Mental health literacy : Public knowledge and beliefs about mental disorders

A. F. JORM

BJP 2000, 177:396-401.
Access the most recent version at doi: 10.1192/bjp.177.5.396

Mental health literacy

Public knowledge and beliefs about mental disorders

A. F. JORM

Background Although the benefits of public knowledge of physical diseases are widely accepted, knowledge about mental disorders (mental health literacy) has been comparatively neglected.

Aims To introduce the concept of mental health literacy to a wider audience, to bring together diverse research relevant to the topic and to identify gaps in the area.

Method A narrative review within a conceptual framework.

Results Many members of the public cannot recognise specific disorders or different types of psychological distress. They differ from mental health experts in their beliefs about the causes of mental disorders and the most effective treatments. Attitudes which hinder recognition and appropriate help-seeking are common. Much of the mental health information most readily available to the public is misleading. However, there is some evidence that mental health literacy can be improved.

Conclusions If the public's mental health literacy is not improved, this may hinder public acceptance of evidence-based mental health care. Also, many people with common mental disorders may be denied effective self-help and may not receive appropriate support from others in the community.

Declaration of interest None.

Health literacy has been defined as "the ability to gain access to, understand, and use information in ways which promote and maintain good health" (Nutbeam *et al*, 1993). In the area of physical health, examples of health literacy would include knowledge and use of a healthy diet, taking actions to prevent skin cancer, performing breast self-examination, having first aid skills and knowing how to look up health information in a library or on the internet. While the importance of health literacy for physical health is widely acknowledged, the area of mental health literacy has been comparatively neglected. The purpose of this review is to introduce the concept to a wider audience, to bring together diverse research relevant to mental health literacy and to identify gaps in the area.

DEFINITION AND CONCEPTUAL FRAMEWORK

Jorm *et al* (1997*a*) introduced the term 'mental health literacy' and have defined it as "knowledge and beliefs about mental disorders which aid their recognition, management or prevention". Mental health literacy consists of several components, including: (a) the ability to recognise specific disorders or different types of psychological distress; (b) knowledge and beliefs about risk factors and causes; (c) knowledge and beliefs about self-help interventions; (d) knowledge and beliefs about professional help available; (e) attitudes which facilitate recognition and appropriate help-seeking; and (f) knowledge of how to seek mental health information.

If people experience disabling psychological symptoms or have close contact with others who have such problems, they will attempt to manage those symptoms. People's symptom-management activities will be influenced by their mental health literacy. If successful, these symptom-management activities may lead to a reduction in disabling symptoms and also a change in mental health literacy. In this framework, the person affected by the symptoms (either personally or through close contact) is seen as the primary agent in symptom management, with professional help being one of a range of strategies he or she might try. This perspective is important because it leads to a greater emphasis on increasing public (rather than professional) knowledge and skills about mental health and on empowering the person experiencing disabling symptoms. The need for the public to have greater mental health literacy is highlighted by the high lifetime prevalence of mental disorders (up to 50%, according to Kessler *et al*, 1994), which means that virtually everyone will either develop a mental disorder or have close contact with someone who does.

RECOGNITION OF MENTAL DISORDERS

Many members of the public cannot correctly recognise mental disorders and do not understand the meanings of psychiatric terms. For example, when a representative sample of the Australian public was shown vignettes of a person suffering from major depression or schizophrenia, most recognised that there was some sort of mental health problem but depression was correctly used as the label by only 39% and schizophrenia by 27% (Jorm *et al*, 1997*a*). For the depression vignette, 11% thought the person had a physical disorder. Similarly, European surveys have found lack of understanding of the terms schizophrenia and mania to be common (Brändli, 1999; Hillert *et al*, 1999) and that 'schizophrenia' is commonly associated with a split personality (Angermeyer & Matschinger, 1999). A US study found that the public are reasonably knowledgeable about the mood symptoms of depression, but less likely to know about somatic changes (Regier *et al*, 1988).

