors.

Renewed impetus in the expanded consideration of a range of excessive behaviors as disorders has arisen from tremendous advances in the study of the brain. Brain imaging yields images of a common pathway through the "reward system" without the confound of the use of a substance. "Reward circuit" disorders may be a gateway to the exploration of human nature itself, rather than just "impulses", "compulsions", or "addictions".

Aboujaoude's review also raises, for us, the unaddressed question of sociocultural relevance. Certain cultural communities are emerging as being more at risk than others. In South Korea, children diagnosed with Internet addiction may even require hospitalization. Are the children more at risk for Internet addiction in South Korea, or is the behavior simply less socially acceptable in that culture? The behaviors explored, i.e., work exercise, sex, gambling, and Internet use, are culturally value laden. Their liability to become excessive could also be shaped by culture. The investigative journey continues toward constructs with improved predictive validity and effective management strategies.

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Problematic use in context

Jyrki Korkeila

Department of Psychiatry, University of Turku and Harjavalta Hospital, Hospital District of Satakunta, Finland

E. Aboujaoude provides us with a lucid and inclusive overview of what is currently known on the problematic use of Internet. Even the earliest studies of Internet use indicated that the expansion of use carried risks as well as advantages (1). The terminology surrounding the problematic use has been versatile, due to the differences of viewpoints regarding the validity of the concept. Nevertheless, there is mounting evidence of the harmful effects on finances, work and relationships of high level of use of the Internet (2).

A new form of media has historically sprouted both worry and criticism by observers. In the 18th century, novels and reading were spread in the population, leading to the concept of "reading mania" or "reading fury". This was described as an epidemic associated with physical exhaustion, rejection of reality and immobility. Novels were described to have drug-like qualities similar to inflame passions.

D.L. Smail describes how cultural changes create neurophysiological ecosystems, in which "the sorts of customs and habits that generate new neural configurations or alter brain-body states could evolve in unpredictable ways" (3). Emotion/mood altering practices, behaviours and institutions can be defined as psychotropic mechanisms that have effects not very dissimilar from those produced by psychoactive drugs. These mechanisms may be divided into teletropic, i.e., those that alter the states of others, like religion or social institutions, and autotropic, which influence the brain-body states of the self. In fact, modernity can be viewed as a significant expansion in the variety of autotropy and acceleration of the importance of autotropy for consumer society. According to Smail, there is a crescendo of civilizational achievement through psychotropy on human cultural evolution.

Given the evolutionary-cultural background described above, it is obvious that there is a range of objects and activities, which may be particularly risky to the extent that modification of behaviour by the person herself/himself becomes very difficult. Addictive behaviour can be viewed as the development of a strong attachment to an appetitive activity, such that self-control is diminished, and behaviour may appear to be disease-like (4). Defined in this manner, individuals attached to gambling, surfing the Internet and drinking may be found equally attached to the activity in question. The definition of addiction merely by use of substances overlooks the situation of those who are unable to overcome their excessive appetites. Furthermore, a thorough explanation of addiction would require an understanding of the proximate (immediate causes) as well as the ultimate sources (evolutionarily background) of behaviours associated with addiction.

Flooding the brain systems with substances or hijacking the natural rewards by excessive behaviours are not adaptational, although they rely on evolved adaptive systems related to social attachment, rewards, attention, decision-making and internal signalling of emotional systems. The best-known motivational system uses dopaminergic networks, which have no built-in brakes (5). During evolutionary times, it was not necessary to develop such a mechanism, as the environmental scarcity would largely prevent excessive appetites. Seen from this viewpoint, addiction is an evolutionary price tag of the development of our biological predispositions and cultures. The implied conclusion is that whenever new substances influencing the brain or technologies and innovations enabling the behavioural manipulation of the motivational-rewarding brain are developed, new forms of excessive appetites and related behaviours will continue to develop.

The most important question may not be whether some form of problematic behaviour is a new independent disorder or definable as a disease in relation to some theoretical general definition, but whether the diagnostic label will plausibly serve as a tool in differentiating subjects that may benefit from treatment from those who likely do not. The potential to produce health gains is one of the quintessential justifications for considering some type of condition or behaviour a disorder. If there is evidence of adverse consequences associated to high level of Internet use and if problematic behaviour causes impairment and lack of control to such a level to require treatment, Internet addiction should be no exception.

Internet may provide an easy access to rewards and behaviours previously considered to be associated with excessive appetites, such as gaming and various forms of sexual activities. Hence, the web might be a new forum for the appearance of old perils. Currently we lack sound evidence on comorbidity and development of problematic use of Internet in order to study the means of treatment and eventually to provide the best help for those afflicted. Furthermore, the question of how the shift from moderate extravagance to highly problematic excess should be defined and understood does not totally escape value assessments.

The pioneers of the digital revolution did consider even in the early 1980s that virtual reality might "unleash the demons of human nature" and people could be addicted to virtual reality as if it were a drug and become trapped into it (6). As more and more people become familiar with computers and the Internet, the role of the web in their lives will continue to increase and for some the use of the Internet will become a dominating feature in their lives, given the loss of control and the salience of use. One can but agree with Aboujaoude`s conclusion that the gap between our knowledge base and the evolution of this new technology needs a bridge.

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The Internet: every good thing has a dark side

JOHN GREIST

University of Wisconsin School of Medicine and Public Health, Madison, WI, USA

Worry about problematic effects of communication technology is not new. "When the ingenious Sumerian who invented writing first carved those cuneiform symbols in stone along the Tigris river some 6000 years ago, a skeptic standing nearby predicted with concerned countenance that people would soon stop talking to each other" (1).

Other forms of communication have been seen as problematic, either by replacing earlier venerable and valuable communications or causing vulnerable souls to suffer from a surfeit of the new technology. Printing presses displaced scribes and, as widespread reading became possible, probably produced some problematic excessive readers. The telegraph sped communication and may have created a few compulsive Morse coders amongst the small cadre of telegraphers. Certainly telephoning in its rapid evolution has captured some so completely that they are the butt of jokes about their affliction and certifiable dangers when phoning while driving.

The Internet, with its myriad media – text, voice, video, graphics, etc. – and made ever easier to use even in a hand held device, is surely a candidate for problematic use. Internet non-users are denied its many benefits; at some level, increased use becomes excessive and problematic. It is to these individuals that Aboujaoude's skillful overview directs our attention through descriptions and definitions of problematic use, its diagnosis, prevalence, comorbidities, and treatment.

Many human behaviors can be characterized under a bell shaped curve, with the majority distributed normally under the large middle of the bell and extreme deviations from the normal distribution extruded into the tails at the periphery.

While the concept of problematic human behaviors at the tails of a normal distribution is longstanding, it is early days in our study of Internet use. Some doubt there is any Internet problem. But clinicians have begun to see and report patients who are obviously troubled, falling clearly within the broad definition of a clinical disorder causing distress, dysfunction or both. Early observers have described the phenomenon as excessive Internet use (EIU), Internet addiction (IA), pathological Internet use (PIU), compulsive Internet use (CIU), and impulsive compulsive Internet usage disorder (IC-IUD). Since Internet use causing distress/dysfunction exhibits elements of addiction, impulsivity, compulsivity, and obsessionality, with their implied underlying pathophysiologies as well as other descriptors (e.g., ego syntonic and ego dystonic), the choice of the broader "problematic Internet use" (also PIU) is appropriate at this time. As course, prognosis, temporal stability, pathophysiology and response to treatment are better understood, a more accurate diagnostic label may be possible.

Faced with an incomplete understanding of problematic Internet use, clinicians must still treat those with distress/dysfunction. While diagnosis should precede treatment, precise diagnosis may be impossible. Even with a diagnostic model that appears to explain a disorder, we are not greatly surprised when an expected efficacious treatment does not work. Some dogs have lice, some dogs have fleas and some have lice and fleas. Honest uncertainty leads to empirical trials until a treatment is found that works, spontaneous remission occurs, or the patient or therapist dies.

Serotonin reuptake inhibitors have shown some benefit in PIU, perhaps addressing elements of obsessive-compulsive disorder, impulse control disorders or comorbid depression. Still, Osler's aphorism rings true: "if many drugs are used for a disease, all are insufficient".

Cognitive behavior therapy with emphasis on exposure and ritual prevention, daily record keeping, time management skills, assertive communication, and cognitive restructuring appears at least as helpful as medications.

Exercise, with demonstrated benefit in depression and when substituted as another healthier addiction, may prove helpful for PIU. That "no horse has ever run itself to death without a man on its back" reminds us that rapidly increased frequency and duration of exercise often causes injuries, confirming that every effective treatment is a double-edged sword.

One cartoon caricatured clinician declaimed to a forlorn patient: "Modern medical science has no explanation or cure for your malady. Fortunately for you, I happen to be a quack". Alternative therapies such as acupuncture, hypnosis, eye movement desensitization and herbal remedies will be bought by desperate and gullible souls suffering many maladies based on testimonials and in the absence of sound evidence.

Aboujaoude properly concludes by emphasizing the "dramatic changes that our society is undergoing as a result of the Internet revolution" and encourages us "to try to bridge the gap" between what little is known and our clinical need to know about the "pathological use of electronic media" (PUEM – one final acronym).

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Problematic Internet use: is it more compulsory than rewarding or mood driven?

STEFANO PALLANTI

Department of Psychiatry, University of Florence, and Institute of Neurosciences, Florence, Italy; Department of Psychiatry, Mount Sinai School of Medicine, New York, NY, USA

Internet represents the most important product of cultural industry in the mass society, and at the same time the ultimate threatening to the intimate space of subjectivity. Nonetheless, for most of us, it is just an unavoidable part of daily rituality. A few years ago, L. Wittgenstein stated that newspaper reading has replaced the morning prayer in the modern age. Today we could state that the laptop screen has replaced the tabernacle.

Nowadays Internet dysfunctional use is a true concern. In a sample of Italian students (1), we found that 5.6% were addicted to Internet according to the Internet Addiction Scale, and more than 15%, when interviewed by the PROMIS Questionnaire, reported they were disturbed by compulsive submissive or dominant repetitive behavior (including Internet chatting and mobile phone messaging). All these compulsions were strongly related to substance addiction, such as alcohol or drug use.

The distinction between physiological and pathological use of electronic media is, socially, a matter of quantity of time consumed and related social impairment. From the subjective viewpoint, the first signs are the psychological changes occurring in the virtual world (online disinhibition and increased risk-taking behaviors), along with the occurrence of dissociative experiences up to "loss of control".

In a recent study (2), we found that the severity measures of Internet addiction were positively correlated with perceived impairment of functioning in the family context ($r = 0.814$; $p \leq 0.001$) and Yale-Brown Obsessive Compulsive severity score ($r = 0.771$; $p \leq 0.001$). Scores on the Dissociative Experience Scale were higher than expected (23.2±1.8) and were related to higher obsessive compulsive scores ($r = 0.618$; $p \leq 0.001$), increased hours per week on the Internet ($r = 0.749$; $p \leq 0.001$), and a higher perceived impairment of functioning in the family context ($r = 0.677$; $p \leq 0.001$). From a phenomenological point of view, Internet addiction in our sample seemed to be more compulsory than rewarding or mood driven. The main attractiveness of Internet appeared to be emotional detachment.

It remains unclear whether Internet problematic use should be included among impulse control or addictive disorders. It will be useful in this respect to investigate the brain mechanisms and candidate endophenotypes (especially the number of D2 receptors in the mesocorticolimbic system and their downregulation after stimulation of the system). This could help us to develop effective strategies to prevent and treat the disorder both pharmacologically and behaviourally.

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Internet addiction: ongoing research in Asia

CHENG-FANG YEN, JU-YU YEN, CHIH-HUNG KO

Department of Psychiatry, Kaohsiung Medical University and Kaohsiung Medical University Hospital, Kaohsiung, Taiwan

Internet addiction has been found to be more prevalent in some Asian countries than in the United States (1). Differences in sociocultural background might partly account for this difference. Among various Internet activities, online gaming is the most developed in many Asian countries. Commercial promotion for online gaming focuses on the adolescent population. Adolescents in high schools of Asian countries usually face a strong academic competition. Internet provides a virtual world in which they can temporarily forget the stress of academic performance. However, heavy Internet use may result in problems in academic performance and social interaction.

Whether Internet problematic use is an addictive or an impulse control disorder has not been ascertained and needs further study. A functional magnetic resonance imaging (MRI) study found that a cue-induced online gaming urge among individuals with Internet gaming abuse activated brain areas similar to those involved in craving in people with drug addiction (2).

Comorbidity is another important issue mentioned in Aboujaoude's review. In cross-sectional questionnaire and interviewing studies in adolescents and college students in Taiwan (3-7), we found a high comorbidity of Internet addiction with attention deficit and hyperactivity disorder (ADHD), depression, social anxiety and substance use disorders. There are several possible mechanisms explaining this association. A comorbid mental disorder may result in, contribute to, or exacerbate the symptoms of Internet addiction. Internet addiction may lead to, contribute to, or exacerbate the symptoms of various mental disorders. There may be underlying biological, psychological, and sociological mechanisms shared by Internet addiction and various mental disorders. Factors related to sampling, assessment, investigation, study design, and data analysis may result in an inappropriate overestimation of the comorbidity (8,9). These mechanisms cannot be explored by a cross-sectional study design. A recent two-year prospective study found that depression, ADHD, and social phobia predict the occurrence of Internet addiction (10).

Some studies also found an association of Internet addiction with hostility (10) and aggressive behaviors (11) among adolescents. The effect of Internet addiction on the development of adolescents, especially aggressive or impulsive behaviors, is an important issue which must be evaluated in future.

Some group therapies and inpatient treatment models have been introduced in some Asian countries. However, their impact in improving Internet addiction has not been scientifically examined.

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Exploring the apparent absence of psychosis amongst the Borana pastoralist community of Southern Ethiopia. A mixed method follow-up study

TESHOME SHIBRE[1], SOLOMON TEFERRA[1], CRAIG MORGAN[2], ATALAY ALEM[1]

[1]Department of Psychiatry, Faculty of Medicine, Addis Ababa University, P.O. Box 9086, Addis Ababa, Ethiopia
[2]King's College London, Institute of Psychiatry, Section of Social Psychiatry, Health Service and Population Research Department, London, UK

There are few reports of the prevalence of psychotic disorders among isolated population groups. Where present, variations in prevalence estimates raise questions about the validity of methods of case ascertainment in such settings. In a previous population-based survey of the Borana pastoralist community in Ethiopia using the Composite International Diagnostic Interview, no cases of schizophrenia were identified. In order to further explore this finding and investigate how serious mental disorder is conceptualized, we conducted focus group discussions with key members of the Borana pastoralist community. Subsequently, focus group participants were used as key informants to identify cases with possible psychotic disorder, based on their conceptualization. Cases identified by key informants were interviewed by a trained psychiatrist using the Schedules for Clinical Assessment in Neuropsychiatry (SCAN), to confirm presence of disorder. Focus group discussions were subjected to thematic analysis. The incongruity between local and psychiatric concepts lay mainly in the fact that key informants described characteristics of marata ("madness") in terms of overt behavioural symptoms. Following the focus group discussions, participants identified eight individuals with schizophrenia and 13 with a psychotic mood disorder, confirmed through SCAN interview. Studies of psychotic disorders in such communities are likely to benefit from combining structured interviews with the key informant method.

Key words: Psychotic disorders, Borana community, key informant method

(World Psychiatry 2010;9:98-102)

In recent years, a number of methodologically sound meta-analyses have challenged long-standing assumptions about the incidence, prevalence and outcome of schizophrenia in different cultural settings (1,2). In addition to environmental, psychosocial and biological factors, variations in reported incidence and prevalence could result from differences in the methodologies employed across studies, ranging from clinical case record surveys to community-based samples assessed with structured diagnostic interviews (3-5). Furthermore, current approaches to the classification of symptoms and syndromes have been criticized for being heavily biased towards European and North American cultural norms (6,7). These factors highlight the methodological challenges in generating directly comparable estimates of the prevalence and incidence of schizophrenia and other psychoses in non-Western settings.

