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PERCEPTION OF AND ATTITUDE TOWARDS MENTAL ILLNESS IN OMAN

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ABSTRACT

Background: As conceptions of mental illness are often dictated by prevailing socio-cultural factors and the philosophy of the time, there is little research to substantiate how mental illness is perceived in the Arab world in the light of both traditional and more recent modernization and acculturation processes.

Aims: To examine whether social factors exert an influence on a person's attitude towards people with mental illness (PWMI) in the rapidly changing country of Oman.

Methods: This study compares the response elicited from medical students, relatives of psychiatric patients and the general Omani public on the causes of mental illness, attitudes toward PWMI and the care and management of people with mental illness.

Results: This study found no relationship between attitudes towards PWMI, and demographic variables such as age, educational level, marital status, sex and personal exposure to people with mental illness. Both medical students and the public rejected a genetic factor as the cause of mental illness; instead they favoured the role of spirits as the aetiological factor for mental illness. There were favourable responses on statements regarding value of life, family life, decision-making ability, and the management and care of mental illness. However, both medical students and the public thought that PWMI tend to have peculiar and stereotypical appearances and the majority preferred that facilities for psychiatric care should be located away from the community. Although the relatives of psychiatric patients were concerned about the welfare of mental patients, their responses varied and were often contingent upon their expectations.

Conclusions: The data suggest that neither socio-demographic factors nor previous exposure to PWMI was related to attitudes towards PWMI. Although the attitudes of Omanis toward PWMI appear to fluctuate in complex ways, traditional beliefs on mental illness have yet to be eroded by exposure to a biomedical model of mental illness. This study largely supports the view that the extent of stigma varies according to the cultural and sociological backgrounds of each society.

INTRODUCTION

There has been limited research in the area of stigma and mental illness in the Arab world. In the traditional Arab world, the word 'madness' is often associated with possession and sorcery and some precipitating factors are considered to be intimately linked to social relationships (Al-Adawi *et al.*, 2001a; Al-Sharbati *et al.*, 2001; El-Islam & Abu-Dagga, 1992). As conceptions of insanity are often dictated by the philosophy of the time, there is a dearth of research to substantiate how mental illness is perceived in the Arab world in the light of recent modernization and acculturation (Harpham, 1994).

Despite distinctive improvements in the standards for health care in developing countries, recent reports suggest that services for mental illness often are limited to only custodial care (Okasha & Karam, 1998). This poor state of affairs continues to prevail despite the rising incidence of psychological disorders (Murray & Lopez, 1996; Goldberg *et al.*, 2000). Although various explanations, such as the change in demographics and the lack of resources, might contribute to the rudimental services, one possible explanation impeding provision for people with mental illness (PWMI) is the prevailing opinions shaping public attitudes towards PWMI (Kirmayer *et al.*, 1997; Ng, 1997; Li *et al.*, 1999; Littlewood, 1998). Attitudes are major determinants of behaviour and have a wide-ranging influence on society (Sussman, 1997; Al-Adawi *et al.*, 2000).

Mental illness can often disenfranchise people, reduce their status and disempower them (Callaghan *et al.*, 1997). Historical and cross-cultural studies have reported active discrimination and harassment of PWMI which exacerbated their psychosocial dysfunction (Dols, 1992). Although some studies have found a positive public attitude towards PWMI (Brockington *et al.*, 1993; Madianos *et al.*, 1999), generally PWMI tend to experience victimization from all strata of society (Bhugra, 1989; Phelan & Link, 1998). It has been suggested that social attitudes can be more devastating than the disorder itself. In addition, other family members suffer because an immediate family member has mental illness (Killian & Killian, 1990; Nicholson *et al.*, 1998). Studies from developing countries suggest that societal attitudes vary and fluctuate in a complex way (Ruschoff, 1992; Arkar & Eker, 1997).