Is the inability to use a correct psychiatric label and lack of knowledge of symptomatology of any significance? These failures of mental health literacy may cause problems of communication with health practitioners. It is well known that patients with mental disorders are often missed by general practitioners (GPs). Aspects of the GP interviewing style are known to be associated with rate of detection (Goldberg & Huxley, 1992), but the patient's mode of

interacting with the GP is also important. Detection of a mental disorder is greater if the patient presents his or her symptoms as reflecting a psychological problem (Herran *et al*, 1999; Kessler *et al*, 1999) and explicitly raises the problem with the GP (Bowers *et al*, 1990; Jacob *et al*, 1998). Although GP recognition may not be sufficient in itself to benefit the patient (Goldberg *et al*, 1998; Simon *et al*, 1999), it is a first step towards effective action.

KNOWLEDGE AND BELIEFS ABOUT CAUSES

In Western countries depression and schizophrenia are most often seen by the public as caused by the social environment, particularly recent stressors (McKeon & Carrick, 1991; Matschinger & Angermeyer, 1996; Priest *et al*, 1996; Jorm *et al*, 1997*b*; Link *et al*, 1999). While psychiatric epidemiologists would concur about the importance of stressful life events in depression, in schizophrenia life events are more of a trigger than a cause. Biological factors are seen by the public as less important than environmental ones (McKeon & Carrick, 1991; Matschinger & Angermeyer, 1996; Wolff *et al*, 1996; Jorm *et al*, 1997*b*; Link *et al*, 1999), although relatives of people with schizophrenia are more likely to see biological factors as important (Angermeyer & Matschinger, 1996*a*). Providing the label 'schizophrenia' to a vignette has also been found to increase the likelihood that biological rather than psychosocial causes are seen as responsible (Angermeyer & Matschinger, 1996*b*). In some non-Western cultures, supernatural phenomena, such as witchcraft and possession by evil spirits, are seen as important causes of mental disorders (Razali *et al*, 1996), although this is uncommon in the West (Angermeyer & Matschinger, 1999; Brändli, 1999).

Beliefs about causes may alter patterns of help-seeking and response to treatment. For example, in Malaysia belief by psychiatric patients in supernatural causes was associated with greater use of traditional healers and poorer compliance with medication (Razali *et al*, 1996). In a US controlled trial of psychotherapy for depression, belief in relationship causes was associated with a better outcome in behavioural therapy, while belief in existential causes was associated with a better outcome in cognitive therapy (Addis & Jacobson, 1996).

KNOWLEDGE AND BELIEFS ABOUT SELF-HELP

Given that only a minority of people who meet diagnostic criteria for a mental disorder seek professional help (Regier *et al*, 1993; Lin *et al*, 1996; Andrews *et al*, 1999), self-help skills are of great importance. When the public were asked to rate a range of interventions for likely helpfulness, self-help interventions were found to be at the top of the list in both Australia and the UK (Rippere, 1979; Parker & Brown, 1982; Jorm *et al*, 1997*a*). Among the most popular self-help interventions are seeking support from family and friends, engaging in pleasurable activities, taking up new activities and physical exercise. Unfortunately, there is much less evidence on the effectiveness of self-help interventions than on that of professional ones, making it difficult to say which are likely to work. However, for milder states of depression, there is evidence for the effectiveness of social support (Goldberg & Huxley, 1992), physical exercise (Martinsen, 1994), self-help books based on cognitive–behavioural therapy (Cuijpers, 1997) and for the herb St John's wort (Linde *et al*, 1996). *Rauwolfia serpentina* is a traditional herbal remedy known to have an antipsychotic effect (Bhatara *et al*, 1997). There is a clear need for further evaluation of self-help interventions, so that the public can be given appropriate advice.

Knowledge of how to help others is a related component of mental health literacy. Very little research has been done on the topic, but a Swiss survey found that the public have difficulty in dealing with mental disorders, saying they do not know how to behave, are afraid of making mistakes and do not have sufficient knowledge (Brändli, 1999).

KNOWLEDGE AND BELIEFS ABOUT PROFESSIONAL HELP

A number of surveys have asked the public about various helping professions. General practitioners are rated very highly in many countries, particularly for depression (Priest *et al*, 1996; Wolff *et al*, 1996; Jorm *et al*, 1997*a*; Brädli, 1999). The strong endorsement of GPs is not, however, universal (McKeon & Carrick, 1991; Jorm *et al*, 2000*a*). For depression, psychiatrists and psychologists are rated less highly than GPs, but are more likely to be seen as helpful for schizophrenia (Jorm *et al*, 1997*a*; Angermeyer *et al*, 1999). These results come from developed countries. Beliefs about professional help may be very different in developing countries. For example, in Ethiopia traditional sources of help, such as witchcraft, holy water and herbalists, were preferred over medical help for a range of mental health problems (Alem *et al*, 1999). By contrast, medical help was overwhelmingly preferred for physical health problems.