The Composite International Diagnostic Interview (CIDI) is recommended as an instrument of choice in epidemiological research where the goal of the study is to draw comparisons about prevalence with other areas. It has been reported to be a reliable and valid instrument for both clinical and community based studies, appropriate for use in different settings and acceptable across cultures (8,9). However, because of the difficulty of diagnosing psychotic disorders using a structured interview in isolation, clinical re-interviews are encouraged in epidemiological studies (10-13).

In our previous study among the Borana semi-nomadic community in Ethiopia, using the CIDI, the lifetime prevalence of ICD-10 generated mental disorders was reported to be 21.6%, but no case of schizophrenia or other psychotic disorders was detected (14). On the face of it, these findings support the idea that there are pockets of high and low prevalence of psychotic disorders (15), with the possibility of complete absence in some communities.

The current study was designed to re-examine this earlier finding. We conducted a two stage investigation: a) key informant interviews to explore local understandings of severe mental disorders, and b) ascertainment of cases of possible psychosis by the key informants, followed by clinical interview using the Schedules for Clinical Assessment in Neuropsychiatry (SCAN, 16). We hypothesized that the initial finding was a consequence of methodological bias, and that local beliefs, perceptions, and understandings of symptoms of psychosis were such as to produce negative responses to psychosis-related questions on the CIDI.

METHODS

The Borana pastoralist study area is a remote, rural region with poor infrastructure, and no mental health services. The Borana are among the few nomadic groups that still exist in the world today. They reside in all but two districts of the Borana zone, extending over a savannah grassland area of more than 400 km diameter in the southern part of Ethiopia, bordering Kenya. The Borana move around in search of grazing land and water for their cattle, especially during severe periodic drought seasons, which occur as frequently as every two to three years, and mostly live on milk and meat.

The study was conducted in the villages of Megado, Dida Yabello and Dida Hara, with combined populations of 10,598 aged over 18 years, where the earlier CIDI interviews were conducted. It was a mixed-method study involving both qualitative methods (focus group discussions) and a structured diagnostic component using key informants for case finding.

In total, 56 key informants were invited to participate in the focus group discussions. Six groups of informants, each consisting of between 8 and 10 participants, were organized in each of the three study sites or villages. The inclusion criteria were: men and women of age 18 and above, resident in one of the villages for over two years, formal or informal community leaders or generally respected individuals with whom the researcher could communicate for information exchange. Visits to the study sites were made prior to the date of the focus group discussions to ensure that all the villages were represented in the groups.

Based on the inclusion criteria, two groups, one of men and one of women, were organized in each study site. The participants were informed about the study, and their willingness to participate was ascertained before the group discussion was started.

The focus groups were conducted by a moderator and a note-taker, both of them psychiatrists, who speak the local dialect. The group discussions were held in a local health care centre (2 groups) or community meeting area (4 groups). The discussions followed a topic guide using a series of open-ended questions regarding awareness, symptoms and causes of severe mental illnesses, and traditional ways of caring for severely mentally ill persons. They lasted between 45 and 80 minutes. In all groups, the facilitator encouraged participants to become actively involved in the discussion and ensured that each participant was given an equal chance to contribute. At the end of each group discussion, participants were asked to identify individuals living in their neighborhood who, from their perspective, met local criteria for madness or severe mental disorder.

All the proceedings were tape-recorded. A person who was fluent in the local dialect transcribed the discussions. The local transcripts were then translated into English by a psychiatrist and the accuracy of the translations was cross-checked by another psychiatrist, who has a good command of both languages and was brought up in the Borana area.

The analysis proceeded through a process of detailed reading, annotating and categorizing of transcripts to identify themes relating to the key areas of interest, i.e., terms and concepts, causes, treatments. Two psychiatrists independently coded each transcription manually. Any discrepancies were discussed and consensus on the appropriate coding reached. The interpretation of the data was discussed and agreed by the researchers before the write up.

All individuals who were identified by the key informants and who consented to be interviewed by the clinician were assessed in a health post facility or in their homes using the SCAN, the purpose being to explore the degree of congruence in case-definition between key informants and the psychiatrist. Clinical diagnoses were generated based on DSM-IV criteria. Sociodemographic correlates of SCAN-interviewed cases were analysed using SPSS 13.

Ethical clearance was obtained from the Ethiopian Science and Technology Agency (ESTA). All necessary information regarding the purpose of the study was given to the participants and, in cases where the subjects were acutely unwell, to their first-degree relatives. All participants gave informed consent. Any individuals requiring medication for mental disorder were treated on site, with referral for follow-up as indicated.

RESULTS

Fifty-six key informants were invited to the focus group discussions, of whom 49 (87.5%) participated. Twenty-six (46.4%) were female. The age of the participants ranged from 25 to 60 years (mean±SD 37.0±17.7 years). The majority of participants had never been to school, except for three who had received elementary level education.

Although a few participants reported that they had never heard about or known a person with severe mental illness, as the discussion progressed, all openly discussed their experiences of having known such individuals.

Participants gave a local name to the illness they described as constituting severe and disabling mental illness (*marata*, literal translation "madness") which seemed to have broad conceptual equivalence to Western notions of psychosis. All participants accepted the term and there was no alternative terminology suggested for such illness. Participants differentiated *marata* from temporarily occurring culture-bound conditions such as *sarki*, that are considered to be more common.

> *This is called marata. It is different from sarki. A person could become marata for no apparent reason. Marata comes later in life, after the person has matured. When the person becomes marata, he behaves differently. No one knows what caused his madness for sure. He is marata... he runs around aimlessly, burns houses, beats people, and he snatches things from people.*

One female participant described behavioural disturbance following alcohol use: *"some people become mad only when they drink alcohol ... they become mad again whenever they drink some [more] alcohol"*. Emotional disturbances were also reported to be associated with childbirth and adverse life events, such as the death of a loved one. Participants also differentiated recurrent or chronic mental illnesses from those caused by acute febrile conditions, which are common in the area.

One participant distinguished different courses of *marata* as follows: *"For instance, one kind doesn't get better once [they develop] marata, hence they die marata, while the other kind gets better with treatment"*. However, in general, nearly all participants agreed that once a person became mentally ill, he would not be cured. This assertion was supplemented by a common local proverb that says *"maaratan hin* *magaallaa malee, hin fayuu" ("Marata* can get better but may never be cured"). Only a few participants gave examples of people who had just one episode of illness and recovered.

Observable behavioural symptoms were reported to be markers of *marata* by all participants. Besides physical violence and aggression, participants agreed that such behaviour could include disturbed feeding habits. For example: *"He would eat non-edible things such as soap. He would eat everything, wild beasts, snakes...".*

Aggressive and violent behaviour that is completely out of control, involvement in situations that could endanger self, others or animals, restlessness and being always on the move or roaming, disorderliness in the ways a person dresses, speaks and socializes with others, and unusual or abnormally quiet behaviour were all described and agreed by all participants to be markers of severe mental disturbance.

Some participants described behavioural disturbance as an easy way of detecting mental illness. An elder woman said: *"It is easy to recognize a marata person. His behaviour would be changed. He would speak differently. A previously peaceful person would turn aggressive for no apparent reason".* But others described aggression and behavioural disturbances to be periodic. One participant gave a description of behaviour in a person whom he knew well.

> *He sometimes looks healthy. He wouldn't attack people. He would walk quietly. There is another one who doesn't talk too much; he would say one thing and then he keeps quiet. There are times when he would become aggressive. The man I told you about earlier, the one who killed cattle, wouldn't talk to people. He would sit quietly. One morning, he started to chase the cattle and people. A mad person can't stay quiet for a long time. He will become ill one day.*

Violations of social norms were also considered to be abnormal, whether occurring within the family or in other social settings.

> *She looks at people with one eye. She wouldn't talk to people. She wouldn't respond even if you called her name. People stand in line and take turns when collecting water from a spring. She wouldn't stand in line. She would come straight to the spring and take water without standing in line....*

In addition to nonsocial behaviour, the person's speech was described by nearly all participants to be indicative of abnormalities.

> *The other symptom is shouting... He would shout and run... People would say the person has become mad when he shouts... When he starts to mix up things about Kenya and Ethiopia, Borana would say the person is taka marata... That means the person is developing madness.*

Little emphasis was given to thought and perceptual disturbances in describing *marata*. Overall, behavioural changes seemed to dominate the symptom profile. Only one participant described feelings of fearfulness and paranoid thinking: *This man developed the illness just recently. At the beginning, he started to be fearful. He started complaining of being followed... He says people follow him and insult him, someone walks by his side and insults him".*

Some participants described loss of capacity to work, care for self and family, and gross deterioration in all spheres of functioning as being a consequence of *marata*.

> *He was a hard-working man: he would plough the farm and dig water wells. Now, he is out of his mind... He doesn't recognize anything. He would go out of his home and would come back naked, throwing his clothes away. He can't recognize his wife or children. Previously he was a normal person.*

In all groups, participants openly discussed examples they knew of mentally ill persons who had either committed suicide in recent years or who had migrated to nearby towns.

> *There was an old lady who drank poison in this village. She was marata. She survived after drinking poison. But later on she died after hanging herself. This happened 4 or 5 years ago.*

In all groups participants gave accounts of knowing someone with severe mental illness from their villages who had migrated to the towns around and also tried to give possible reasons.

> *Mad people like noise and they would run to town. They are better tolerated in town. People in towns give them food... maybe people who live in town are not afraid that these people would burn their houses. They wouldn't chase them away like we do ... that is why they run to town.*

Sixty-five individuals were identified by the key informants. Out of 65 individuals approached, 48 (73.8%) adults, age range 18 to 80 years, were assessed. Two individuals were not willing to come for the interview, while the remaining 15 were not found at home after repeated visits. Of all the individuals interviewed by the psychiatrist, 36 (75.0%) had a DSM-IV axis I diagnosis. Eight (16.8%) had schizophrenia, 13 (27.1%) had a psychotic mood disorder, and 2 (4.2%) had brief psychotic disorder. Thirteen (27.1%) had a non-psychotic mental disorder (mood, anxiety or substance-related disorder or dementia).

DISCUSSION

Using a two-stage design, this study aimed to explore local concepts and understandings of severe mental illness in the

Borana pastoralist community in Ethiopia, and to further examine the previously reported absence of psychotic disorder in this setting (14). In our earlier population-based survey, the overall prevalence of psychiatric disorders, assessed using the CIDI, was 21.6%, with no case of schizophrenia. In this current study using Borana key informants, there was widespread awareness of severe mental illness, approximating Western conceptualizations of psychosis. Key informants identified twenty-three SCAN-confirmed cases of psychotic disorder, including eight cases of schizophrenia.

As with many other lay interviewer administered instruments, the major limitation with the CIDI is the poor validity in detecting psychotic symptoms (9,12,17). In the face of impaired cognition and judgment, psychotic patients may deny illness and respond negatively to such structured questionnaires, unless they are augmented by other methods. The validity of the CIDI in general population samples (17) and in non-literate non-Western populations (18) has also been questioned.

Key informants have been used in a few psychiatric studies for case detection both in high-income (19,20) and low-income countries (12,21). In an earlier study in Butajira, Ethiopia, CIDI and key informant methods were used for first stage screening of a large epidemiological study. The two methods were compared with regard to their case detection capacity and it was reported that the key informant method was significantly superior to CIDI, with greater sensitivity for identification of cases of schizophrenia (12).

The use of key informants for case detection in a similar previous study in Ethiopia reported that such informants are highly knowledgeable about mental health problems and the occurrence of cases in the neighbourhood (22).

In the current study, the majority of those identified by key informants as being *marata* (“mad”) fulfilled criteria for a variety of axis I DSM-IV disorders, but not necessarily psychosis. The key informants were knowledgeable about symptoms of mental illness and held concepts which to some extent overlapped with those held by professionals. The incongruity between key informants-identified cases and the clinical assessments arose mainly because key informants tended to describe the characteristics of *marata* in terms of overt behavioural symptoms while underreporting symptoms related to thought disturbance. This contrasts with Western conceptualizations of psychosis, as reflected in the CIDI, which rest primarily on the presence of delusions and hallucinations.

In our opinion, the use of qualitative methods for attempting to understand local descriptions of severe mental illness appears to be superior to case-detection relying upon presentation of vignettes based on Western conceptualizations of disorder. Furthermore, attempts to explain the variation in prevalence of psychosis across cultural settings need to consider local conceptualizations of symptoms and disorder before concluding that true differences exist. In our study, although general concepts of severe mental disorder in the Borana pastoralist community reflected traditional beliefs, especially with regard to the attribution of the illness and recommended interventions, there was significant overlap with the Western clinical models of psychosis in terms of speech and behavioural disturbances, as well as social and occupational dysfunction.

Symptoms of severe mental illness and, based on these symptoms, individuals with psychotic disorder were easily identified by key informants. One major difficulty in relying on local concepts of *marata* is that this concept seems to be broader and more all-encompassing than Western concepts of psychosis. As a consequence, some individuals with no mental disorder or who were suffering from non-psychotic conditions when assessed by clinical interview using SCAN were labeled as *marata*. In addition, the strong local belief that *marata* can only improve and never be cured could potentially lead to stigmatization of all emotionally disturbed individuals irrespective of the cause, diagnosis and course.

Cases of psychosis may have been missed in the original study for various other reasons. Some cases were missed in the sample selection. Re-examining the CIDI data from the previous study, we discovered that four of the cases with psychosis identified by the key informants had not been interviewed by CIDI. As noted by the key informants, persons with severe mental illness may become vagrants and migrate to cities, and are also at risk of premature mortality through suicide. Other cases were interviewed by CIDI but denied illness. In this category we have one case of chronic schizophrenia who denied any illness at all. Some further cases were interviewed but reported sub-threshold symptoms that did not fulfill the diagnostic criteria for schizophrenia: we found three cases in this category. Finally, methodological bias may have been involved, i.e., uneasiness, distrust and misunderstanding of the CIDI items due to difficulties comprehending the terminology.

The main limitation of this study is that the time period between the CIDI interview and the current key informant interview was over six years, making the comparison of the two methods difficult. Nonetheless, identification of psychotic disorders in this community provides evidence that psychosis occurs in this population group. Most of the cases identified had a long duration of illness and the symptoms had been present during the CIDI interview.

In conclusion, our data suggest that studies of psychotic disorders in isolated communities are likely to benefit from combining structured interviews with the key informant method.

Acknowledgement

This study was funded by the Stanley Medical Research Institute, USA. We would like to thank all individuals who participated in the study. Charlotte Hanlon is also acknowledged for editing an earlier manuscript.

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The role of anxious and hyperthymic temperaments in mental disorders: a national epidemiologic study

ELIE G. KARAM[1,2,3], MARIANA M. SALAMOUN[3], JOUMANA S. YERETZIAN[3], ZEINA N. MNEIMNEH[3,4], AIMEE N. KARAM[1,2,3], JOHN FAYYAD[1,2,3], ELIE HANTOUCHE[5], KAREEN AKISKAL[6], HAGOP S. AKISKAL[6]

[1]Department of Psychiatry and Clinical Psychology, St. George Hospital University Medical Center, P.O. Box 166227, Ashrafieh, Beirut 1100 2110, Lebanon
[2]Department of Psychiatry and Clinical Psychology, Faculty of Medicine, Balamand University, Beirut, Lebanon
[3]Institute for Development Research Advocacy and Applied Care (IDRAAC), Beirut, Lebanon
[4]Program in Survey Methodology, Institute for Social Research, University of Michigan, Ann Arbor, MI, USA
[5]Anxiety and Mood Center, CTAH, Paris, France
[6]International Mood Center, University of California at San Diego, La Jolla, CA, USA

Temperament has been demonstrated clinically to be linked to mental disorders. We aimed to determine the possible role of temperament in mental disorders in a national epidemiologic study. A nationally representative sample of adults (n=1320) was administered the Lebanese-Arabic version of the Temperament Evaluation of the Memphis, Pisa, Paris and San Diego Autoquestionnaire (TEMPS-A), and the Arabic CIDI 3.0, as part of the LEBANON study. The association among temperaments and DSM-IV mood, anxiety, and impulse control disorders was assessed. The anxious temperament was shown to be a robust predictor of most disorders, especially within the anxiety and depressive clusters. The hyperthymic temperament had a uniquely protective effect on most mental disorders, with the exception of separation anxiety, bipolar, substance abuse and impulse control disorders. These effects were moderated by age and education. Temperaments, previously largely neglected in epidemiologic studies, could play a major role in the origin of mental disorders.