The main aim of this paper is to investigate attitudes of Omanis towards PWMI in Oman, an Arab-Islamic country that lies on the eastern side of the Arabian peninsula. It is bordered on the east by the Indian Ocean and on the west by Saudi Arabia and the United Arab Emirates. Oman is mainly desert with the population centres along the coast. Due to its isolation and because of the mainly desert terrain, Oman developed its own history and subculture (Al-Adawi, Burjorjee & Al-Issa, 1997). Oman offers an interesting study area since its diverse culture has experienced rapid acculturation, a phenomenon often equated with a rise in psychosocial stress (Ghubash *et al.*, 1994). In a developing country like Oman, the treatment of mental illness is often the prerogative of traditional healers as psychiatric services have been only recently introduced (Burjorjee & Al-Adawi, 1992). As groundwork for the development of psychiatric services in Oman, this paper surveys societal attitudes towards PWMI.

A specific interrelated aim of the present study is to examine whether demographic and social factors exert an influence on a person's attitude towards PWMI. Previous researches have suggested that previous contact with PWMI influences one's attitude (Lam *et al.*, 1996; Angermeyer & Matschinger, 1997; Roth *et al.*, 2000). The final aim of this study is

to contrast the attitudes toward PWMI of three different groups of people: medical students who have completed their secondment/rotation in psychiatry; relatives of psychiatric patients; and the general public.

METHODS

1. Subjects

There were three groups studied. The first consisted of medical students from Sultan Qaboos University who had completed a behavioural science course for their medical science degree and also completed an attachment in psychiatry as part of their clinical training. The second group consisted of relatives of psychiatric patients who accompanied them to the outpatient psychiatric clinic or visited their psychiatrically ill relatives in the inpatient unit at the Sultan Qaboos University Hospital. The third group consisted of members of the public that were recruited from the community in Muscat, Sultanate of Oman.

2. Measures

The questionnaire used in this study was adapted from Weller and Grunes' (1988), Attitude Towards Mental Illness Questionnaire (ATMIQ). It was revised to reflect the socio-cultural aspects of Omani society (e.g. on the cause of mental illness). Psychometric data have shown that ATMIQ has a reliability of 0.79 (Weller & Grunes, 1988). The modified ATMIQ consisted of a 16-item Likert-type scale. The scores range from 0 to 32, with a higher score suggesting a more favourable attitude. For brevity, each item was accompanied by three response choices: 'agree', 'neutral' and 'disagree'. The modified ATMIQ also contained items on demographic information, attributed cause of mental illness, attitudes towards people with mental illness, and care and management of people with mental illness.

STUDY DESIGN

The ATMIQ was translated into Arabic, using a method of back-translation (Al-Adawi et al., 2001b). A conscious effort was made to ensure conceptual, semantic and technical equivalency between the source measures and the target measures. During the preparation for the study, interviewers (7th year medical students) were trained to reliably read out the items of the ATMIQ in the local spoken Arabic dialect and rate the response accordingly. As a result, there was substantial inter-rater agreement on the various items of the questionnaire. Informed consent was obtained after a brief explanation of the study was given and the participants were assured that the data would remain confidential.

Medical students were invited during class time to assist with this study. However, it was explicitly stated that their participation or responses would have no influence on their grades or class performance. The students were not allowed to discuss the statements among themselves in an effort to avoid peer influence.

The relatives in this study were individuals accompanying their family members to the outpatient psychiatric clinic or visiting them in the inpatient psychiatric unit. Relatives were explicitly told that their co-operation would not influence the therapeutic intervention for the patients. Privacy for the subjects was attempted while administering the questionnaire.

The general public group was recruited from the Sultan Qaboos University and the satellite towns around it. The questionnaires were distributed and collected by a research assistant. Those subjects with known sensory or cognitive impairments that would affect proper completion of the questionnaire were excluded from the sample. The selected sample mirrored the general population according to sex, age and educational level (*Annual Statistical Report*, 1999). There was no reason to suggest that the demographic details of non-respondents were different from those of the respondents.

A single composite score was computed using the ATMIQ. Analysis of Variance was used to statistically analyse the data for the demographic variables. The chi-square test was used to analyse the homogeneity of the groups in their perception towards PWMI.