When the public are asked about various therapies, a strikingly consistent finding across many countries is very negative beliefs about medication for a range of mental disorders (Regier *et al*, 1988; Angermeyer *et al*, 1993; Priest *et al*, 1996; Jorm *et al*, 1997*a*; Fischer *et al*, 1999; Hillert *et al*, 1999; Jorm *et al*, 2000*a*). The public's belief about medication is in sharp contrast to both the evidence from randomised controlled trials and the views of mental health professionals that antidepressant and antipsychotic medications are effective (Jorm *et al*, 1997*c*; Caldwell & Jorm, 2000). The public's negative views about psychotropic medication also contrast with their own positive views about medication for common physical disorders (Hillert *et al*, 1999). The reasons given by the public for their negative views of psychotropic medication are perceived side-effects, such as dependence, lethargy or brain damage, and the belief that the treatments deal only with the symptoms and not the causes (Angermeyer *et al*, 1993; Priest *et al*, 1996; Fishcher *et al*, 1999). One interpretation of these findings is that the negative attributes of benzodiazepines have become generalised to all types of psychotropic medication (Angermeyer *et al*, 1993). Indeed, the public do not seem to discriminate between different types of psychotropic medication, in contrast to mental health professionals who are quite specific in their recommendations (Jorm *et al*, 1997*c*). An Australian survey found that other treatments specifically associated with psychiatrists, such as electroconvulsive therapy (ECT) and admission to a psychiatric ward, are also viewed very negatively by the public, with more people believing they are harmful than helpful (Jorm *et al*, 1997*a*). Anecdotal evidence would support the conclusion that such

beliefs are widespread in other countries as well.

'Natural' remedies, such as vitamins and herbs, are viewed much more positively by the public (Angermeyer & Matschinger, 1996*c*; Jorm *et al*, 1997*a*) and are not generally seen as sharing the negative attributes of psychotropics (Fischer *et al*, 1999).

Another consistent finding across a range of countries is very positive views about psychological treatments such as counselling (McKeon & Carrick, 1991; Priest *et al*, 1996; Jorm *et al*, 1997*a*, 2000*a*) and psychotherapy (Angermeyer & Matschinger, 1996*c*; Hillert *et al*, 1999). Indeed, the public's views tend to be more positive than those of professionals (Furnham *et al*, 1992; Jorm *et al*, 1997*c*). What is most surprising is that psychological interventions are seen by the public as highly effective for psychotic disorders (Angermeyer & Matschinger, 1996*c*; Jorm *et al*, 1997*c*, 2000*a*) and even, according to an Austrian survey, for dementia (Jorm *et al*, 2000*a*).

What are the consequences of the public's beliefs about treatment? The most obvious is that negative beliefs about medication may lead to failure to seek medical help and lack of compliance with any medication recommended (Fischer *et al*, 1999). It has been proposed that greater account should be taken of patients' views in negotiating the treatment approach. In this regard, the term 'concordance', which implies a two-way negotiation between doctor and patient, is more appropriate than 'compliance' (Mullen, 1997). Public beliefs about professional help may also affect the help-seeking of others. It has been found that professional help for depression is more likely to occur when another person recommends that help be sought (Dew *et al*, 1991), so the views of significant others about treatment may also be influential.

ATTITUDES THAT FACILITATE RECOGNITION AND HELP-SEEKING

There is a stigma associated with mental disorders and this may hinder seeking help. For example, the German public report much greater reluctance to discuss mental disorders with relatives and friends than to discuss physical disorders (Hillert *et al*, 1999), while in the USA many members of the public reported an unwillingness to seek treatment for depression because they feared a negative impact on their employment situation (Regier *et al*, 1988). Stigmatising attitudes also extend to approaching professionals. In the UK, a majority of the public reported that they would be embarrassed to consult a GP for depression, primarily because the GP would see them as unbalanced or neurotic (Priest *et al*, 1996), and in India patients with stigmatising attitudes have been found to present their distress in somatic rather than psychological terms (Raguram *et al*, 1996).