Key words: Temperament, Lebanon, mood, anxiety, impulse control

(World Psychiatry 2010;9:103-110)

Temperament is best described as the trait emotional reactivity of an individual (1,2), appears to be stable across life (3,4), and has strong genetic underpinnings (5-7). There is increasing evidence that temperaments and related personality constructs play a role in predisposing individuals to mental disorders (3,8,9). The degree to which the two belong to the same "continuum" is still under debate (10,11).

Akiskal et al (12) developed the Temperament Evaluation of the Memphis, Pisa, Paris and San Diego Autoquestionnaire (TEMPS-A) to measure five affective temperament traits: depressive, cyclothymic, hyperthymic, irritable, and anxious (13). In addition to its English version (12), this instrument has been adapted and validated in other languages (14), and was shown to be quite suitable for administration in large epidemiological studies (4).

Although temperament has been found clinically to be linked to mental disorders (14), this effect has seldom been assessed in a non-clinical population (8,15) and, to the best of our knowledge, has not been investigated at a national level.

The Lebanese Evaluation of the Burden of Ailments and Needs Of the Nation (LEBANON) (16-18) was carried out as part of the World Health Organization (WHO)'s World Mental Health (WMH) surveys, now spanning over 29 countries. The LEBANON study showed that 25.8% of the Lebanese adult population had at least one DSM-IV defined lifetime disorder and 17% had at least one 12-month disorder. The lifetime prevalence of mood and anxiety disorders was 12.6% and 16.7%, respectively, while their 12-month prevalence was 6.6% and 11.2% (17,18). Lebanese adults scored highest on the hyperthymic, followed by the depressive, cyclothymic, anxious, and lastly the irritable temperament (16), echoing the general trends in other populations (14,19-21).

The aim of this study was to explore the following issues: a) do temperaments vary between individuals who have 12-month DSM-IV axis I mental disorders and those who do not? b) what is the interplay between temperament and socio-demographic variables in predicting mental disorders?

METHODS

The LEBANON study is comprised of two components: the LEBANON WMH component, carried out in association with the Harvard University and the WHO using the Composite International Diagnostic Interview (CIDI) 3.0 (17,18,22), and the LEBANON-TEMP component using the Lebanese-Arabic TEMPS-A (4,16).

A nationally representative stratified multi-stage clustered area probability sample of non-institutionalized adults (aged ≥18 years) was selected for this study. A total of 2,857 respondents were administered the CIDI 3.0 and a sub-sample of 1,320 respondents (47% of the total sample) were requested to fill the TEMPS-A.

Consent procedures were approved by the Institutional Review Board Committee of the St. George University Medical Centre/Faculty of Medicine, Balamand University, Lebanon, which is registered with the US Office of Human Research Protections in the Department of Health and Human Services.

The Lebanese-Arabic TEMPS-A is a questionnaire consisting of 110 items for women and 109 for men, covering the five affective temperamental scales: depressive (21 items), cyclothymic (21 items), hyperthymic (21 items), irritable (20/21 items) and anxious (26 items). Details on the psychometric properties of this scale and its suitability for use in epidemiologic studies can be found elsewhere (16,17). A factor analysis of the Lebanese-Arabic TEMPS-A yielded five factors: anxious-depressive, hyperthymic, irritable, anxious-somatic, and depressive-cyclothymic (16).

The Arabic CIDI 3.0 was used as the diagnostic instrument for DSM-IV disorders. The CIDI included two parts: part I assessed "core" disorders (depression, mania, panic, phobias, generalized anxiety disorder, intermittent explosive disorder, suicide and alcohol abuse) and was administered to all respondents; part II assessed risk factors, consequences and other correlates (employment history, educational attainment, social and marital life, exposure to trauma, etc.) as well as additional disorders (drug abuse, post-traumatic stress disorder, obsessive-compulsive disorder, psychosis, attention-deficit/hyperactivity disorder, conduct disorder, and separation anxiety disorder). The assessment of conduct disorder and attention-deficit/hyperactivity disorder was limited to respondents aged 18-44 years to reduce recall bias. Part II section was administered to all part I respondents who met lifetime criteria for any "core" disorder, plus a probability sub-sample (20%) of the rest of the respondents (who screened negative) (16,17).

The mean age of the TEMPS-A sample was 43±16 years (45% men, 55% women); 68% of the sample were married, 24% were single and the remaining 8% were either separated, divorced or widowed. The mean scores on the TEMPS-A subscales were as follows: hyperthymic 12.5±4.5, depressive 7.6±2.9, cyclothymic 5.9±4.3, anxious 6.6±5.2, and irritable 2.8±3.1 (16).

All results were weighted for the appropriate differential probability of selection and were post-stratified to government population data on socio-demographic and geographic variables (17,18). Differences between weighted means were measured by Student t-test. Differences in frequencies were tested using Rao Scott chi-square test. Correlates of disorders were identified using logistic regression. These analyses were conducted using SAS version 9.1 procedures that account for complex sample design, and significance was determined using a 95% confidence interval. Analyses for significance were not calculated for unweighted numbers ≤30.

Cutoffs for the temperament variables were determined through the classification and regression tree analysis (CART), using the RPART routine in R version 2.3.1 without weighting. This program develops CART models using a two stage procedure with the resulting model displayed as binary trees. First the saturated model was fit for all three outcomes (any anxiety, any mood and any disorder). Then the tree with the smallest cross validation error was selected. Based on cross validation, the optimal trees were identified using the number of nodes corresponding to the smallest cross validation error (xerror < 1 for optimal trees, or xerror smaller than 1 SE for best trees). The splitting of nodes was stopped at n <30.

RESULTS

Compared to respondents having no disorders, respondents with any 12-month mood or anxiety disorder had significantly higher scores on each of the depressive, cyclothymic, irritable and anxious subscales, but *lower* scores on the hyperthymic temperament subscale (Table 1). Impulse control, agoraphobia and adult separation anxiety disorders had

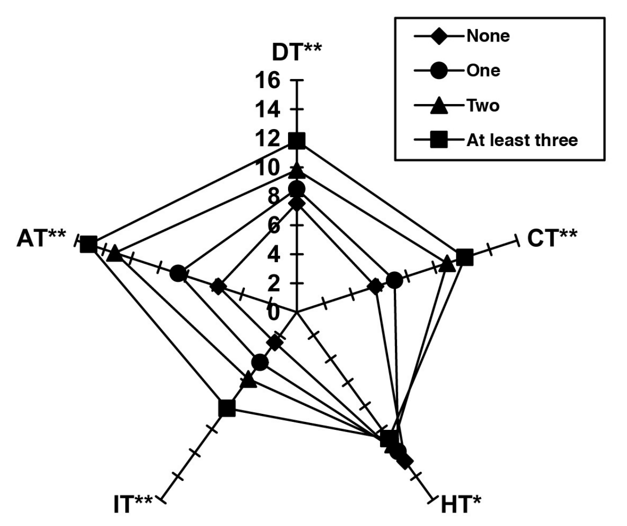
Table 1 Affective temperament scores and 12-month DSM-IV disorders

	Temperament score (mean±SE)				
	Depressive	Cyclothymic	Hyperthymic	Irritable	Anxious
Any mood disorder (n=82)	9.9±0.5**	9.6±0.6**	10.2±0.6**	5.6±0.5**	12.3±1.0**
Major depressive disorder (n=64)	9.9±0.5**	9.1±0.7**	9.5±0.7**	5.2±0.7*	12.5±1.1**
Dysthymia (n=8)[a]	11.9±1.4	11.6±2.5	12.9±2.1	5.8±2.4	15.0±2.8
Bipolar disorders (n=18)[a]	9.7±0.7	11.8±0.8	12.8±0.9	7.5±0.8	11.8±1.4
Any anxiety disorder (n=101)[b]	8.9±0.4*	8.3±0.8*	11.1±0.6*	4.9±0.6*	10.3±0.8**
Panic disorder (n=6)[a]	13.5±1.8	10.9±2.4	8.9±1.6	7.0±2.2	16.5±2.3
Generalized anxiety disorder (n=19)[a]	9.5±0.6	8.0±1.0	12.8±1.2	5.5±0.8	12.4±1.2
Specific phobia (n=85)	8.6±0.5*	8.7±0.6**	11.8±0.4*	4.5±0.4**	9.8±0.7**
Social phobia (n=16)[a]	9.8±0.7	10.1±1.6	10.6±1.0	4.8±1.2	10.8±1.9
Agoraphobia without panic (n=3)[a]	11.4±1.3	14.4±1.5	14.4±0.5	8.2±1.0	17.3±2.4
Post-traumatic stress disorder (n=15)[a,b]	10.0±0.9	10.0±1.6	9.4±1.0	5.1±1.7	15.0±1.6
Obsessive-compulsive disorder (n=3)[a,b]	14.0±0.9	14.7±2.9	11.0±2.6	12.4±3.3	17.2±2.5
Separation anxiety disorder (n=7)[a,c]	11.2±1.0	12.0±0.9	14.1±1.6	10.1±0.8	14.2±1.7
Any impulse control disorder (n=18)[a,c]	9.7±0.7	12.5±0.6	13.3±0.5	8.7±0.6	13.6±1.3
ADHD (n=6)[a,c]	11.7±0.5	12.5±0.8	12.6±1.0	10.4±0.6	15.2±0.8
Intermittent explosive disorder (n=15)[a]	8.6±0.7	11.6±1.1	13.6±0.5	7.5±0.5	13.0±1.4
Any substance use disorder (n=5)[a,b]	10.0±0.5	5.7±1.7	16.0±1.0	4.2±1.4	5.8±1.9
Any disorder (n=163)[b]	9.0±0.3**	8.1±0.6*	11.7±0.6	4.8±0.4**	9.9±0.8**
No disorder (n=384)	7.5±0.2	5.7±0.4	12.7±0.3	2.6±0.3	5.7±0.3

ADHD – attention-deficit/hyperactivity disorder

[a] number of cases too small (n≤30) to test for significance; [b] estimated in the part II sample (n=547); [c] estimated among respondents aged 18-44 years in the part II sample

Significantly different from the category "no disorder": *p<0.05; **p<0.001



DT - depressive temperament; CT – cyclothymic temperament;
IT – irritable temperament; HT – hyperthymic temperament;
AT – anxious temperament.
*$p<0.05$; **$p<0.01$

Figure 1 Temperament scores and number of mental disorders

higher scores on all the temperaments, including the hyperthymic; however, due to small numbers, significance analyses could not be computed (Table 1). Similar results were found for lifetime analyses (data available upon request).

The mean scores on the depressive, cyclothymic, anxious and irritable temperament subscales increased significantly as the number of disorders increased ($p<0.001$). Conversely, the mean hyperthymic score decreased significantly as the number of disorders increased ($p<0.05$) (Figure 1). As with the original TEMPS-A scales, the scores of the other four statistically derived factors (anxious-depressive, irritable, anxious-somatic, and depressive-cyclothymic) were higher among individuals with any anxiety or any mood disorder, and again conversely the scores on the hyperthymic factor were lower (data available upon request).

Temperament scores were entered in three logistic models as continuous variables controlling for socio-demographic variables (age, gender, marital status, and education) to predict any disorder, any mood and any anxiety disorder. Having any disorder (mood, anxiety, impulse control and substance abuse) was associated with being single (OR=2.4, CI=1.1-5.5), younger (18-49 yrs) (OR=18.9-23.2), and having a higher anxious temperament score (OR=1.2, CI=1.1-1.3). Having any mood disorder was associated with being single (OR=3.1, CI=1.4-6.9), younger (<65 years) (OR=7.6-16.7), and having higher scores on the irritable (OR=1.2, CI=1.1-1.3) and anxious temperament (OR=1.2, CI=1.1-1.2) subscales, but lower hyperthymic temperament score (OR=0.8, CI=0.8-0.9). Any anxiety disorder was more likely found among female gender (OR=3.4, CI=1.5-7.4), and associated with higher anxious temperament scores (OR=1.1, CI=1.0 -1.2), but lower hyperthymic temperament scores (OR=0.9, CI=0.8-0.9) (Table 2).

CART was used to evaluate the cutoffs at which specific

Table 2 Correlates of 12-month DSM-IV disorders, OR (95% CI)

	Any disorder	Any mood	Any anxiety
Sex			
Female	2.1 (0.9-5.2)	1.0 (0.5-2.2)	3.4 (1.5-7.4)
Male	1.0	1.0	1.0
	χ_1^2=2.7	χ_1^2=0.0	χ_1^2=9.1*
Age (years)			
18-34	23.2 (1.7-317.8)	7.6 (1.3-44.7)	4.1 (0.7-22.4)
35-49	18.9 (1.5-239.7)	20.8 (3.6-120.6)	3.2 (0.4-26.2)
50-64	6.3 (0.9-42.3)	16.7 (2.5-112.6)	1.8 (0.4-8.2)
≥65	1.0	1.0	1.0
	χ_3^2=6.1	χ_3^2=15.3*	χ_3^2=3.6
Marital status			
Never married	2.4 (1.1-5.5)	3.1 (1.4-6.9)	1.4 (0.4-4.7)
Married/cohabiting	1.0	1.0	1.0
	χ_1^2=4.5*	χ_1^2=8.3*	χ=0.3
Education			
Primary, no education	2.9 (0.4-23.1)	1.4 (0.3-5.9)	0.5 (0.1-2.5)
Complementary, some secondary	1.5 (0.5-4.9)	1.9 (0.6-5.5)	1.2 (0.3-4.4)
Secondary or some university	2.0 (0.6-6.5)	1.8 (0.7-4.6)	2.3 (0.6-8.3)
University degree	1.0	1.0	1.0
	χ_3^2=2.2	χ_3^2=1.8	χ_3^2=8.1*
Temperament			
Depressive	1.0 (0.9-1.2)	1.1 (0.9-1.2)	1.1 (0.9-1.2)
Cyclothymic	0.9 (0.8-1.1)	1.0 (0.9-1.1)	0.9 (0.8-1.1)
Hyperthymic	0.9 (0.8-1.0)	0.8 (0.8-0.9)	0.9 (0.8-0.9)
Irritable	1.1 (1.0-1.2)	1.2 (1.1-1.3)	1.1 (0.9-1.2)
Anxious	1.2 (1.1-1.3)	1.2 (1.1-1.2)	1.1 (1.0-1.2)

The correlates of mood disorder were estimated in the part I sample (n=1320), those of anxiety and any disorders in the part II sample (n=547). Any disorder included mood, anxiety, impulse control, and substance use disorders. Each temperament was entered as a continuous variable
*Significant at the .05 level, two-sided test

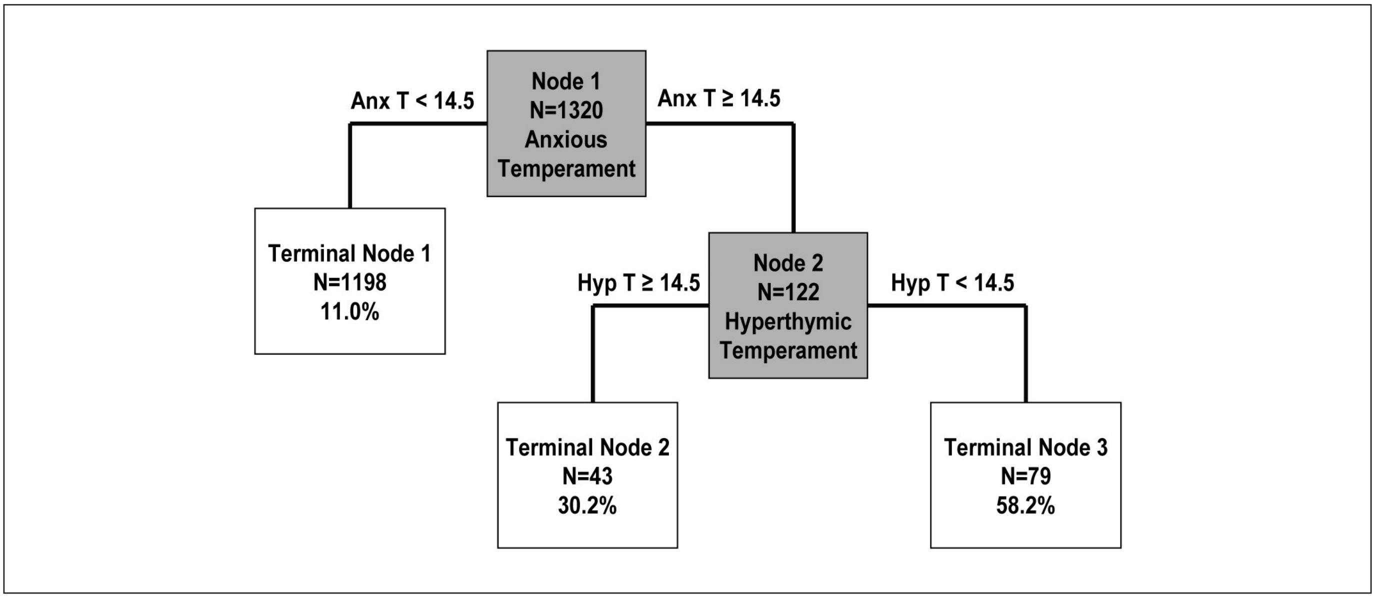


Figure 2 The classification and regression optimal tree for having any mental disorder

temperaments increase the probability of having a mental disorder controlling for socio-demographic variables (age, gender, marital status, and education). Optimal models were reached for any mental disorder, for any mood and for any anxiety disorder.