RESULTS

A. Demographic Description

Table 1 gives the demographic characteristics of all the samples. Altogether 468 people returned the questionnaire. The overall response rate was 95% for the medical student group, 90% for the relatives group and 79% for the general public. Among all the groups there were 226 males (48%) and 242 females (52%). In the medical students group there were 173 students (37%), with 57 being male (mean age = 21.68 ± 1.88) and 116 female (mean age = 20.96 ± 1.72). Approximately 5% of the medical students were married. All had completed their medical sciences degree and their attachment in psychiatry. A total of

Table 1
Characteristics of the sample: medical students, relatives and general public

	Whole group	Medical students	Relatives of patients	General public
Sample size	468	173	64	231
Sex	227		44	120
Males Females	226 242	57 116	41 23	128 103
Mean age (SD)	22.50(4.83)	21.20(1.80)	27.50(7.75)	22.11(4.49)
Marital status				
Single	373	164	33	176
Married	94	9	30	55
Divorced	1		1	
Educational level				
Koran	1	0	1	0
Elementary	3	0	3	0
Preparatory	9	0	9	0
Secondary	52	0	36	16
Higher	403	173	15	215

64~(13.8%) relatives were recruited in this study. The group consisted of 41 males (mean age $=27.95\pm8.40$) and 23 females (mean age $=26.70\pm6.52$). Approximately 47% were married, one was divorced, and the rest were single. Approximately 76% had completed at least secondary school education and the rest had sought further education on completion of their secondary education. There were 231 members of the public (49.4%) who took part in this study; 128 males (mean age $=22.95\pm5.13$) and 103 females (mean age $=21.08\pm3.29$). Approximately 24% were married. The majority had completed more than 12 years of education.

B. Effect of demographic variables on attitudes towards mental illness

The results of the ANOVA are presented in Table 2. The mean response for the composite ATMIQ score for the three groups were 24.41 ± 4.11 (students), 23.66 ± 4.88 (relatives) and 24.19 ± 4.43 (public). There was no statistical difference between the mean responses of the groups (p-value = .498). The other demographic parameters: sex (p-value = 0.234), marital-status (p-value = .166), and years of education (p-value = .425) had no effect on the attitude towards PWMI. However there was a slight age effect (p-value = .081). The

Table 2
Results of one-way ANOVA of demographic variables on attitudes towards mental illness

Variable	n	Mean	F	<i>p</i> -value
Respondent				
Students	172	24.41	0.70	0.498
Relatives	64	23.66		
Public	231	24.19		
Sex				
Males	226	23.85	1.42	0.234
Females	241	24.52		
Marital status				
Single	373	24.34	1.92	0.166
Married	95	23.64		
Years of education				
1–6	176	24.10	0.86	0.425
7–12	94	23.79		****
12+	197	24.48		
Age				
< 27	363	24.31	2.52	0.081
28-39	75	24.32		
> 39	30	22.47		
Contact				
Maximum	149	24.37	0.29	0.746
Median	187	24.22		
None	131	23.97		

Statement		Disagreed n (%)	Neutral n (%)	Agreed n (%)	Chi	<i>p</i> -value
Mental illness is genetic	Students Relatives Public	95 (54.9) 40 (62.5) 147 (63.6)	46 (26.6) 8 (12.5) 47 (20.3)	32 (18.5) 16 (25.0) 37 (16.0)	8.17	0.085
Mental illness is caused by spirits	Students Relatives Public	35 (20.2) 27 (42.2) 68 (29.5)	65 (37.6) 22 (34.4) 57 (24.7)	73 (42.2) 15 (23.5) 106 (45.9)	20.35	0.000

Table 3
Cause of mental illness

notion that previous contact with PWMI has an effect on one's attitude was not supported by this study. The mean scores for the maximum, medium and no-contact groups, 24.37 ± 3.98 , 24.22 ± 4.47 and 23.97 ± 4.68 respectively, are not significantly different (p-value = .746). These values are however high, which implies a favourable disposition towards the PWMI of all the groups.

C. Cause, knowledge and attitude towards mental illness

(i) Cause of mental illness

The results for causes of mental illness are presented in Table 3. The three groups perceive mental illness as not being genetic (p-value = .085). The students and the public suggest that spirits cause mental illness. The majority of relatives (45.9%) think that spirits do not cause mental illness.