KNOWLEDGE OF HOW TO SEEK MENTAL HEALTH INFORMATION

We know very little about how people acquire knowledge and beliefs about mental health. It is likely that personal experiences and anecdotal evidence from family and friends are an important source. A UK study found that 33% of respondents cited personal experience of someone with a mental disorder as their main source of information, while a further 10% cited friends and relatives (Wolff *et al*, 1996). Indeed, personal experience or contact has been found to be associated with beliefs about causes (Angermeyer & Matschinger, 1996*b*), with more favourable attitudes (Angermeyer & Matschinger, 1996*d*; Wolff *et al*, 1996), with treatment preferences (Angermeyer & Matschinger, 1996*a*) and with greater understanding of the term schizophrenia (Hillert *et al*, 1999).

Other important influences are journalists' reports and television and cinema dramas depicting mental disorders. In the UK, 32% cited the media as their main source of information (Wolff *et al*, 1996). Unfortunately, these media often tend to report on the negative aspects. In a survey of the German public, 64% said that they had read about a person with a mental illness who had committed a violent crime and 50% about someone who became addicted to prescribed drugs, but only 17% had read about persons with mental illnesses who became able to lead a normal life by taking their medication (Hillert *et al*, 1999). It is clear that such negative reporting has an impact. Another German study was able to show that two attempts on the lives of prominent politicians by persons with a mental disorder led to a marked increase in negative attitudes (Angermeyer & Matschinger, 1995). People with mental disorders are also frequently portrayed as violent or having other undesirable characteristics in fictional accounts in the cinema and on television (Hyler *et al*, 1991; Wilson *et al*, 1999). Although violence is a problem in a small proportion of people suffering from severe mental disorders (Torrey, 1994), the public clearly overestimate this risk, on the basis of media reports and dramatic portrayals (Wolff *et al*, 1996; Link *et al*, 1999).

Finally, there are sources of knowledge, such as books, libraries, the internet and courses of study, available to those with better education and resources. While it is known that some self-help books are best-sellers and that some mental health websites receive a large number of hits, the overall impact of such sources on mental health literacy is unknown. There is a need for greater quality control of such sources to ensure that the public gets accurate information. For example, a recent study of the top 20 depression websites found the overall quality of the information was poor when evaluated against clinical practice guidelines (K. Griffiths, personal communication, 2000; further details available from the author upon request).

COGNITIVE ORGANISATION OF MENTAL HEALTH LITERACY

There is a clear gulf between public and professional beliefs about mental disorders (Jorm *et al*, 1997*c*). One interpretation of this finding is that there is a continuum of mental health literacy running from lay beliefs to professional knowledge. The professionals have expert knowledge which is to a large extent based on scientific evidence and expert consensus, while the public have a range of beliefs based on personal experience, anecdotes, media reports and more formal sources of knowledge. However, factor analysis of public beliefs reveals not a general factor corresponding to mental health literacy, but a number of factors representing general belief systems that illness is best handled by medical, psychological or lifestyle interventions (Jorm *et al*, 1997*d*). It may be that when people are confronted by a health problem they know little about, they fall back on their general belief systems about health (Jorm *et al*, 2000*b*). For example, if a person has no specific knowledge about depression, they might fall back on a general belief system that health problems

are caused by lifestyle and that the solution is to be found in natural remedies and lifestyle changes. These general belief systems then become a scaffold onto which specific knowledge (mental health literacy) is grafted.

IMPROVING MENTAL HEALTH LITERACY

Efforts to improve public knowledge of mental disorders have been much less common than for cancer and heart disease. Nevertheless, a number of approaches have been tried. One is an information campaign targeted at the general population. In the late 1980s, the Americans instituted the Depression Awareness, Recognition and Treatment Program, which aimed to inform both the public and health professionals that depressive disorders are common, serious and treatable (Regier *et al*, 1988). This campaign involved a broad range of educational materials, including television, radio and print advertisements, bookmarks and brochures. This national campaign was coordinated with action in local communities. Its effects are unknown. Another US campaign, begun in the early 1990s, is the National Depression Screening Day (Jacobs, 1995). The aims of this day are to call public attention to depression, to educate the public about symptoms and treatments and to identify individuals who may be unaware they are clinically depressed. This day has resulted in widespread media publicity and screening of a large number of people.