A cutoff of 14.5 (+1.5 SD of the population mean) on the anxious temperament subscale was the main node that divided the risk of having any 12-month mental disorder into two groups. Individuals with an anxious temperament score <14.5 had an 11% risk of developing a mental disorder versus 47.5% for those with an anxious score ≥14.5. Those who, in addition to the higher scores on the anxious temperament (≥14.5), had hyperthymic scores lower than 14.5 (+0.4 SD of the population mean) had a risk increased to 58.2%, but, if their hyperthymic score was higher or equal to 14.5, their risk of having any mental disorder diminished to 30.2% (Figure 2).

For the diagnosis of any 12-month mood disorder, a cutoff of 14.5 (+1.5 SD of the population mean) on the anxious temperament subscale was the main node that divided the risk of having any mood disorder into two groups. Individuals with an anxious score <14.5 had only a 3.8% risk of developing a mood disorder versus 28.7% for those who had an anxious score ≥14.5. However, if the latter had, in addition, a hyperthymic score <6.5 (-1.3 SD of population mean) the risk increased up to 66.7%, while, if their hyperthymic score was ≥6.5, the risk was 23.4%. For those who had a hyperthymic score ≥6.5, the probability increased up to 64.3% if they had higher education and an irritable temperament score ≥8.08 (+1.7 SD of population mean), but decreased to 18.8% if they had an irritable score <8.08 (Figure 3). Anxious temperament remained a main predictor of having a mood disorder even after controlling for having a comorbid anxiety disorder (data not shown).

The optimal model for any 12-month anxiety disorder showed that a cutoff of 14.5 on the anxious temperament subscale divided individuals into a lower risk group (7.5%) and a higher risk group (32.8%) for having any anxiety disorder. However, if the latter had a hyperthymic score ≥14.5, the risk became 18.6%, while it increased to 40.5% if the hyperthymic score was <14.5. For those who had a low hyperthymic score (<14.5), the risk would be 30.3% if they were 18-34 years or older than 65. However, if they were 35-64 years, the risk was determined by whether their score on the hyperthymic subscale was <11.5 (58.0%) or ≥11.5 (36.4%) (Figure 4).

The CART analyses for any disorder, for any mood or any anxiety disorders were repeated with factors, and factor one (anxious-depressive) showed to be the main node outlining the risk of having 12-month disorders, with factor two (hyperthymic) having a protective role. Additionally, CART analyses were repeated for each gender alone and yielded the same results regarding anxious temperament and mood disorders (data available upon request).

DISCUSSION

Our findings from a non-clinical, nationally representative sample suggest that, on a bivariate level, affective temperaments as defined by the TEMPS-A (or the factors of the latter) are associated with 12-month prevalence of several DSM-IV mental disorders as diagnosed by the CIDI 3.0. This association is significantly *positive* for the cyclothymic, depressive, anxious and irritable temperaments, which have been shown to be correlated (16), and *negative* for the hyperthymic temperament, except for impulse control disorders, substance abuse disorders and adult separation anxiety, while small numbers precluded solid conclusions at this time. We partially addressed the shortcoming of small numbers by looking

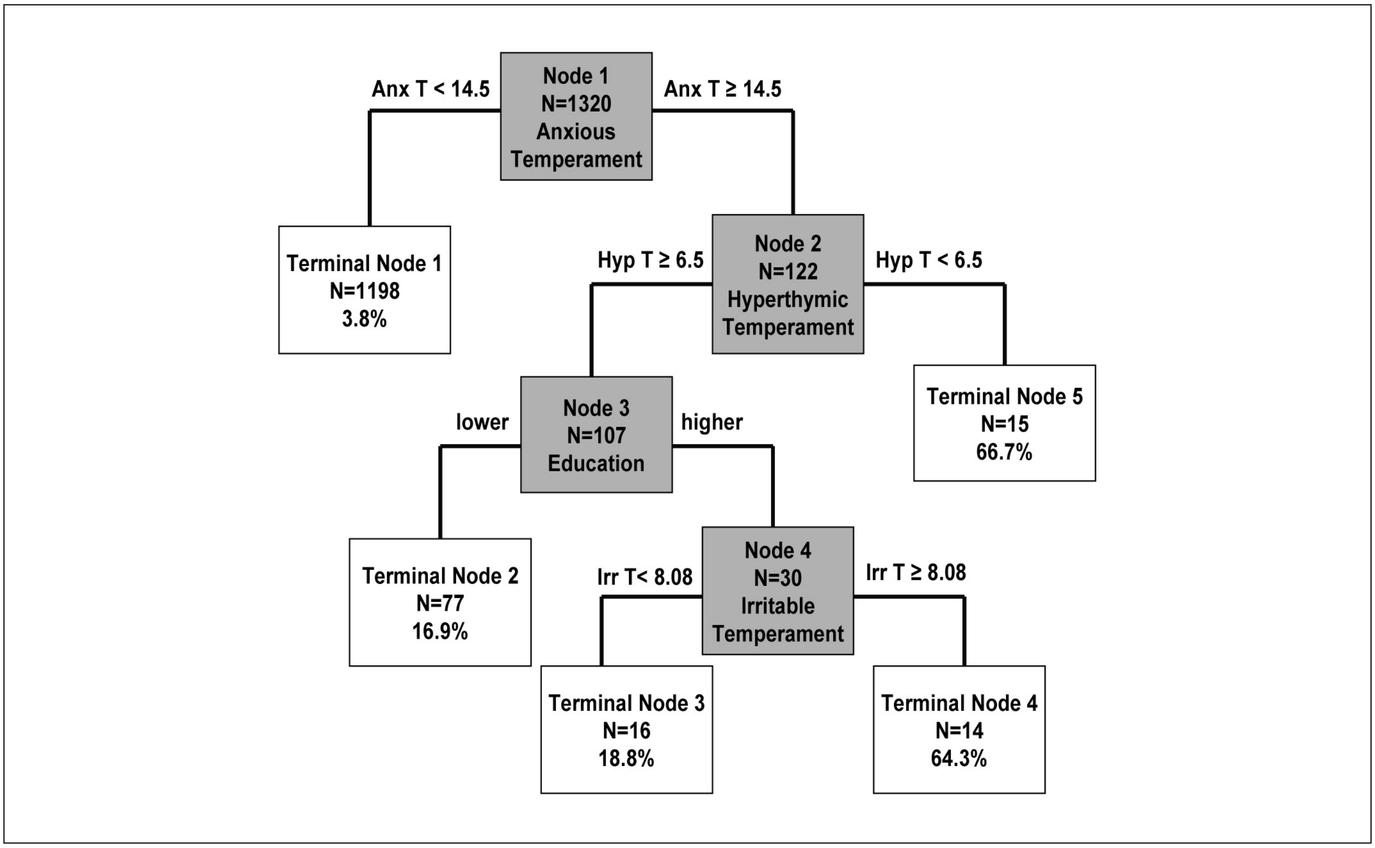


Figure 3 The classification and regression optimal tree for having any mood disorder

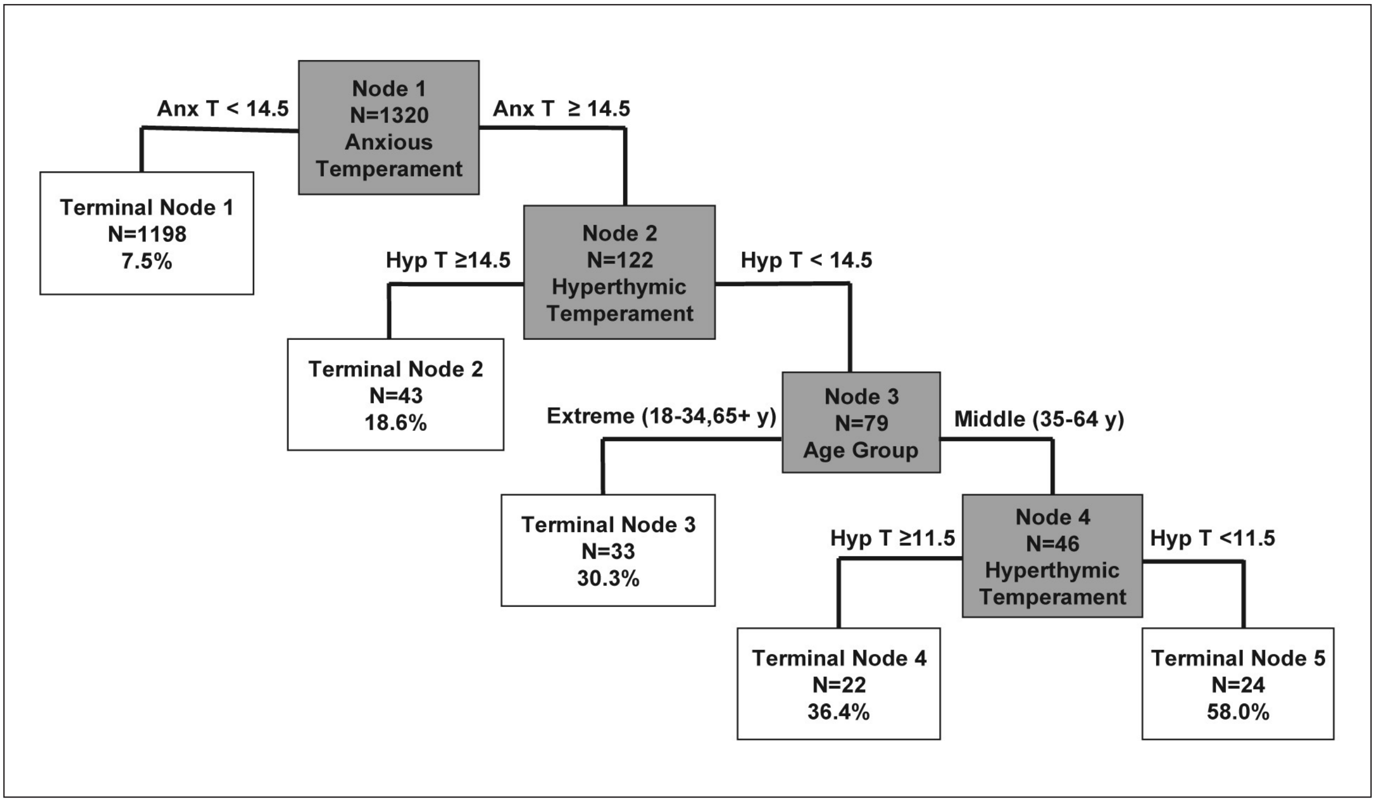


Figure 4 The classification and regression optimal tree for having any anxiety disorder

at lifetime prevalence, and found that hyperthymic temperament was *not* protective for bipolar disorders, separation anxiety disorder and impulse control disorders. In addition, the number of mental disorders *decreased* significantly in subjects with higher scores on the hyperthymic scale and increased with higher scores on the other temperaments.

It could be argued that subjects who scored higher on the hyperthymic temperament were motivated by the social desirability of the items under this cluster and by the same token denied having any of the disorders. Against this possibility is the lack of "protection" of the hyperthymic temperament in substance abuse and impulse control disorders, which are not the most desirable features to admit having in a field study or to a lay interviewer. Another argument would be that the answers to the TEMPS-A simply reflect answers to mental disorders and so they measure the same variables. Against this is our finding (4) that the vast majority of the respondents have stated that their answers to the TEMPS-A reflected correctly how they felt since they were 18 years old, suggesting that their answers were more related to traits than states. Nevertheless, since most of the mental disorders are recurrent and in some cases chronic, only a prospective study of temperaments could accurately settle this issue.

We have shown in previous publications that the 12-month prevalence of mental disorders in the LEBANON study (17) is related to a variety of socio-demographic variables (gender, age, and marital status). When controlling for these variables and adding temperament as a correlate of mental disorders, our results show that, on a multivariate level, and in addition to other socio-demographic variables, mood, anxiety and any disorder were associated with higher scores on the anxious temperament and lower scores on the hyperthymic temperament.

We went a step further and tried determining the cutoffs at which temperaments predicted mental disorders using CART analyses. Results from these exploratory analyses confirmed the results of the logistic regressions, where interplay between higher scores on the anxious temperament scale and lower hyperthymic scores increased the probability of having any mood or anxiety disorder. A cutoff of 14.5 (+1.5 SD of the population mean) on the anxious temperament was a determinant factor in increasing the risk of having any mood or anxiety disorder. Hyperthymic temperament was protective again at a cutoff of 14.5 (+0.4 SD of population mean) against any anxiety disorder, and at a lower cutoff of 6.5 (–1.3 SD of population mean) for mood disorders. This lower cutoff for mood disorders suggests that a pinch of hyperthymic temperament has an important role in decreasing the risk for depression and dysthymia (but not for bipolar disorders, as per our lifetime analyses). While one would be tempted to think that the role of the anxious temperament in mood disorders might be due to the well-known comorbidity of mood and anxiety disorders, we repeated the CART analyses for mood disorders excluding any cases that had comorbidity with anxiety disorders. Again, the anxious temperament was the main risk factor for mood disorders at the same cutoff as when comorbidity was included.

Our data support what has been found in other studies that examined the relationship between temperament variables such as "extraversion" (hyperthymic) and "neuroticism" (anxious) in predicting mood and anxiety disorders (23,24), especially in light of recent reports clearly linking the TEMPS-A defined hyperthymic temperament to extraversion and the others to neuroticism (21). Given that several of these temperament measures have strong genetic determinants (5,6), our study favors the view that such genetic determinants interact with selected environmental and demographic factors in favoring the origin of mental disorders (25). War may be one of these factors (18).

Other relevant findings in our study point to the interaction between demographic and temperament factors, such as the probable interaction between education and irritable temperament: higher scores on the irritable subscale, but only among highly educated individuals, increased the risk for mood disorders. Lastly, we found that temperament overcomes gender in mood disorders, which is in line with earlier suggestions by Perugi et al (26) in a clinical setting.