(ii) Knowledge of people with mental illness

The results for knowledge of PWMI are presented in Table 4. The student group was equally divided on whether or not a PWMI could be identified by physical appearance. The public (57.1%) said they could identify a PWMI by their physical appearance and only 26.6% of relatives said they could not tell a PWMI by their physical appearance. Overall, the groups were evenly split on whether a PWMI could tell the difference between right and wrong. While 39% agreed with the statement, 41% disagreed and the remaining 20% were undecided. Even though the distribution of the responses was the same for the groups (*p*-value = .34) in their judgement of whether a PWMI can tell the difference between right and wrong, more of the relatives (48.4%) disagreed with this statement. The students and relatives agreed that PWMI are capable of true friendship, while the public (51.5%) were undecided. About 47% of the respondents thought positively towards PWMI on these questions, while 36% did not. The rest were undecided or neutral.

(iii) Attitude towards people with mental illness

The results for attitude towards PWMI are presented in Table 5. The majority of respondents agreed that PWMI should lead a normal life, with 64.7% of the group of students, 53.1% of

Table 4
Knowledge of people with mental illness

Statement		Disagreed n (%)	Neutral n (%)	Agreed n (%)	Chi	<i>p</i> -value
One can always tell a mentally ill person by his or her physical appearance	Students Relatives Public	74 (42.8) 17 (26.6) 81 (35.1)	19 (11.0) 23 (35.9) 18 (7.8)	80 (46.2) 24 (37.5) 132 (57.1)	40.17	0.000
The mentally ill, with a number of exceptions, cannot tell the difference between good and bad	Students Relatives Public	76 (43.9) 31 (48.4) 85 (36.8)	32 (18.5) 10 (15.6) 51 (22.1)	65 (37.6) 23 (35.9) 95 (41.1)	4.04	0.401
Very few, in any, mentally ill are capable of true friendships	Students Relatives Public	63 (36.4) 19 (29.7) 64 (27.7)	36 (20.8) 11 (17.2) 48 (51.5)	74 (42.8) 34 (53.1) 119 (20.8)	4.70	0.320

Students = medical students who had completed behavioural science courses and an attachment in psychiatry; relatives = relatives accompanying psychiatrically ill patients at the hospital; public = member of the Omani general public.

Table 5
Attitude towards people with mental illness

Statement		Disagreed n (%)	Neutral n (%)	Agreed n (%)	Chi	<i>p</i> -value
Life has no value for the mentally ill	Students Relatives Public	112 (64.7) 34 (53.1) 168 (72.7)	44 (25.4) 16 (25.0) 37 (16.0)	17 (9.8) 14 (21.9) 26 (11.3)	13.87	0.008
The mentally ill should be prevented from having children	Students Relatives Public	124 (71.7) 42 (65.6) 146 (63.2)	39 (22.5) 15 (23.4) 51 (22.1)	10 (5.8) 7 (10.9) 34 (14.7)	8.37	0.079
The mentally ill should not get married	Students Relatives Public	124 (71.7) 45 (70.3) 156 (67.5)	44 (25.4) 14 (21.9) 55 (23.8)	5 (2.9) 5 (7.8) 20 (8.7)	5.88	0.208
Mentally ill people should be prevented from walking freely in public places	Students Relatives Public	113 (65.3) 40 (62.5) 146 (63.2)	42 (24.3) 13 (20.3) 44 (19.0)	18 (10.4) 11 (17.2) 41 (17.7)	5.21	0.267
One should avoid all contact with the mentally ill	Students Relatives Public	161 (93.1) 54 (84.4) 202 (87.4)	9 (5.2) 7 (10.9) 19 (8.2)	3 (1.7) 3 (4.7) 10 (4.3)	5.23	0.265
The mentally ill should not be allowed to make decisions, even those concerning routine events	Students Relatives Public	142 (82.1) 46 (71.9) 174 (75.3)	24 (13.9) 10 (15.6) 27 (11.7)	7 (4.0) 8 (12.5) 30 (13.0)	10.48	0.033

the relatives and 72.7% of the public considering that life was meaningful for a PWMI. Between 63% and 72% of each group responded favourably to the idea that PWMI should be able to procreate. Also over 62% of each group thought that PWMI should not be prohibited from walking freely in public places. All groups disagreed with the suggestion that contact with PWMI should be avoided. Similarly, disagreements were expressed on the suggestion that PWMI should not be allowed to decide for themselves even in matters concerning routine events.