In the UK there was the Defeat Depression Campaign run by the Royal College of Psychiatrists and the Royal College of General Practitioners from 1992 to 1996 (Paykel *et al*, 1998). This campaign aimed to educate the public about depression and its treatment, to encourage earlier treatment-seeking and to reduce the stigma of depression. It included use of radio, television and print media. National surveys carried out at the beginning, middle and end of the campaign showed small but significant changes in the percentage of the public who believe that antidepressants are effective and who would be willing to seek professional help. It is impossible to say whether these changes were solely due to the campaign, but the results are certainly encouraging.

In Norway, there has recently been a campaign in one county aimed at reducing the duration of untreated psychosis by encouraging early help-seeking (Johannessen, 1998). As well as targeting the public, this campaign was aimed at health care providers, educators and treatment centres. It involved radio, newspaper, cinema and television advertisements. Public surveys carried out before and after the campaign showed a large increase in knowledge of the terms psychosis and schizophrenia. There is also early evidence that help-seeking behaviour has changed and that the duration of untreated psychosis has decreased.

Another approach is to target specific subgroups of the public. This approach is exemplified by the work of Wolff *et al* (1999), who educated the public in a neighbourhood where a group house for those with mental illnesses was being established. In this study, one such neighbourhood received an education campaign, while another acted as a control. The campaign consisted of an educational package with information sheets and a video, social events to establish contact with the group house, a formal reception and informal discussion sessions. Pre- and post-surveys in the experimental and control neighbourhoods showed only a small effect on public knowledge, but revealed less fear and more social contact with the group house residents in the experimental neighbourhood. Another targeted population subgroup is high-school students. Fairly brief classroom instruction has been found to improve willingness to seek professional help (Battaglia *et al*, 1990; Esters *et al*, 1998).

Finally, there are attempts to improve the quality of information presented in the media through expert input. Although mental health experts frequently make themselves available for media comment, there is virtually no research on the effects of doing so. However, in an analysis of four media items derived from lay sources and three from psychiatrists, Nairn (1999) found that the psychiatrists presented mental disorders in a less negative manner, but the journalists tended to undermine their message to produce a more newsworthy story.

IMPLICATIONS FOR MENTAL HEALTH CARE

The evidence reviewed here makes it clear that the public in many countries have poor mental health literacy. There are a number of important consequences of this poor knowledge. First, it may place a limit on the implementation of evidence-based mental health care. Attempts to make clinical practice more evidence-based, such as the Cochrane Collaboration (Adams, 1995), are founded on the assumption that meta-analyses of randomised controlled trials and the dissemination of clinical practice guidelines are sufficient to improve clinical practice. This approach is very much a top-down one in which it is assumed that the benefits of research will be realised if clinicians can be won over to use evidence-based treatments. However, this approach fails to take account of the views of the public, who are the potential consumers of services. If evidence-based treatments do not accord with public views, people who develop mental disorders may be unwilling to seek those treatments or to adhere to advice given by clinicians (Jorm *et al*, 2000*a*). Furthermore, they may burden the health care system by seeking inappropriate services and unnecessary investigations.

A second consequence of poor mental health literacy is that the task of preventing and helping mental disorders is largely confined to professionals. However, the prevalence of mental disorders is so high that the mental health workforce cannot help everyone affected and tends to focus on those with more severe and chronic problems. If there are to be greater gains in prevention, early intervention, self-help and support of others in the community, then we need a 'mental health literate' society in which basic knowledge and skills are more widely distributed.

ACKNOWLEDGEMENTS

Suggestions for improving the paper were provided by Betty Kitchener, Kathy Griffiths, Scott Henderson, Jo Medway and Bryan Rodgers.

REFERENCES

Adams, C. E. (1995) A systematic approach to evaluation of care: the Cochrane Collaboration. *Journal of Psychosomatic Research*, **39**, 927–931.

Addis, M. E. & Jacobson, N. S. (1996) Reasons for depression and the process and outcome of cognitive–behavioural psychotherapies. *Journal of Consulting and Clinical Psychology*, **64**, 1417–1424.

Alem, A., Jacobsson, L., Araya, M., *et al* (1999) How are mental disorders seen and where is help sought in a rural Ethiopian community? A key informant study in Butajira, Ethiopia. *Acta Psychiatrica Scandinavica*, **100**, 40–47.