The results of the study should be interpreted in light of several limitations. First, although an earlier version of the CIDI (1.1) was validated in Lebanon, yet the CIDI 3.0 was not. Second, 43.1% of respondents were not able to fill in the TEMPS-A questionnaire themselves due to illiteracy, old age, or possibly because of fatigue, since the TEMPS-A was given after the CIDI 3.0. Nonetheless, with respect to the latter point, we have shown previously that there was no difference between the two modes of delivery (self-filled vs. interviewed) (4). Third, the total response rate of 70%, though quite acceptable in large epidemiologic studies, may have introduced a systematic under-representation of mental illness. Fourth, the data was collected retrospectively for temperament and mental disorders. Finally, many Lebanese have witnessed episodes of military strife, and these findings might not be applicable to other settings that have not witnessed such upheavals.

Although it is difficult to assess how much of recurrence in episodes of mental illness is due to war stress, our previous work indicated that exposure to this stress was related to first onset of mood, anxiety and impulse control disorders, with highest risks for anxiety and impulse control disorders (18). The affective temperaments appear to be possible mediating factors. Given the genetic underpinnings of the anxious temperament in relation to the serotonin transporter "s" polymorphism, additional studies are needed to investigate how these genetic factors are related to temperament and disorders together, as well as the role of temperament in gene x environment interactions.

Temperaments are probably important determinants of mental disorders and have intricate relations to other demographic variables, such as age and education and, to a lesser extent, gender. Anxious temperament at a cutoff +1.5 SD of the population mean seems to be a solid predictor of 12-month mental disorders in Lebanon. Hyperthymic temperament seems to have a uniquely protective effect on most mental disorders, but not on bipolar, separation anxiety, and impulse control disorders. There is a need for similar studies in different settings to assess the role of the various temperaments in their interaction with the specific environments.

Although the TEMPS-A and several constructs related to its subscales have been used to prospectively predict the emergence of bipolar subtypes (15), and switching from unipolar to bipolar II (27), other prospective studies with this instrument would be desirable to confirm the role of affective temperaments in predicting the occurrence of the more common mental disorders presented herein. Such studies would present complex methodological challenges, because of the early age of onset of many of these disorders (28), but nonetheless would be of great heuristic, clinical and public health significance in such domains as affective disorders (14), suicide (29), and substance abuse (30), as well as the complex riddles of comorbidity (31).

Acknowledgements

The LEBANON survey was partially supported by anonymous private donations, the Lebanese Ministry of Public Health, the WHO Lebanon, the National Arab American Medical Association, and unrestricted grants from Janssen Cilag, Eli Lilly and Company, Glaxo Smith Kline, and Novartis, all awarded to IDRAAC Lebanon.

We would like to thank Ms. Michella Bou Ghosn, for her input into our reflections about the study of temperament in Lebanon, Mrs. Caroline C. Tabet, Ms. Lilian Ghandour, and Ms. Yasmine Chatila for their help in planning the LEBANON study.

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The effectiveness of child and adolescent psychiatric treatments in a naturalistic outpatient setting

MAREILE BACHMANN[1], CHRISTIAN J. BACHMANN[1,2], KATJA JOHN[1],
MONIKA HEINZEL-GUTENBRUNNER[1], HELMUT REMSCHMIDT[1], FRITZ MATTEJAT[1]

[1]Department of Child and Adolescent Psychiatry, University Hospital Gießen and Marburg, Campus Marburg, Hans-Sachs-Strasse 4-6, 35039 Marburg, Germany
[2]Department of Child and Adolescent Psychiatry, Charité-Universitätsmedizin Berlin, Augustenburger Platz 1, 13353 Berlin, Germany

Data concerning the effectiveness of naturalistic treatments (treatment-as-usual) in child and adolescent psychiatric (CAP) services are scarce. The purpose of this prospective observational study was to examine the effectiveness of CAP treatments in a naturalistic outpatient setting. Three hundred six patients (attention-deficit/hyperactivity disorder, ADHD, n=94; conduct disorder, CD, n=57; anxiety disorder, AD, n=53; depressive disorder, DD, n=38; other diagnostic categories, n=64), from nine child and adolescent psychiatric practices in Germany, were evaluated. Treatment effects were compared between patients who received frequent treatment and patients who only participated in diagnostics and short interventions. Since randomization was not feasible, propensity score analysis methods were used. Regarding the total sample, no significant treatment effects were found. However, a subgroup analysis of the four most frequent disorders (ADHD, CD, AD, DD) showed small to moderate treatment effects in patients with ADHD and AD. In CD and DD subgroups, no significant treatment effects could be found. "Real-world" CAP outpatient treatment seems to produce significant effects for ADHD and AD, but not for CD and DD. Compared to efficacy studies, our results show that naturalistic treatment might be better than expected.

Key words: Adolescents, children, therapy, effectiveness, attention deficit/hyperactivity disorder, anxiety disorder, depressive disorder, conduct disorder

(World Psychiatry 2010;9:111-117)

There are four psychiatric disorders which are particularly frequent in children and adolescents (1,2): depressive disorder (DD) and anxiety disorder (AD) as internalizing disorders, and attention-deficit/hyperactivity disorder (ADHD) and conduct disorder (CD) as externalizing disorders (3-6). Efficacy studies demonstrate that a positive treatment response in children and adolescents in an outpatient setting is far more likely to occur in those being treated for ADHD and AD than in those being treated for DD and CD in the same setting (5-8).

In meta-analyses and systematic reviews, which essentially concentrate on efficacy studies, mean effect size estimations for the treatment of mental disorders in children and adolescents range from 0.7 to 0.8 (9-13). By contrast, the few reviews available on "usual care" studies report mean effect sizes of 0.0 (14-17). In a meta-analysis of direct comparisons, Weisz et al (18) showed evidence-based youth treatments to produce significantly better outcomes than the usual interventions employed in clinical care.

There are only a small number of effectiveness studies on children and adolescents. This might be explained by the fact that controlled studies are difficult to conduct in naturalistic settings. Therefore, in therapy evaluation studies, observational study designs are frequently used, which necessitate complex statistical calculations in order to analyze causal effects.

Studies examining the dose-effect relationship in youth mental health care are rare (e.g., 22-24). Due to the fact that the definition of "dose" and "response" as well as the methods applied differ from study to study, it is difficult to compare these studies (25,26). However, the results available for children and adolescents show a trend similar to findings in adults (27). There is evidence for a minimum number of eight treatment sessions to obtain therapeutic effects (23), and the effects reached after 20 sessions do not seem to increase significantly during prolonged therapy (28).

Against the background of the above-described context, this study aimed to answer the following questions: a) how successful is therapy in child and adolescent psychiatric (CAP) practices, e.g. to what extent are effects, as described in other effectiveness studies, achieved? b) do children and adolescents with different disorders benefit similarly from CAP treatment or are there significant differences?

METHODS

Study design

The investigation was conducted between May 2004 and July 2006 in nine CAP practices in Germany. It was conceived as an observational study of naturalistic treatments (treatments as usual): a non-selected, consecutive patient sample (all new admissions to the participating CAP practices) was followed over a time span of 1 year. Data assessment was conducted in all cases, encompassing a standardized telephone interview with the main caregiver and questionnaires filled out by parents, patients (if >12 years) and therapists. Data assessment was carried out at three points of measurement: at time of referral (T1; within one week after the first diagnostic session in the practice), three months later (T2) and one year later (T3).

The study was approved by the institutional review board. Participants and their parents gave written informed consent.

Sample

A total of 1182 referred patients were enrolled in the study. At T1, 1029 caretakers (87% of all referred patients) could be contacted by telephone. Only those cases remained in the study. At T2, we conducted 927 interviews (90% of cases), and at T3, it was possible to conduct 800 telephone interviews (86% of cases). The drop-out rate from T1 to T3 was 22%.

Complete documentation data (diagnoses, treatment variables) from the responsible child psychiatrist were available in 727 of 800 cases at T3. For the analysis of Child Behavior Checklist (CBCL) data, we extracted from this sample all cases in which the parents had completed the CBCL (29-31) at both T1 and T3 (n=306; "CBCL sample").

Of the 306 patients in the CBCL sample, 186 were male (59.8%). The mean age was 8.8±3.3 years, range 1-21. The CBCL sample encompassed the following four subgroups: ADHD (F90.0, F90.8, F90.9 according to ICD-10; 314.01, 314.00 according to DSM-IV-TR), n=94; CD (F91.0, F91.1, F91.2, F91.3, F91.8, F91.9, F43.24, F43.25, F90.10, F90.11, F92.0, F92.8, F92.9, F93.30, F94.2 according to ICD-10; 312.8, 312.9, 313.81, 309.3, 309.4, 313.89 according to DSM-IV-TR), n=57; DD (F32.0, F32.1, F32.2, F32.9, F33.1, F43.20, F43.21, F41.20, F43.22, F43.23 according to ICD-10; 296.21, 296.22, 296.23, 309.0, 296.32, 311, 309.28 according to DSM-IV-TR), n=38; AD (F40.1, F40.2, F41.0, F41.3, F41.9, F93.0, F93.1, F93.2, F93.8 according to ICD-10; 300.23, 300.00, 300.29, 300.01, 309.21 according to DSM-IV-TR), n=53; other diagnoses (n=54), no diagnosis (n=10).

Treatment

All practices that participated in the study employed personnel from different professions (child and adolescent psychiatrists, pediatricians, child and adolescent psychotherapists, etc.) in order to offer a broad variety of treatments (e.g., various forms of psychotherapy, including cognitive-behavioral, psychodynamic, systemic and family therapy; pharmacotherapy, dyslexia treatment, etc.). Due to this interdisciplinary orientation, it was possible to offer an individually tailored treatment package to each patient.

The therapy plans were based on the practice guidelines of the German Association of Child and Adolescent Psychiatry and Psychotherapy (33). In 58% of the cases, only a few diagnostic and/or consultation sessions were conducted, while 42% received more frequent treatment (>8 sessions). Twenty-six percent of all patients received psychopharmacotherapy. The number of diagnostic and therapeutic sessions within 12 months per child varied from 0 to 50 (mean 7.65±7.00) and the number per parent varied from 0 to 40 (mean 4.37±3.87). Extensive further information about sample characteristics and treatment is available elsewhere (34).

Data assessment

The data presented in this study are based on the CBCL (total score, German norms) and data collected from the standardized telephone interviews with the main caretaker at the time of referral (T1) and one year later (T3). The diagnoses were made by the attending child and adolescent psychiatrist or psychotherapist according to the Multiaxial System (MAS), which is based on the ICD-10.

Sociodemographic data, diagnoses and therapy data were recorded by the responsible child psychiatrist using the standardized "basic documentation form" (BADO). The BADO was first published in 1998 (35,36). The standardized telephone interview used to assess information from the parents has previously demonstrated good reliability and validity (37).

Statistical analysis

Due to the absence of a randomized control group, we subdivided the CBCL sample into two groups (high dose and low dose treatment groups), according to the total number of diagnostic and therapeutic sessions conducted. For this purpose, we performed a median split (median = 8 sessions; high dose = ≥9 sessions; low dose = ≤8 sessions). Seven cases were excluded from data analysis because of missing data. This procedure complies with the findings by Angold et al (23) and Howard et al (27). The treatment group assignment (high vs. low dose) was considered as the independent variable.

As dependent variable, we used CBCL total scores at T3 (post-test). For some analyses, we dichotomized the CBCL total score according to clinical symptoms ("normal" vs. "disturbed"). For this purpose, we used cut-off scores of 32/33 (corresponding to a T-score of 60 and 40, respectively).

Since patients were not randomized to low vs. high dose treatment groups, propensity analyses were used to parallelize the two groups and thus control influences on the dependent variable. The propensity score is by definition the conditional probability of being assigned to a treatment group based on given covariates (39,40). The propensity scores in this study were calculated using the logistic regression function of the SPSS 14.0 software (41). Based on experts' judgments, empirical evidence and theoretical considerations, the following covariates were regarded as relevant for propensity score analyses: axis I, III, IV, V and VI diagnoses of the MAS, children's gender, age, housing, school (grade, type) and social status; CBCL total, internalizing and externalizing score at T1. Because of missing socio-demographic data, 30 cases had to be excluded from propensity score data analysis, leaving a sample of 269 patients. Comparing the high dose and the low dose therapy groups with regard to the covariates considered, we primarily found differences concerning age, school (grade, type), gender, CBCL total score and axis I diagnosis at T1.

To evaluate the differences of CBCL between T1 and T3 in the diagnostic subgroups without regard to treatment, t-tests for dependent samples were used. To compare the starting scores and CBCL score reduction between the diagnostic groups, analyses of variance with post-hoc tests were used. In this case, the Least Significant Differences (LSD) test – equal to the t-test which compares two means – was chosen as *a posteriori* test. To calculate the treatment effects, analyses of variance with repeated measurement were modeled. CBCL scores at T1 and T3 were dependent variables, treatment group was the interindividual influence factor and the interaction time x treatment group, which reflects differences in the CBCL course between the 2 groups, was regarded as treatment effect. The propensity score was used as covariate.

The effect size (ES) was calculated using Pre-Post-ES (corrected under consideration of pre-tests): $D_{corr}=d_{Post\text{-}test} - d_{Pre\text{-}test.}$ All statistical analyses were conducted by means of SPSS 14.0.

RESULTS

Differences from T1 to T3 in the CBCL score

Table 1 and Figure 1 present the CBCL scores for the complete group (CBCL sample) as well as for the four diagnostic subgroups.

Table 1 Child Behavior Checklist (CBCL) total score (mean ± SD) for the total sample and subsamples at time of referral (T1) and one year follow-up (T3)

	T1	T3	p
Total sample (n=306)	40.8±22.7	28.8±20.1	<0.0005
Attention-deficit/hyperactivity disorder (n=94)	43.3±21.7	32.4±19.9	<0.0005
Conduct disorder (n=57)	50.4±20.8	35.4±19.9	<0.0005
Depressive disorder (n=38)	34.5±19.4	23.4±16.8	<0.0005
Anxiety disorder (n=53)	40.1±26.7	28.1±21.0	<0.0005

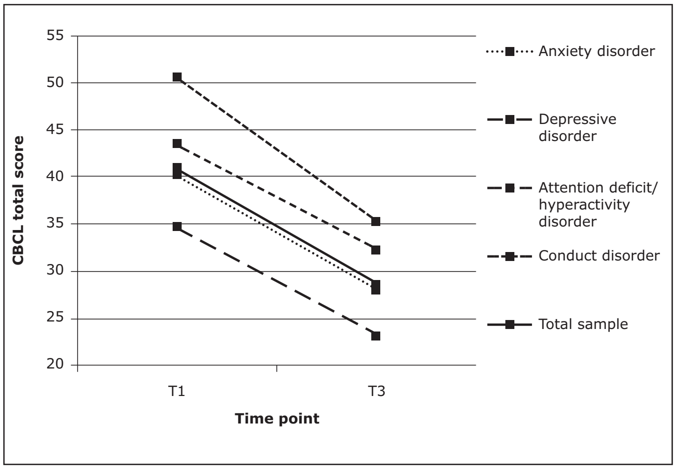

Figure 1 Changes in Child Behavior Checklist (CBCL) total score in the course of treatment in total sample and subsamples

For the total group and the subgroups, a significant reduction in CBCL scores can be observed during the course of therapy (p≤0.0005). A year after referral, 66% of the children and adolescents no longer showed clinically relevant symptoms (T-score ≤60). When comparing the different disorders, we noticed a worse initial level for ADHD and CD than for AD and DD. Furthermore, there were considerable improvements in CBCL scores from T1 to T3: 20% of patients with AD and ADHD, 25% of patients with DD, and 30% of patients with CD shifted from showing clinically relevant symptoms to normal behaviour. When calculating the pre-post effect size d* according to Hasselblad and Hedges (42) in order to obtain a value which is directly comparable with the effect size d, we obtained the following results: d*=1.19 for the total sample, d*=0.72 for patients with ADHD, d*=1.00 for patients in the DD subgroup and d*=1.96 for patients with AD. For the CD subgroup, the effect size is d*≈1.85 (approximate estimation, as one cell equals zero).

Analyses of variance with repeated measurement using propensity score calculation

Table 2 shows the results of the analysis of variance with repeated measurement with the CBCL total score as the dependent variable and the factors “time” (T1 vs. T3) and “group” (low dose vs. high dose treatment), using propensity score as covariate.