(iv) Care and management of people with mental illness

The results for the care of PWMI are presented in Table 6. There was a consensus (68–78%) among all three groups that there were people who had never received psychiatric treatment but who were more disturbed than some who were in a mental hospital. All three groups (78–90%) also thought that one should not hide one's mental illness from one's family.

Although there was a generally unfavourable response to the suggestion that PWMI should live only among their own kind, there was no consensus for the suggestion that psychiatric hospitals should not be located in residential areas.

Finally, all three groups disagreed with the suggestion that mental illness cannot be cured. However there was general agreement that PWMI should not be institutionalized. Only about 34% of the relatives thought that PWMI should be institutionalized.

Table 6
Care and management of people with mental illness

Statement		Disagreed n (%)	Neutral n (%)	Agreed n (%)	Chi	<i>p</i> -value
One should hide his/her mental illness from his/her family	Students Relatives Public	154 (89.6) 50 (78.1) 200 (86.6)	13 (7.5) 6 (9.4) 24 (10.4)	5 (2.9) 8 (12.5) 7 (3.0)	13.26	0.010
The mentally ill should live only among themselves	Students Relatives Public	165 (95.4) 54 (84.4) 217 (93.9)	6 (3.5) 7 (10.9) 13 (5.6)	6 (1.2) 3 (4.7) 1 (0.4)	12.44	0.014
Psychiatric hospitals should not be located in residential areas	Students Relatives Public	75 (43.4) 28 (43.8) 81 (35.1)	46 (26.6) 12 (18.8) 60 (26.0)	52 (30.1) 24 (37.5) 90 (39.0)	5.64	0.228
There are people who were never in a mental hospital and are more disturbed than those who are in a mental hospital	Students Relatives Public	11 (6.4) 6 (9.4) 24 (10.4)	37 (21.4) 8 (12.5) 48 (20.8)	125 (72.3) 50 (78.1) 159 (68.8)	4.55	0.337
Mental illness cannot be cured	Students Relatives Public	164 (94.8) 52 (81.3) 215 (93.1)	9 (5.2) 5 (7.8) 13 (5.6)	0 (0.0) 7 (10.9) 3 (1.3)	29.20	0.000
Every mentally ill person should be in an institution where he/she will be under supervision and control	Students Relatives Public	135 (78.0) 35 (54.7) 143 (61.9)	22 (12.7) 7 (10.9) 45 (19.5)	16 (9.2) 22 (34.4) 43 (18.6)	26.96	0.000

DISCUSSION

The primary aim of this study was to examine whether social factors relate to attitudes towards PWMI. Previous reports have suggested that certain social and demographic characteristics tend to arouse distinctive attitudes towards PWMI (Soufi & Raoof, 1992; Littlewood, 1998; S'evigny et al., 1999). Ojanen (1992) and Parra (1985) have reported educational level to be strongly related to attitudes. In other words, the older and less schooled the subjects, the more negative their attitudes are. On the basis of age, education, marital status and sex, no relationship was found with indices of attitude towards PWMI, gauged by the Attitude Towards Mental Illness Questionnaire (Weller & Grunes, 1988).

Research indicates that a higher incidence of contact with PWMI increases a person's understanding towards them (Angermeyer & Matschinger, 1997). However this study found that contact did not affect respondents' attitudes towards PWMI. In addition, relatives of psychiatric patients appear to harbour a negative attitude towards PWMI – for example, they agreed that PWMI are incapable of differentiating between right and wrong as well as not being able to form genuine relationships. These results are inconsistent with previous assertions that contact increases mutual understanding as postulated by the 'contact hypothesis' (Lam *et al.*, 1996).