CLINICAL IMPLICATIONS

- The public does not share many of the core beliefs of clinicians with regard to treatment and aetiology of mental disorders.
- Clinicians may have difficulty in implementing evidence-based mental health care if patients do not believe in the interventions offered.
- An increase in mental health literacy in the population may assist prevention, early intervention, effective self-help and support of others in the community.

LIMITATIONS

- The concept of mental health literacy assumes the superiority of expert psychiatric knowledge over lay beliefs.
- The concept could be criticised for seeing the sufferer's interpretation of his or her condition as less valid.

A. F. JORM, DSc, Centre for Mental Research, The Australian National University, Canberra 0200, Australia

(First received 4 February 2000, final revision 12 May 2000, accepted 15 May 2000)

Andrews, G., Hall, W., Teesson, M., *et al* (1999) *The Mental Health of Australians*. Canberra: Commonwealth Department of Health and Aged Care.

Angermeyer, M. C. & Matschinger, H. (1995) Violent attacks on public figures by persons suffering from psychiatric disorders: their effect on the social distance towards the mentally ill. *European Archives of Psychiatry and Clinical Neuroscience*, **245**, 159–164.

___ & ___ (1996*a*) Relatives' beliefs about the causes of schizophrenia. *Acta Psychiatrica Scandinavica*, **93**, 199–204.

___ & ___ (1996*b*) The effect of diagnostic labelling on the lay theory regarding schizophrenic disorders. *Social Psychiatry and Psychiatric Epidemiology*, **31**, 316–320.

___ & ___ (1996*c*) Public attitude towards psychiatric treatment. *Acta Psychiatrica Scandinavica*, **94**, 326–336.

___ & ___ (1996*d*) The effect of personal experience with mental illness on the attitude towards individuals suffering from mental disorders. *Social Psychiatry and Psychiatric Epidemiology*, **31**, 321–326.

___ & ___ (1999) Social representations of mental illness among the public. In *The Image of Madness: The Public Facing Mental Illness and Psychiatric Treatment* (eds J. Guimon, W. Fischer & N. Sartorius), pp. 20–28. Basel: Karger.

___, Däumer, R. & Matschinger, H. (1993) Benefits and risks of psychotropic medication in the eyes of the general public: results of a survey in the Federal Republic of Germany. *Pharmacopsychiatry*, **26**, 114–120.

___, Matschinger, H. & Riedel-Heller, S. G. (1999) Whom to ask for help in case of a mental disorder? Preferences of the lay public. *Social Psychiatry and Psychiatric Epidemiology*, **34**, 202–210.

Battaglia, J., Coverdale, J. H. & Bushong, C. P. (1990) Evaluation of a mental illness awareness week program in public schools. *American Journal of Psychiatry*, **147**, 324–329.

Bhatara, V. S., Sharma, J. N., Gupta, S., *et al* (1997) *Rauwolfia serpentina*: the first herbal antipsychotic. *American Journal of Psychiatry*, **154**, 894.

Bowers, J., Jorm, A. F., Henderson, S., *et al* (1990) General practitioners' detection of depression and dementia in elderly patients. *Medical Journal of Australia*, **153**, 192–196.

Brändli, H. (1999) The image of mental illness in Switzerland. In *The Image of Madness: The Public Facing Mental Illness and Psychiatric Treatment* (eds. J. Guimon, W. Fischer & N. Sartorius), pp. 29–37. Basel: Karger.

Caldwell, T. M. & Jorm, A. F. (2000) Mental health nurses' beliefs about interventions for schizophrenia and depression: a comparison with psychiatrists and the public. *Australian and New Zealand Journal of Psychiatry*, in press.

Cuijpers, P. (1997) Bibliotherapy for unipolar depression: a meta-analysis. *Journal of Behavior Therapy and Experimental Psychiatry*, **28**, 139–147.

Dew, M. A., Bromet, E. J., Schulberg, H. C., *et al* (1991) Factors affecting service utilization for depression in a white collar population. *Social Psychiatry and Psychiatric Epidemiology*, **26**, 230–237.

Esters, L. G., Cooker, P. G. & Ittenbach, R. F. (1998) Effects of a unit of instruction in mental health on rural adolescents' conceptions of mental illness and attitudes about seeking help. *Adolescence*, **33**, 469–476.