A significant main effect for the factor “time” can be observed only in the total sample, and not for the four subgroups. Main effects of the factor “group” would indicate that CBCL scores differ between low dose and high dose treatment groups. No main effect for the factor “group” became significant either in the total group or in the four subgroups. This is caused by the approximation of both treatment groups regarding the initial estimated values of the CBCL at T1. It shows that the inclusion of the propensity score “works” in the sense of controlling confounding variables and making the two groups comparable. Interaction effects between time point and treatment dose (indicating treatment effects) were not found for the total group and the CD and DD subgroups, but were found for the subgroups with ADHD and AD.

For the covariate “propensity score”, a significant main effect can be found for the total sample and the subgroups DD and AD. This result emphasizes the necessity of propensity score analysis for these samples: there are obvious group differences between the two treatment groups (low vs. high number of sessions) with reference to T1 starting levels of different questionnaires, socio-demographic factors and the MAS axes.

Figures 2-6 display the changes in the CBCL score during the course of treatment. The extent of reduction (main effect time), the differences between the treatment groups (main effect group) and the treatment effects (interaction time x group) are visualized in the figures. The dependence of the results on the particular disorder becomes evident when the figures are compared.

Table 2 Results of the analyses of variance using propensity score calculation: Child Behavior Checklist (CBCL) total score (mean ± SD) as dependent variable and "time" and "group" as independent factors

		Total sample (n=269)		Attention-deficit/ hyperactivity disorder (n=88)		Conduct disorder (n=50)		Depressive disorder (n=30)		Anxiety disorder (n=45)	
Time, main effect											
	T1	41.2±21.6	**p=0.004**	43.5±21.1	p=0.967	50.7±26.1	p=0.533	33.2±22.6	p=0.072	41.5±26.6	p=0.145
	T3	29.0±19.7		33.9±20.8		33.2±24.0		24.7±22.6		27.5±20.6	
Group, main effect											
	Low dose	35.9±20.5	p=0.535	40.3±18.2	p=0.451	42.5±20.0	p=0.869	27.7±14.5	p=0.745	36.6±22.9	p=0.563
	High dose	34.3±20.3		37.1±17.7		41.4±19.2		30.2±15.5		32.4±23.2	
Interaction time X group = treatment effect											
Low dose	T1	41.2±23.6	p=0.182	42.6±21.4	**p=0.049**	53.0±23.2	p=0.298	34.3±16.4	p=0.259	41.6±26.6	**p=0.048**
	T3	30.7±21.6		38.0±21.1		32.0±21.3		21.1±16.4		31.7±20.7	
High dose	T1	41.3±23.4		44.4±20.8		48.4±22.2		32.1±17.6		41.4±26.9	
	T3	27.3±21.4		29.8±20.4		34.4±20.4		28.4±17.6		23.4±21.0	

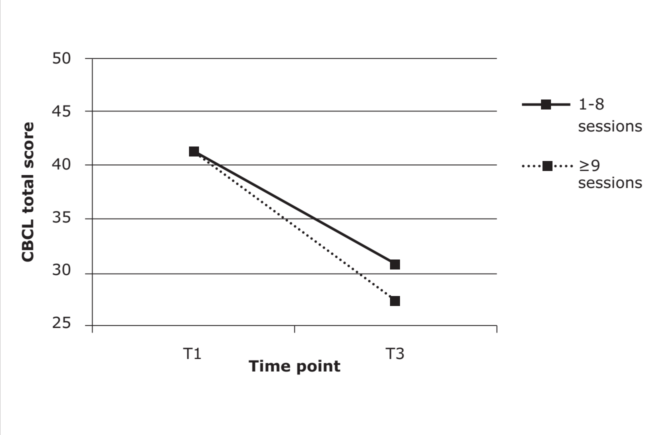

Figure 2 Changes in Child Behavior Checklist (CBCL) total score in the course of treatment in total sample (n=269)

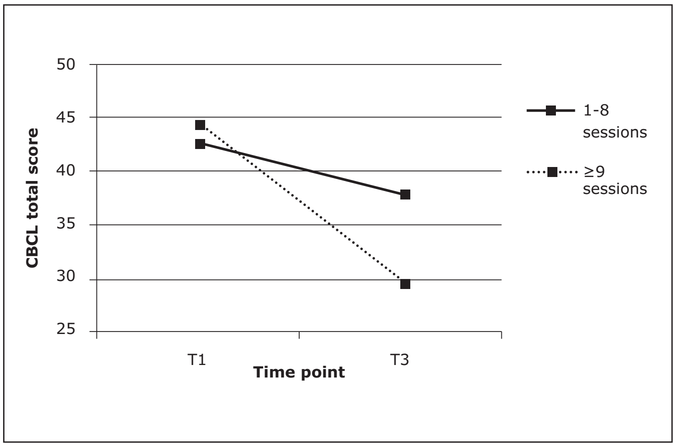

Figure 3 Changes in Child Behavior Checklist (CBCL) total score in the course of treatment in attention-deficit/hyperactivity disorder (n=88)

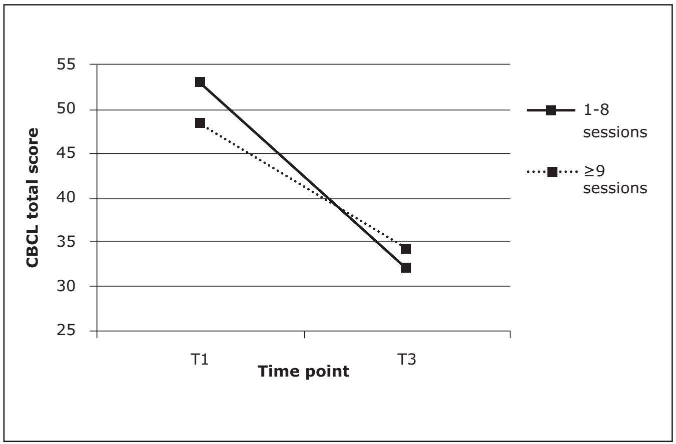

Figure 4 Changes in Child Behavior Checklist (CBCL) total score in the course of treatment in conduct disorder (n=50)

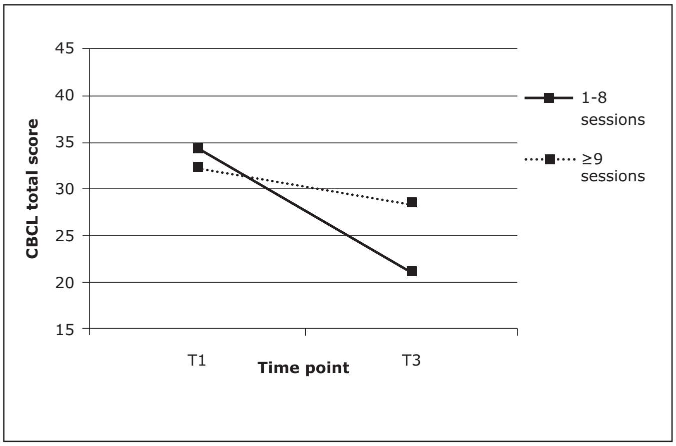

Figure 5 Changes in Child Behavior Checklist (CBCL) total score in the course of treatment in depressive disorder (n=30)

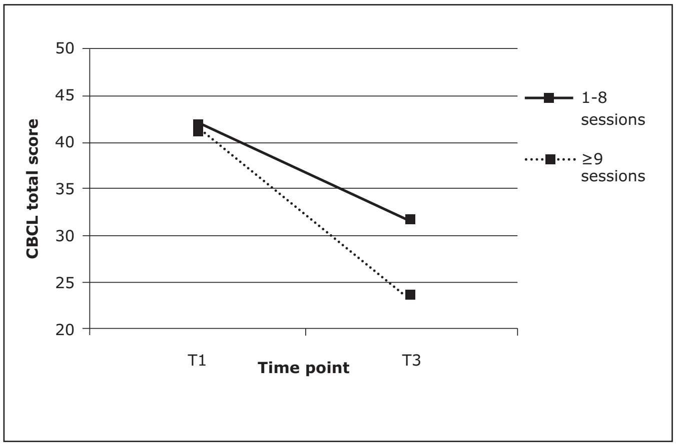

Figure 6 Changes in Child Behavior Checklist (CBCL) total score in the course of treatment in anxiety disorder (n=45)

The results show a significant treatment effect for children and adolescents with ADHD or AD: patients in the high dose treatment group had a significantly higher reduction of the CBCL total score than those in the low dose treatment group. This result did not apply to the whole study sample, as high dose treatment was not effective in patients with CD. Moreover, for children and adolescents with DD, a different trend could be observed (Figure 5). In this subgroup, two different groups can be identified: those with lasting depressive symptoms who do not improve under high dose therapy, and those with depressive symptoms who show symptom reduction after short interventions.

When converting these results (using means, standard deviations and sample sizes) into effect sizes, the values for the different subsamples were: total sample, d_{corr}=0.16; ADHD, d_{corr}=0.48; AD, d_{corr}=0.39; CD, d_{corr}=-0.32; and DD, d_{corr}=-0.57.

DISCUSSION

Results

For the total sample, this study does not reveal significant treatment effects in an outpatient CAP setting. However, in the ADHD and AD subgroups, significant small to moderate treatment effects are apparent. Patients with high dose therapy appear to profit more from therapy than those who receive only few treatment sessions. Moreover, patients in the subgroup with CD come off relatively poorly in general: both the treatment effects (comparing analysis of variance results) and the symptom severity at the beginning and end of treatment (comparing results of the normalized CBCL scores) underline this trend. In the subgroup with DD, it is not possible to validate a significant treatment effect: in depressive children and adolescents, there seems to be a high spontaneous remission rate in the low dose treatment group. Our results match the findings from efficacy studies, which show that treatments for AD and ADHD display a better efficacy than treatments for DD and CD (7,8).

Methods

Although it is desirable for effectiveness studies to be conducted as randomized controlled trials, this aim is often unattainable. The design used in this study – in which we compared groups with high and low dose treatment – proved to be feasible for therapy evaluation studies in naturalistic settings; the low drop-out rate, the parental acceptance, and high participation rates are convincing. Calculating propensity scores under consideration of the relevant covariates proves to be extremely important in order to compensate for the lack of randomized group assignment. Nevertheless, the use of a single outcome criterion obviously implies some disadvantages: a large number of relevant reviews emphasize the necessity of applying outcome criteria from a wide range of different domains (e.g., symptoms, functional level, quality of life, long-term consequences), in order to characterize the patient's condition adequately (7,8).

Implications for research

There is a great range of questions relating to psychiatric and psychological treatments for children and adolescents that require continuous research (43). One of the greatest demands is that for more effectiveness studies demonstrating that empirically supported interventions can be utilized in everyday health care. Representative clinical observational studies certainly do not represent the gold standard, yet they can be considered as a reasonable alternative that is feasible in an outpatient setting, especially when methodological deficits in the study design can be controlled with adequate data analysis methods. Certainly, propensity score analysis has its limitations as well (44): apart from the problem with missing values, covariates that have not been assessed cannot be balanced and therefore remain as confounding factors.

In our present investigation, we simply related the dose of treatments (number of sessions within one year) to the outcome one year after referral. As yet, comparable naturalistic studies examining the dosage-effect relations in children and adolescents are not available, and it would be interesting to establish whether our results can be replicated. Another direction for refinement could lie in investigating the process of change by assessing data during treatment. This could lead to the development of a benchmarking system in order to assess the patient's individual therapy progress (according to therapy progress curves).

Implications for practice

Our results provide evidence for the effectiveness of "real-world" outpatient CAP therapies in children and adolescents with ADHD or AD. In contrast, treatment effects for patients with DD and CD proved to be negative. The unfavorable results for DD might be due to the limited applicability of cognitive therapy methods and medication depending on patients' age and developmental stage (7,45). For the treatment of patients with CD, an outpatient treatment setting in a psychiatric practice is probably not sufficiently intensive and seems less suitable than the recently discussed alternative multimodal and family-oriented treatment approach (e.g., multisystemic treatment, MST).

Contrary to the results of previous effectiveness studies (14-17), our examination of therapy in a naturalistic setting shows apparent treatment effects (provided a certain dose of treatment is assured). However, two restrictions should be mentioned. Firstly, treatment effects cannot be shown for all disorders. This does not necessarily mean that these disorders without a proven effect cannot be sufficiently treated, but rather that it might not be the right setting (as in CD) or that so far no adequate specific treatment for children has been developed (as in DD). Secondly, although only small to moderate effects are validated, the treatments can contribute significantly to the prevention – or reduction – of negative long-term consequences (e.g., human and social costs). Even if the effects achieved in practice are not as high as the effects known from efficacy studies, this should not be seen as discouraging, but rather as an expression of real conditions: isolated disorders are rarely treated in practice; patients with comorbid conditions are more common.

CONCLUSION

Our study addressed the problem of limited evidence regarding the effectiveness of naturalistic treatments of psychiatric disorders in children and adolescents. Contrary to the results of previous effectiveness studies, it was possible to demonstrate significant effects of "real-world" treatments for ADHD and AD, but not for CD and DD. These results match the findings from efficacy studies and show that naturalistic treatment might be better than expected. As a practical implication, our study points out the necessity of further developing treatment approaches and settings for pediatric mental disorders.

Acknowledgements

This study was supported by a grant from Janssen-Cilag. The authors are grateful for the congenial collaboration with the heads of the nine practice teams: D. Hoehne, K. Kuehl, L. Lam, M. Neuhauss, F. Wienand, E. Fischer, K.-U. Oehler, C. Schaff and O. Uzelli-Schwarz. They would also like to thank the German Professional Organization for Child and Adolescent Psychiatrists for the support of this study.

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Integration of mental health into primary care in Kenya

RACHEL JENKINS[1], DAVID KIIMA[2], FRANK NJENGA[3], MARX OKONJI[3], JAMES KINGORA[4],
DAMMAS KATHUKU[5], SARAH LOCK[6]

[1]WHO Collaborating Centre, Institute of Psychiatry, Kings College, London, UK; [2]Ministry of Medical Services, Kenya;
[3]Kenya Psychiatric Association; [4]Kenya Medical Training College; [5]University of Nairobi, Kenya; [6]Nuffield Foundation, London, UK

Integration of mental health into primary care is essential in Kenya, where there are only 75 psychiatrists for 38 million population, of whom 21 are in the universities and 28 in private practice. A partnership between the Ministry of Health, the Kenya Psychiatric Association and the World Health Organization (WHO) Collaborating Centre, Institute of Psychiatry, Kings College London was funded by Nuffield Foundation to train 3,000 of the 5,000 primary health care staff in the public health system across Kenya, using a sustainable general health system approach. The content of training was closely aligned to the generic tasks of the health workers. The training delivery was integrated into the normal national training delivery system, and accompanied by capacity building courses for district and provincial level staff to encourage the inclusion of mental health in the district and provincial annual operational plans, and to promote the coordination and supervision of mental health services in primary care by district psychiatric nurses and district public health nurses. The project trained 41 trainers, who have so far trained 1671 primary care staff, achieving a mean change in knowledge score of 42% to 77%. Qualitative observations of subsequent clinical practice have demonstrated improvements in assessment, diagnosis, management, record keeping, medicine supply, intersectoral liaison and public education. Around 200 supervisors (psychiatrists, psychiatric nurses and district public health nurses) have also been trained. The project experience may be useful for other countries also wishing to conduct similar sustainable training and supervision programmes.

Key words: Kenya, primary care, training, supervision, mental health

(World Psychiatry 2010;9:118-120)

Kenya is one of the poorest countries in the world, ranked 144 out of 177 countries in the United Nations Human Development Report for 2007. Gross national income per capita was 520 USD in 2005, and 770 USD in 2008. The population is estimated to be 38 million and life expectancy is 54 years. More than 1 in 10 children die before the age of 5, and 4 women out of every 1,000 die in child birth. The prevalence of HIV is 7.7% in women and 4% in men.