The second related aim of this study was to compare the attitudes of medical students with those of the relatives of the patients and the public. Reports from developing countries have revealed that health professionals tend to perceive the cause of mental disorders from a traditional/cultural perspective (Abiodun, 1991; Panter-Brick, 1991). Our data revealed that medical students and the general public share similar views on the cause of mental disorders. Both rejected a genetic predisposition and, instead, favoured the role of sensate agents as the aetiological factor for mental illness. Therefore, our data seem to suggest that student health professionals still hold cultural views as causes of mental illness. At face value, such attributions, which are a reflection of a culture, may not necessarily translate into a negative attitude. Previous studies have shown that alternative explanations like 'biological mental illness metaphor' (Hill & Bale, 1980) tend to associate PWMI with unpredictability and stigma (Read & Law, 1999). It is worth discussing why our sample largely holds on to a supernatural explanation for mental illness. It has been suggested by El-Islam and Abu-Dagga (1992) that a supernatural explanation seems to be too deeply imprinted during upbringing to be erased by education. Despite this situation on the ground, the relatives of patients objected to the suggestion that supernatural forces cause mental illness. Were our respondents therefore more subjective than factual, perhaps 'trying to put their best foot forward in the light of subtle demand characteristic' (being under biomedical care)? Although this possibility exists, therapeutic effectiveness towards their relatives and possible previous failure of traditional intervention may have contributed to such an idiosyncrasy. Individuals with a poor response to traditional intervention are common in psychiatric hospitals (Jacob, 1999).

In developing countries, reports have suggested that psychiatric patients tend to be more disturbed and are often in custodial care (Kleinman & Cohen, 1997). Others have suggested that the closer the facilities were to the subjects, the more negative were their attitudes (Callaghan *et al.*, 1997). In agreement with this view, our respondents thought that facilities for PWMI ought to be located far away from the community suggesting, fear and non-acceptance or the 'not in my backyard phenomenon' (Chou *et al.*, 1996; Sussman, 1997).

Other attitudinal parameters were generally positive for all three sample groups. There were favourable responses to questions on value of life, family life, and decision-making ability. In addition, all respondents suggested that PWMI ought not to be restricted in terms of where they want to traverse. Finally, most of our respondents endorsed the idea that mental illness is treatable and that PWMI should be integrated into the community. They also believed that one should not hide one's mental illness since there are others in the community who may be equally disturbed and yet are not labelled as mentally ill.

Some of the limitations of this study should be highlighted. First, data collection by questionnaire is not without problems (Al-Adawi *et al.*, 2000). Although some structured questionnaires are easy to apply, studies have found that different cultures vary in the way they conceive reality (Al-Adawi, 1993; Klonoff & Landrine, 1994; Cinnirella & Loewenthal, 1999). It is difficult to rely on instruments developed in one culture and then blindly apply them to another. When studying attitudes in cross-cultural samples, qualitative interviews are likely to be more fruitful (Patel *et al.*, 1997). Second, this study can be criticized on the grounds that it did not utilize the more commonly used questionnaires such as the Opinion about Mental Illness Scale (Cohen & Struening, 1962). However, the questionnaire used, the Attitude Towards Mental Illness Questionnaire (Weller & Grunes, 1988) is easily administered and contains only 16 items. It was originally validated for a multicultural setting (Weller & Grunes, 1988) and more recently, it was found to have adequate lexical comparability and conceptual equivalence in other cross-cultural populations (Callaghan *et al.*, 1997). Finally, attitudes vary from action and the question remains whether these attitudes translate into any form of discrimination against PWMI (Fisher & Farina, 1979).

CONCLUSION

This study has tested the hypotheses that certain social backgrounds and previous contact with a person with mental illness would be likely to elicit certain reactions. Our data revealed that neither social factors nor previous exposure to PWMI were related to attitudes towards PWMI. This study elicited the attitudes of medical students, relatives of patients attending the psychiatric clinic and the general public. Both medical students and the public rejected a genetic cause of mental illness and favoured the role of sensate agents as the aetiological factor for mental illness. Our groups thought they could distinguish psychiatric patients based on physical characteristics and preferred that facilities for psychiatric care should be located away from the community. However, the study groups had favourable responses on statements for value of life, family life, decision-making abilities, and the management and care of PWMI.