Fischer, W., Goerg, D., Zbinden, E., *et al* (1999) Determining factors and the effects of attitudes towards psychotropic medication. In *The Image of Madness: The Public Facing Mental Illness and Psychiatric Treatment* (eds J. Guimon, W. Fischer & N. Sartorius), pp. 162–186. Basel: Karger.

Furnham, A., Wardley, Z. & Lillie, F. (1992) Lay theories of psychotherapy, III: Comparing the ratings of lay persons and clinical psychologists. *Human Relations*, **45**, 839–858.

Goldberg, D. & Huxley, P. (1992) *Common Mental Disorders: A Bio-Social Model*. London & New York: Routledge.

___, Privett, M., Ustun, B., *et al* (1998) The effects of detection and treatment on the outcome of major depression in primary care: a naturalistic study in 15 cities. *British Journal of General Practice*, **48**, 1840–1844.

Herran, A., Vázquez-Barquero, J. L. & Dunn, G. (1999) Patients' attributional style is important factor. *British Medical Journal*, **318**, 1558.

Hillert, A., Sandmann, J., Ehmig, S. C., *et al* (1999) The general public's cognitive and emotional perception of mental illnesses: an alternative to attitude-research. In *The Image of Madness: The Public Facing Mental Illness and Psychiatric Treatment* (eds J. Guimon, W. Fischer & N. Sartorius), pp. 56–71. Basel: Karger.

Hyler, S. E., Gabbard, G. O. & Schneider, L. (1991) Homicidal maniacs and narcissistic parasites: stigmatization of mentally ill persons in the movies. *Hospital and Community Psychiatry*, **42**, 1044–1048.

Jacob, K. S., Bhugra, D., Lloyd, K. R., *et al* (1998) Common mental disorders, explanatory models and consultation behaviour among Indian women living in the UK. *Journal of the Royal Society of Medicine*, **91**, 66–71.

Jacobs, D. G. (1995) National Depression Screening Day: educating the public, reaching those in need of treatment, and broadening professional understanding. *Harvard Review of Psychiatry*, **3**, 156–159.

Johannessen, J. O. (1998) Early intervention and prevention in schizophrenia: experiences from a study in Stavanger, Norway. *Seishin Shinkeigaku Zasshi. Psychiatria et Neurologia Japonica*, **100**, 511–522.

Jorm, A. F., Korten, A. E., Jacomb, P. A., *et al* (1997*a*) 'Mental health literacy': a survey of the public's ability to recognise mental disorders and their beliefs about the effectiveness of treatment. *Medical Journal of Australia*, **166**, 182–186.

___, ___, ___, *et al* (1997*b*) Public beliefs about causes and risk factors for depression and schizophrenia. *Social Psychiatry and Psychiatric Epidemiology*, **82**, 143–148.

___, ___, ___, *et al* (1997*c*) Helpfulness of interventions for mental disorders: beliefs of health professionals compared with the general public. *British Journal of Psychiatry*, **171**, 233–237.

___, ___, ___, *et al* (1997*d*) Belief systems of the general public concerning the appropriate treatments for mental disorders. *Social Psychiatry and Psychiatric Epidemiology*, **32**, 468–473.

___, Angermeyer, M. & Katschnig, H. (2000*a*) Public knowledge of and attitudes to mental disorders: a limiting factor in the optimal use of treatment services. In *Unmet Need in Psychiatry* (eds G. Andrews & S. Henderson), pp. 399–413. Cambridge: Cambridge University Press.

___, Christensen, H., Medway, J., *et al* (2000*b*) Public belief systems about the helpfulness of interventions for depression: associations with history of depression and professional help-seeking. *Social Psychiatry and Psychiatric Epidemiology*, in press.

Kessler, D., Lloyd, K., Lewis, G., *et al* (1999) Cross sectional study of symptom attribution and recognition of depression and anxiety in primary care. *British Medical Journal*, **318**, 436–440.

Kessler, R. C., McGonagle, K. A., Zhao, S., *et al* (1994) Lifetime and 12-month prevalence of DSM–III–R psychiatric disorders in the United States: results from the National Comorbidity Survey. *Archives of General Psychiatry*, **51**, 8–19.