Kenya had been assumed to have more political stability than many African states but, in the context of unemployment, economic disparities and widespread concerns about access to ancestral lands, there was widespread violence immediately after the 2007 general election, leading to ethnic division, displacement of around 500,000 people and more than 1,300 deaths. The conflict damaged the tourist industry, aggravating economic problems and poverty, while climate change is affecting rainfall, aggravating famine in various parts of the country.

Kenya spends only around 10 USD per capita per year on health. Investment in health largely focuses on communicable diseases, especially HIV and malaria. Population access to health care remains very restricted, with only 1-2 nurses and clinical officers for each 10-20,000 population, and no doctors at primary care level in the public system.

The Kenya general health system is broadly structured into six levels: the national general and national specialist referral hospitals (level 6), provincial general hospitals (level 5), district and subdistrict general hospitals (level 4), health centres, maternity and nursing homes (level 3), dispensaries (level 2) and the community (level 1). The community level comprises families and households. For every 100 households there is supposed to be a community health worker, selected by the community for the role, and given relatively short but frequent training by level 2 and 3 staff. Community health workers are trained in prevention, promotion, and identification of health problems, and in appropriate interventions including referral to the dispensary. They are coordinated by community health extension workers, who are health workers at level 2 and 3.

Kenya has 75 psychiatrists, of whom 21 are in the university system and 28 in private practice. It has around 500 psychiatric nurses, of whom only 250 work in mental health, deployed at the national, provincial and district levels, so that each district of around 150,000 will have only one or rarely two psychiatric nurses. Since the global prevalence of mental disorders is around 1% for psychosis and 10% for common mental disorders, this means that each district will have 1,500 people with psychosis and 15,000 people with common mental disorders. Therefore, unless mental health is integrated into the levels 1, 2 and 3 of the health system, population access to mental health care will be very severely restricted to the case load which can be borne by one mental health worker in each district.

The only way the system can deliver mental health care to the population is if primary care is strengthened to be a key stage in the pathway between the community and the district level. Indeed, people with mental disorders are already attending primary care, but apart from those with psychosis, which is relatively easy even for lay people to diagnose, those with depression, anxiety and other common mental disorders are usually misdiagnosed as having a physical illness.

The integration of mental health into primary care has been a policy objective in Kenya for two/three decades (1), but there was no specific allocation of resources to implement this, and no continuing professional development for staff on mental health in levels 1-4. Appreciating this dilemma, the Kenya Ministry of Health (MOH) entered into a partnership with the World Health Organization (WHO) Collaborating Centre at the Institute of Psychiatry of London, the Kenya Medical Training College (KMTC) and the Kenya Psychiatric Association, which was funded by Nuffield Foundation, to establish a national programme to integrate mental health into primary care.

The project aimed to train 3,000 of the 5,000 primary health care staff in the public health system across Kenya, using a sustainable general health system approach, with the content of training closely aligned to the generic tasks of the health workers, and the training delivery integrated into the normal national training delivery system. The primary care training programme was accompanied by capacity building workshops and courses aimed at level 4 and 5 staff. These were designed to encourage the inclusion of mental health in the district and provincial annual operational plans, and to promote the coordination and supervision of mental health services in primary care by district psychiatric nurses and district public health nurses.

THE PROGRAMME AND ITS OUTCOME

The project started in May 2005. Curriculum and teaching materials were developed by the WHO Collaborating Center in dialogue with Kenya partners, based on the Kenya adaptation of the WHO primary care guidelines. The training was piloted in three courses delivered in 2005 to 20 senior KMTC and MOH staff, and 41 selected trainers from KMTC in Nairobi, its provincial medical training colleges and MOH rural health training centres. Following the training of trainers, the training has been rolled out across the country, firstly at the national KMTC, then at six selected provincial training centres during the last four years. All nurses and clinical officers working in dispensaries and health centres are eligible for the training. They are called up in turn via their district medical officer of health. The teachers are trained teaching staff (nurses and clinical officers), who themselves experienced the course delivered by the project leaders.

The training programme for primary care is a five day course, and consists of five modules, the first covering core concepts (mental health and mental disorders, and their contribution to physical health, economic and social outcomes); the second core skills (communication skills, assessment, mental state examination, diagnosis, management, managing difficult cases, management of violence, breaking bad news); the third common neurological disorders (epilepsy, Parkinson's disease, headache, dementia, toxic confusional states), the fourth psychiatric disorders (content based on the WHO primary care guidelines for mental health, Kenya adaptation) and the fifth health and other sector system issues of policy; legislation; links between mental health and child health, reproductive health, HIV and malaria; roles and responsibilities; health management information systems; working with community health workers and with traditional healers; and integration of mental health into annual operational plans.

The course is conducted through multi-method teaching of theory, discussion, role plays and videos, with a major emphasis on acquisition of practical skills and competencies for assessment, diagnosis and management. The role plays, videos, discussions and theoretical slides are accompanied by the WHO primary care guidelines. Each participant has to complete over 25 supervised role plays on different topics in the course of the week, and to observe and comment on 25 role-plays conducted by colleagues. The WPA videos on depression, psychosis and somatization were also used in the training (2).

Phase 1 testing of the training intervention included: a) iterative improvement of the course, based on feedback from teachers and students on the early courses; b) detailed collated written feedback from participants, regularly scrutinized by teachers and by the project manager; c) pre- and post-test evaluation of the first 1000 trained; d) examination of routine data collected before and after training in two districts; e) supervision observations of clinical practice in 15 health facilities across three districts, which were visited at the request of the Ministry of Health, in order to appraise how efficient and effective was the working of the level 2 and 3 service providers in mental health management following their participation in the training course. A phase 2 exploratory cluster randomized controlled trial will be conducted later this year.

A total of 1,673 primary care staff have been trained to date. The mean change in knowledge score for the first 1,000 participants was 42% to 77%. In addition, four special courses have been run for the 8 provincial psychiatrists and around 200 district psychiatric nurses and district public health nurses to give routine support and supervision to primary care.

Fifteen health facilities across two districts were visited by a senior psychiatric nurse to audit practice. The observer found that, where staff had been trained, they were knowledgeable about mental disorders. Their communication skills and therapeutic relationships with patients and relatives were well above average, their ability to take a history and assess mental state was good, and they were all actively engaged in the delivery of mental health care. The trained health professionals were much more aware of the relationship between mental disorders and communicable diseases such as malaria, amoebiasis, and typhoid fever; and between mental disorders and non-communicable diseases such as musculoskeletal disorders, diabetes, and asthma.

Almost all the health facilities where staff had been trained have started intersectoral networking liaison with community chiefs, spiritual leaders, traditional health practitioners, community health workers and any local non-governmental organizations. Many of the centres visited have set up a special locked cupboard for their psychotropic drugs. The trained staff have managed to establish good and consistent supplies of the commonly used drugs, in collaboration with the district pharmacist and the district mental health nurse. Most of the facilities visited maintain a clinic register for people with continuing mental disorder. The facilities are organizing close links between the patients' relatives, resulting in active community involvement in the management of people with mental disorder.

The course is approved for 40 hours of continuing professional development and will now be run on a long-term basis by KMTC as one of their programme of short courses.

A cluster randomized controlled trial of the training course has been conducted in Malawi and will report shortly. A multi-component evaluation is also being carried out in Iraq. The course has been also conducted in Nigeria (3) and is going to be carried out in Sri Lanka, as part of the WPA Action Plan 2008-2011 (4).

DISCUSSION

This project has demonstrated that it is possible to train front line health workers with a short five day interactive course in mental health, using relatively small scale funds, local trainers, and a project management system embedded in a local training system, and to achieve effective outcomes of improved knowledge and practice, and skills transfer to others. The course is a complex balanced interdependent combination of skills, competencies and knowledge, which takes an intersectoral and health systems approach.

We recommend that similar efforts to train front line health workers should work in partnership with the Ministry of Health, and in the context of the country's health policy and mental health policy. Such projects should agree with the Ministry of Health the appropriate local training institution for primary care, and work through that organization to train local trainers who are likely to remain in post for a long time. Call up of participants should be through the Ministry of Health to ensure that appropriate people attend for training. Such projects should also organize reinforcement of training by the provision of locally tailored good practice guidelines which the participants can then use for years after the training; by course handouts; and by regular supervision from the district level. Thus, supervisors also need to be trained, so that they have a good understanding of their supervisory role and skills.

Progress of such projects needs to be carefully monitored, and action taken as soon as possible to keep projects on track. Flexible funding to enable projects to weather unpredictable events such as conflict and rampant inflation, and to respond to changing health sector reforms, greatly assists long-term sustainability after such project funding has ended.

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Orienting psychiatrists to working in emergencies: a WPA-WHO workshop

MARK VAN OMMEREN[1], LYNNE JONES[2], JESSICA MEARS[1]

[1]Department of Mental Health and Substance Abuse, World Health Organization, Geneva, Switzerland
[2]International Medical Corps, Santa Monica, CA, United States

The Inter-Agency Standing Committee (IASC) Guidelines on Mental Health and Psychosocial Support, endorsed by heads of leading United Nations (UN) and non-UN international humanitarian agencies, provide a framework for setting up mental health services and psychosocial supports in emergencies in low and middle income countries (LAMIC) (1). Key decision-makers, such as UN resident representatives and humanitarian representatives (2), humanitarian health actors (3), numerous humanitarian agencies and leading donors, use the IASC Guidelines as their reference for what is good humanitarian response. Therefore, it is crucial that psychiatrists know the IASC Guidelines.

The WPA and the World Health Organization (WHO) collaborate on mental health care in emergencies, as described in the WHO-WPA Work Plan 2008-2011 (4-6). In 2009, as part of a joint initiative to increase psychiatrists' capacity in humanitarian work worldwide, and with the hope that the IASC Guidelines will be used widely and appropriately with full involvement of psychiatrists in LAMIC, the WPA and the WHO organized an orientation workshop for psychiatrists.

The IASC Guidelines were developed following a lack of consensus among humanitarian agencies on what should be done in response to large emergencies (7) and the consequent lack of coordination. The Guidelines focus on immediate and minimum response in emergencies with practical, intersectoral actions. The Guidelines, consistent with WHO (8) and Sphere Project (9), focus on strengthening social supports and a safe, supportive recovery environment, and also cover care for pre-existing or emergency-induced severe mental disorders, acute trauma-induced distress, and harm related to alcohol or other substance use. One of the main features of the IASC Guidelines is the focus on multisectoral action, and in particular, the coordination and collaboration between protection/social/community work and clinical services.

Psychiatrists often need to adapt their role to the emergency setting. In order for their expertise to be used in the most effective way, they often need to shift from a focus on direct clinical care towards rapid training and supervision of basic mental health care integrated in nonspecialized health care in order to reach large numbers of people (10). Psychiatrists are in the best position to act as advocates for care for those with moderate and severe mental disorders. Yet, they – as specialists in mental health – are also in an excellent position to argue for a safe and supportive recovery environment and for social supports that prevent or reduce mental health problems. Thus, part of their role in emergencies is to initiate or support advocacy efforts for both clinical care and for protection/social/community work.

The WPA and the WHO have recognized the need to familiarize psychiatrists to their enhanced role in emergencies, and implemented an intense five-day workshop at WHO headquarters in Geneva. The 18 participants came from 15 LAMIC, bringing with them experience and knowledge from all around the world. The workshop aimed to cover those core elements of the IASC Guidelines relevant to psychiatrists. With the help of facilitators of UN agencies (WHO, United Nations Population Fund) and leading humanitarian non-governmental organizations (International Medical Corps, Terre des Hommes, Doctors of the World-Spain/Médicos del Mundo and Doctors Without Borders/Médecins Sans Frontières), it provided a forum for exploration and discussion of the guidelines and their principles.

The following topics were covered: coordination; assessment, monitoring and evaluation; grief, loss and fear; psychological first aid; setting up mental health care in primary health care; essential medicines and the inter-agency emergency health kit; mental health in health information systems; mobilizing social support through general health service; communal, family and individual treatment approaches; community mobilization; community self-help and social support; early childhood development of children in emergencies; sexual violence in emergencies; preventing harm from alcohol and substance use; epilepsy in emergencies; working with traditional healers; early recovery and reconstruction; staff care; and case studies on Darfur, Lebanon, Sierra Leone and Sri Lanka.

A range of teaching methods were used throughout the course, with participatory methods for about half of the sessions. A case study was provided by one of the workshop participants, who worked at the time of the workshop in an acute humanitarian situation in what was then the world's largest closed internally displaced persons camp (275,000 people) in Vavuniya, Sri Lanka. The participant provided colleagues with a detailed overview of the resources and the numerous constraints. Participants were then asked how they would assess the community needs, how they would coordinate activities with other actors, what sort of mental health and psychosocial support programme they would create, who would provide the services and supports, and how the population would be reached. The small-group and plenary discussions that followed provided lessons for all.

Points of interest, controversy and discussion that arose during the workshop included task shifting and essential medicines. These are still contentious issues that need to be discussed much more between psychiatrists (trained to optimize the health of the individual patient) and public mental health practitioners (trained to optimize the health of large segments of the population). They represent the difficulties encountered when psychiatrists are under pressure to quickly change role in these settings, and the challenge of working with the very limited types of medicines available in many acute emergencies.

The evaluation of the workshop by the participants included a question about areas, if any, in which they were likely to change practice after the workshop. Most participants responded that they were keen to change their practice in two areas: a) promoting and organizing psychological first aid and b) linking mental health care with community social supports.

This brief report described a WPA/WHO workshop to orient psychiatrists from LAMIC on the IASC Guidelines on Mental Health and Psychosocial Support. Many LAMIC psychiatrists' knowledge of post-disaster mental health is limited to post-traumatic stress disorder, which, although a *bona fide* disorder, is only one of the many mental and psychosocial problems that occur in emergencies (11). This workshop is one step in strengthening the capacity of psychiatrists to apply a public health approach to the prevention and reduction of mental health problems in emergencies.

Acknowledgements and disclaimer

We warmly thank Prof. Mario Maj, President of the WPA, for the initiative and collaboration, including WPA funding; those who attended the workshop for their active participation; the facilitators of diverse organizations who volunteered their time and the WPA Secretariat for organizing the logistic aspects.

The views expressed in this report are those of the authors, and do not necessarily represent the decisions, policies, or views of the institutions which they serve.

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LETTER TO THE EDITOR

Should “risk syndrome for psychosis” be included as a diagnosis in DSM-V?

Research on people at ultra high risk to develop schizophrenia has progressed significantly in recent years (1-5). This has led to the proposal, which has appeared in the agenda of the work group on schizophrenia of the American Psychiatric Association (6), to include “risk syndrome for psychosis” as a diagnosis in DSM-V.

Different positions have been expressed in this respect. Most experts feel that “risk syndrome for psychosis” is not a diagnostic entity (6). Including it as a diagnosis may be detrimental, due to the possibility of inappropriate labeling, prescribing of antipsychotics and stigma leading to discrimination. Furthermore, the syndrome is ill-defined, with no neurobiological basis, lack of specific treatments, and need for further evaluation. Potential harm outweighs potential benefits at present, because of poor validation, low and declining conversion rate, and high rate of false positives.

However, it is also true that everyone who develops psychosis or schizophrenia has been “at-risk”, and prevention of schizophrenia is possible only if we are able to effectively detect the risk. Therefore, it may not be prudent to dismiss the proposal altogether. The strongest argument for the inclusion of the new diagnosis is based upon the “staging model” illustrated by P. McGorry (7,8). According to the proponents, the evidence is now sufficient, public health implications are clear, and the new diagnosis would offer a great opportunity to pursue schizophrenia research from a prodromal perspective (9,10). Though it is recognized that only some people actually progress to a psychotic state, it is maintained that some indication about who will develop psychosis is now emerging.

According to existing diagnostic systems, patients are classified as either having a psychotic condition or not having it. In routine clinical practice, the subsyndromal or subthreshold clients are turned away because diagnostic criteria are not fulfilled. Help seeking individuals at times may remain under observation without active intervention, and those who fail to recognize their symptoms may only be referred when it is too late. There is a need to address the vulnerable people on an ongoing basis to either delay or avert psychosis, exactly like we do for evolving myocardial ischemia or evolving stroke. We certainly need more effective and specific instruments, measurements and definitions to facilitate this process.