Lin, E., Goering, P., Offord, D. R., *et al* (1996) The use of mental health services in Ontario: epidemiologic findings. *Canadian Journal of Psychiatry*, **41**, 572–577.

Linde, K., Ramirez, G., Mulrow, C. D., *et al* (1996) St John's wort for depression – an overview and meta-analysis of randomised controlled trials. *British Medical Journal*, **313**, 253–258.

Link, B. G., Phelan, J. C., Bresnahan, M., *et al* (1999) Public conceptions of mental illness: labels, causes, dangerousness, and social distance. *American Journal of Public Health*, **89**, 1328–1333.

Martinsen, E. W. (1994) Physical activity and depression: clinical experience. *Acta Psychiatrica Scandinavica*, **377** (suppl.), 23–27.

Matschinger, H. & Angermeyer, M. (1996) Lay beliefs about the causes of mental disorders: a new methodological approach. *Social Psychiatry and Psychiatric Epidemiology*, **31**, 309–315.

McKeon, P. & Carrick, S. (1991) Public attitudes to depression: a national survey. *Irish Journal of Psychological Medicine*, **8**, 116–121.

Mullen, P. D. (1997) Compliance becomes concordance. *British Medical Journal*, **314**, 691–692.

Nairn, R. (1999) Does the use of psychiatrists as sources of information improve media depictions of mental illness? A pilot study. *Australian and New Zealand Journal of Psychiatry*, **33**, 583–589.

Nutbeam, D., Wise, M., Bauman, A., *et al* (1993) *Goals and Targets for Australia's Health in the Year 2000 and Beyond*. Canberra: Australian Government Publishing Service.

Parker, G. B. & Brown, L. B. (1982) Coping behaviors that mediate between life events and depression. *Archives of General Psychiatry*, **39**, 1386–1391.

Paykel, E. S., Hart, D. & Priest, R. G. (1998) Changes in public attitudes to depression during the Defeat Depression Campaign. *British Journal of Psychiatry*, **173**, 519–522.

Priest, R. G., Vize, C., Roberts, A., *et al* (1996) Lay people's attitudes to treatment of depression: results of opinion poll for Defeat Depression Campaign just before its launch. *British Medical Journal*, **313**, 858–859.

Raguram, R., Weiss, M. G., Channabasavanna, S. M., *et al* (1996) Stigma, depression, and somatization in south India. *American Journal of Psychiatry*, **153**, 1043–1049.

Razali, S. M., Khan, U. A. & Hasanah, C. I. (1996) Belief in supernatural causes of mental illness among Malay patients: impact on treatment. *Acta Psychiatrica Scandinavica*, **94**, 229–233.

Regier, D. A., Hirschfeld, R. M. A., Goodwin, F. K., *et al* (1988) The NIMH depression awareness, recognition, and treatment program: structure, aims, and scientific basis. *American Journal of Psychiatry*, **145**, 1351–1357.

—, Narrow, W. E., Rae, D. S., *et al* (1993) The de facto US mental and addictive disorders service system. Epidemiologic catchment area prospective 1-year prevalence rates of disorders and services. *Archives of General Psychiatry*, **50**, 85–94.

Rippere, V. (1979) Scaling the helpfulness of antidepressive activities. *Behaviour Research and Therapy*, **17**, 439–449.

Simon, G. E., Goldberg, D., Tiemens, B. G., *et al* (1999) Outcomes of recognized and unrecognized depression in an international primary care study. *General Hospital Psychiatry*, **21**, 97–105.

Torrey, E. F. (1994) Violent behavior by individuals with serious mental illness. *Hospital and Community Psychiatry*, **45**, 653–662.

Wilson, C., Nairn, R., Coverdale, J., *et al* (1999) Mental illness depictions in prime-time drama: identifying the discursive resources. *Australian and New Zealand Journal of Psychiatry*, **33**, 232–239.

Wolff, G., Pathare, S., Craig, T., *et al* (1996) Community knowledge of mental illness and reaction to mentally ill people. *British Journal of Psychiatry*, **168**, 191–198.

—, —, —, *et al* (1999) Public education for community care: a new approach. In *The Image of Madness: The Public Facing Mental Illness and Psychiatric Treatment* (eds J. Guimon, W. Fischer & N. Sartorius), pp. 105–117. Basel: Karger.