Psychiatric diagnosis is the universal language of mental health, which provides effective communication amongst the clinicians. However, it has outgrown its purpose, and has acquired position of a document providing scientific evidence for a number of non-clinical arenas like courts, insurance companies, social service disability, research funding and research ethics boards. We need to reconcile with this change.

The risk syndrome for psychosis may or may not appear in DSM. Several other options may be considered instead of calling it a “diagnosis”, e.g., a separate category of subsyndromal psychosis or a category of risk syndromes across the diagnoses, or coding it on a dimension of severity. While more discussion regarding research evidence, theoretical aspects and ethical boundaries is certainly required, I would like to welcome this debate and hope to see it reaching a logical conclusion.

Amresh Shrivastava
University of Western Ontario, and Lawson
Health Research Institute, London, Ontario, Canada

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LETTER TO THE EDITOR

Lack of association between duration of untreated psychosis and outcome in an Indian cohort

The duration of untreated psychosis (DUP), defined as the time from manifestation of the first psychotic symptom to initiation of adequate antipsychotic drug treatment, has been shown to have a robust association with poor outcome of first-episode psychosis (1). However, several methodological problems afflict research in this area. Moreover, although some Asian countries have embarked on early intervention programmes for psychosis, data on influence of DUP on outcome of psychotic disorders (particularly schizophrenia) from these countries is extremely limited. This prompted us to examine the influence of DUP on outcome among patients of first-episode schizophrenia seeking treatment at the psychiatric outpatient clinic of a multi-speciality hospital in north-India.

Patients aged 18-60 years, with a DSM-IV diagnosis of schizophrenia, in their first episode, seeking treatment for the first time, were recruited after obtaining written informed consent. Patients with comorbid psychiatric disorder, substance abuse/dependence (except nicotine), major physical illness, organic brain syndrome or mental retardation were excluded. Diagnoses were established using the Structured Clinical Interview for DSM-IV Axis I Disorders - Clinician Version. DUP was defined as the interval between the onset of psychotic symptoms and initiation of "adequate treatment", defined as treatment with antipsychotics at adequate doses (minimum of 300 mg/day chlorpromazine equivalents), for 6 weeks or more. Onset of psychotic symptoms was determined using the Instrument for the Retrospective Assessment of Onset of Schizophrenia (2). Initiation of treatment was ascertained from information obtained from patients/relatives and scrutiny of medical records. Baseline assessments also included the Positive and Negative Syndrome Scale (PANSS); the Schedule for Assessment of Psychiatric Disability (SAPD), an Indian modification of the WHO-Disability Assessment Schedule; the Global Assessment of Functioning scale (GAF) for past-month functioning, the Lehman's Quality of Life Interview - Brief Version (QOLI). Subsequently, patients continued their treatment and were contacted 6 months after the initial assessment. A modified version of the WHO-Life Chart Schedule (LCS; 3) was used as the primary measure of the interim course and 6-month outcome. The PANSS, GAF, SAPD and QOLI were all reapplied as secondary measures of outcome.

Consecutive sampling over 8 months yielded 38 patients with first-episode schizophrenia fulfilling selection criteria; 8 of these could not be included in the study, but their clinical/demographic characteristics were comparable to the patients recruited. Consequently, the initial sample had 30 patients; 8 more patients dropped out in the intervening 6 months; thus the follow-up sample consisted of 22 patients.

Patients were older than expected (mean 29-32 years); there was also a slight excess of females. Paranoid schizophrenia being the commonest subtype could have contributed to the later age of onset. Patients were mostly educated and from urban backgrounds. There were no differences between baseline and follow-up samples, indicating that the 8 drop-outs at this stage did not affect the results concerning outcome.

The mean DUP was 47.30 (SD 40.44) weeks for the baseline sample and 49.32 (SD 42.95) weeks for the follow-up sample. The DUP varied from 6 to 180 weeks for both samples. Predominance of urban, educated subjects could have contributed to the unusually short DUP of this sample.

The influence of DUP on outcome was examined using Spearman's correlation coefficients. The modified LCS was the primary outcome measure; secondary measures of outcome included the PANSS, GAF, SAPD and QOLI. No significant association with DUP were evident with either primary or secondary outcome measures. Dichotomized outcome analysis was also attempted by subdividing the follow-up sample into "short DUP" (n=10) and "long DUP" (n=12) groups, using the median value of 36 weeks as the cut-off, and comparing the same outcome parameters using Mann-Whitney tests. This analysis also failed to reveal a significant association between DUP and outcome.

Although this study met most of the recommended quality control measures (1), including standardized determination of diagnosis and DUP, a reasonable follow-up rate, use of multiple measures of outcome, and of non-parametric analyses, it fell short on several aspects, including the small/restricted sample, non-blind assessments, the relatively short follow-up and the inability to control for potential confounds. However, these weaknesses could not entirely account for the lack of an association between DUP and outcome, especially since several other studies (4) with similar designs and sample sizes have yielded positive associations.

Alternative explanations for the lack of an association could be proposed. Variability in ascertaining DUP, possible influence of confounders, the likelihood of DUP being a marker, not a determinant of outcome, have all been cited as reasons for the failure to replicate a positive association between long DUP and poor outcome. Even in studies reporting a positive association, the effect is modest and correlational, not causal (5).

However, the current study highlights another related debate, that concerning a "threshold" of DUP, exceeding which it inevitably predicts poor outcome. A non-linear relationship and lack of association between effect sizes and the cut-off points of long/short DUP has led to the proposal that deleterious effects of untreated psychosis occur very early, possibly in the late prodromal phase. However, application of very short cut-offs leads to confounding between DUP, outcome and diagnosis. Samples with very short DUP are likely to be contaminated by good-prognosis cases (e.g., acute psychosis), leading to better outcome. Employing DSM-IV criteria (as in this study) to diagnose patients with schizophrenia obviates this problem to some extent, as the inclusion of a 6-month duration of illness criterion for DSM-III-R /DSM-IV diagnoses of schizophrenia eliminates much of the predictive effect of DUP. Moreover, several studies have indicated that if there is a threshold period of DUP, then this is greater than 1 year and may be much longer than that. Among all patient groups, those with schizophrenia with DUP exceeding 1 year have the poorest outcome (1,5). Finally, studies from developing countries have usually reported DUPs much longer than the average of 1-2 years found in studies from developed countries.

The results of this study do not necessarily argue against the use of measures to reduce DUP, which would be justified simply by humane reasons for ameliorating unnecessary suffering caused by untreated psychosis (6). However, they do highlight the prevailing uncertainties in this area. They also suggest the need for further research to enable (reduction of) DUP to be a reasonable goal of early prevention programmes and the need to maintain a balance between enthusiasm and proper research evidence, particularly in developing countries (7). The already limited mental health resources in these countries makes it imperative that such prevention programmes be based on sound, locally based research data linking DUP to outcome.

Parveen R. Gupta, Subho Chakrabarti,
Paramanand Kulhara
Department of Psychiatry, Postgraduate Institute
of Medical Education and Research (PGIMER),
Chandigarh 160 012, India

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The 15th World Congress of Psychiatry (Buenos Aires, September 18-22, 2011)

The World Congress of Psychiatry, organized by the World Psychiatric Association every three years, is the main international scientific event in the field of psychiatry. The 15th World Congress aims to provide a comprehensive overview of those achievements which have stood the test of time (our heritage) and of the most promising current trends (our future) in the various areas of psychiatric research and practice, with the contribution of the most prominent experts of the various topics.

Table 1 15th World Congress of Psychiatry – Keynote Lectures

KL1.	Classification and diagnostic systems (N. Sartorius)
KL2.	Genetics of mental disorders (P. McGuffin)
KL3.	Community mental health care (G. Thornicroft)
KL4.	Psychosocial rehabilitation (R.E. Drake)
KL5.	Culture and mental health (R. Alarcón)
KL6.	Neuroimaging of psychoses (P. McGuire)
KL7.	Cognitive-behavioural psychotherapies (K. Shear)
KL8.	Intermediate phenotypes in psychiatry (D.R. Weinberger)
KL9.	Psychiatry and general medicine (T. Wise)
KL10.	Clinical approach to schizophrenia (W.T. Carpenter Jr.)
KL11.	Clinical approach to bipolar disorder (E. Vieta)
KL12.	Clinical approach to major depression (M.E. Thase)
KL13.	Clinical approach to eating disorders (C. Fairburn)
KL14.	Clinical approach to personality disorders (A.E. Skodol)
KL15.	Clinical approach to anxiety disorders (D. Stein)
KL16.	Epidemiology of mental disorders (R.C. Kessler)
KL17.	Psychodynamic psychotherapies (P. Fonagy)
KL18.	New and old addiction disorders (C.P. O'Brien)
KL19.	Child psychiatry (J. Rapoport)
KL20.	Old age psychiatry (D. Jeste)
KL21.	Mental health consequences of trauma and violence (A.C. McFarlane)
KL22.	Ethics and human rights (F. Lolas)
KL23.	Women's mental health (D. Stewart)
KL24.	Epidemiology and prevention of suicide (M. Phillips)

Table 2 15th World Congress of Psychiatry – Core Symposia

CS1.	Functional psychopathology (*Chairperson*: S. Kapur)
CS2.	Prevention of mental disorders and promotion of mental health (*Chairperson:* S. Saxena)
CS3.	The family of persons with severe mental illness (*Chairperson:* K.T. Mueser)
CS4.	Gene-environment interactions in mental disorders (*Chairperson:* N. Craddock)
CS5.	Pharmacotherapies in psychiatry: our heritage and our future (*Chairperson:* H.-J. Möller)
CS6.	Resilience and recovery in persons with mental disorders (*Chairperson:* A. Bellack)
CS7.	Early interventions in psychiatry (*Chairperson:* P.D. McGorry)
CS8.	Conflicts, terrorism and mental health (*Chairperson:* R.J. Ursano)
CS9.	Social brain and social cognition (*Chairperson*: R.I.M. Dunbar)
CS10.	Children with mental disorders do become adults (*Chairperson*: B. Birmaher)
CS11.	Globalization and mental health (*Chairperson*: D. Bhugra)
CS12.	Non-pharmacological somatic treatments in psychiatry (*Chairperson*: H.A. Sackeim)
CS13.	Mental health care in low-income countries (*Chairperson*: O. Gureje)
CS14.	Access and adherence to mental health care (*Chairperson*: V. Patel)
CS15.	Improving quality of mental health services (*Chairperson*: R. Jenkins)

An outstanding scientific programme is being built up. The 24 Keynote Lectures and the 18 Core Symposia have been already finalized and are outlined in Tables 1 and 2.

In addition, the programme will include Regular Symposia, Workshops, WPA Section and Zonal Symposia, Oral Communication Sessions, Poster Sessions and Sponsored Events. The deadline for submission of Regular Symposia and Workshops is October 31, 2010. The deadline for submission of WPA Section and Zonal Symposia, Oral Communications and Posters is November 30, 2010. The guidelines for submission can be found on the website of the Congress (www.wpa-argentina2011.com.ar).

The official language of the Congress will be English. Simultaneous translation into Spanish and Portuguese will be available for Keynote Lectures, Core Symposia and selected Regular Symposia. There will be a special track in the scientific programme with Symposia and Oral Communication Sessions in Spanish or Portuguese.

Fellowships will be available for psychiatrists under 40 years of age and with no more than five years elapsed since completion of their psychiatric training. Selection criteria and guidelines for submission can be found on the website of the Congress.

An extremely attractive programme of tours for Congress participants and accompanying persons has been organized. Details can be found on the website of the Congress.

This is going to be a memorable event. Psychiatrists from all countries of the world are invited to attend and to contribute.

WPA Project on Partnerships for Best Practices in Working with Service Users and Carers

Helen Herrman
WPA Secretary for Publications

The WPA has invited service users and family carers to join in its work as members of a taskforce, recognizing their essential contribution to improving mental health in any country. The taskforce is preparing recommendations for the international mental health community on best practices in working with service users and carers. The project's goals and progress are described here on behalf of the taskforce and its special advisers.

The project was established by WPA President Prof. Mario Maj to support the WPA Action Plan for the years 2008 to 2011 (1,2) and one of its goals: "Support international and national programmes aiming to protect the human rights of persons with mental disorders; to promote the meaningful involvement of these persons in the planning and implementation of mental health services; to encourage the development of a person-centered practice in psychiatry and medicine; and to promote equity in the access to mental health services for persons of different age, gender, race/ethnicity, religion and socioeconomic status".

Service users and carers up to the present day have the regular experience of stigma and discrimination in the community (3,4), poor access to care for mental and physical health problems (5), and treatment under conditions that rob them of respect and dignity (6,7). Psychiatrists join in calling for their inclusion in decisions related to treatment and rehabilitation, the development and management of services, the building of a research knowledge base, the development of policy, and the resolution of problems at any level, especially social exclusion (8-10). In some low-income countries, community-based organizations are collaborating with professionals to work effectively with groups of previously marginalized people (e.g., 11).

Service users and their families have an important role in advocacy in order to enhance the reputation of mental health expertise and services as well as that of people with a lived experience of mental ill health. In recent years, users and carers have been involved positively in a range of activities including advocacy for support for research, care and social inclusion, and self-help projects (12-15). The WPA has cooperated on several levels with different user and carer organizations, as with trialogic symposia at congresses and affiliated memberships, with encouraging results (16). Efforts in several countries to change community attitudes and improve mental health care have produced resolutions and guidelines (e.g., 17-19), but their wide use and the structural changes they call for are yet to be achieved.

The taskforce has defined the primary need to develop a unified approach to advocacy for mental health and human rights at country and international levels. Adequate support for mental health services and improvement of mental health in any population require a united voice. Achieving this will need support for the capacity of each group to work effectively in partnership. As service users and family carers typically lack the power to interact equally with professionals and government decision makers, assistance in developing this power is mutually important for them and for the WPA and the wider international mental health community.

A draft series of ten recommendations about the changes required begins with the declaration that respecting human rights is the basis of successful partnerships for mental health. The second recommendation is that legislation, policy and clinical practice relevant to the lives and care of people with mental disorders need to be developed in collaboration with users and carers. The series continues with a recommendation that the best clinical care of any person in acute or rehabilitation situations is done in collaboration between the user, the carers and the clinicians. Education, research and quality improvement in mental health care also require this collaboration. Other recommendations include enhancing user and carer empowerment through the development of self-help groups; participation in service planning and management boards and the activities of professional societies; employment of people with mental health disabilities in mental health service provision, user-run community centres and psychosocial clubhouses; and the creation of inclusive local anti-stigma programs. Each country will need specific guidelines to apply these recommendations.

The next step is a wide consultation and developing an advisory network to include people and organizations with needed expertise. Consultation will take place with Member Societies and other components of the WPA, with other international organizations and through a series of contacts and group discussions with grassroots people and groups.

The taskforce has three members with a background as service user (Bhargavi Davar, India; Sylvester Katontoka, Zambia; and Jan Wallcraft, UK), three with a background as family carer (Diane Froggatt, Canada; Hussain Jafri, Pakistan; and Sigrid Steffen, Austria) and six psychiatrists associated with the WPA (Michaela Amering, Austria; Julian Freidin, Australia; Helen Herrman, Australia - Chair; Solomon Rataemane, South Africa; Henrik Wahlberg, Sweden; and Richard Warner, USA). The members were appointed as individuals, although several also hold leadership positions in relevant organizations. Chris Underhill, founder and director of Basic Needs, is special adviser, as are two members of the WPA Committee on Ethics, its Chair Sam Tyano and Afzal Javed. The World Health Organization Department of Mental Health and Substance Abuse is helping by offering its experience and advice.

The WPA hopes, through the work of the taskforce, to support partnership and participatory developments worldwide, and improve learning from these experiences.

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Acknowledgement
This publication has been supported by an
unrestricted educational grant from AstraZeneca,
which is hereby gratefully acknowledged.

€ 17,67 per issue

Printed in Italy by LEGO SpA,
via Galilei, 11 - 38015 Lavis, TN