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REFERENCES

- ABIODUN, O.A. (1991) Knowledge and attitude concerning mental health of primary health care workers in Nigeria. *International Journal of Social Psychiatry*, **37**, 113–120.
- AL-ADAWI, S. (1993) A glimpse into traditional outlook towards health: a literature review. *Journal of Medical Humanities*, **14**, 67–79.
- AL-ADAWI, S., AL-ISMAILY, S., MARTIN, R., AL-NAAMANI, A., AL-RIYAMI, K., AL-MASKARI, M. & AL- HUSSAINI, A. (2001a) Psychosocial aspects of epilepsy in Oman: attitudes of health professionals. *Epilepsia*, 42, 1476–1481.
- AL-ADAWI, S., AL-NAAMANI, A., AL-MASKARI, M., MARTIN, R., AL-RIYAMI, K. & AL-HUSSAIN, A. (2000) Awareness and social acceptance of people with epilepsy: a survey from Oman. *Neuroscience Journal*, **5**, 18–21.
- AL-ADAWI, S., BURJORJEE, R. & AL-ISSA, I. (1997) Mu-Ghayeb: a culture-specific response to bereavement in Oman. *International Journal of Social Psychiatry*, **43**, 144–151.
- AL-ADAWI, S., SALMI, A., MARTIN, R.G. & GHASSANI, H. (2001b) Zar: group distress and healing. *Mental Health, Religion and Culture*, **4**, 47–61.
- AL-SHARBATI, M.M., VIERNES, N., AL-HUSSAINI, A., ZAIDAN ZAJ, CHAND, P. & AL-ADAWI, S. (2001) A Case of bilateral ptosis with unsteady gait for one-year in Oman: suggestibility and culture in conversion disorder. *International Journal of Psychiatry in Medicine*, 3, 243–250.
- ANGERMEYER, M.C. & MATSCHINGER, H. (1997) Social distance towards the mentally ill: results of representative surveys in the Federal Republic of Germany. *Psychological Medicine*, **27**, 131–141.
- ANNUAL STATISTICAL REPORT (1999) Ministry of Health, Sultanate of Oman. Muscat: Directorate General of Planning.
- ARKAR, H. & EKER, D. (1997) Influence of a 3-week psychiatric training programme on attitudes towards mental illness in medical students. *Social Psychiatry and Psychiatric Epidemiology*, **32**, 171–176.
- BHUGRA, D. (1989) Attitudes towards mental illness. A review of the literature. *Acta Psychiatrica Scandinavica*, **80**, 1–12.
- BROCKINGTON, I.F., HALL, P., LEVINGS, J. & MURPHY, C. (1993) The community tolerance of the mentally-ill. *British Journal of Psychiatry*, **162**, 93–99.
- BURJORJEE, R.N. & AL-ADAWI, S. (1992) The Sultanate of Oman: an experiment in community care. *Psychiatric Bulletin*, **16**, 646–648.
- CALLAGHAN, P., SHAN, C.S., YU, L.S., CHING, L.W. & KWAN, T.L. (1997) Attitudes towards mental illness: testing the contact hypothesis among Chinese student nurses in Hong Kong. *Journal of Advanced Nursing*, **26**, 33–40.
- CHOU, K.L., MAK, K.Y., CHUNG, P.K. & HO, K.M. (1996) Attitudes towards mental patients in Hong Kong. *International Journal of Social Psychiatry*, **42**, 213–219.
- CINNIRELLA, M. & LOWENTHAL, K.M. (1999) Religious and ethnic group influence on beliefs about mental illness. A qualitative interview study. *British Journal of Medical Psychology*, **72**, 505–524.
- COHEN, J. & STRUENING, E.L. (1962) Opinion about mental illness in the personnel of two large mental hospitals. *Journal of Abnormal and Social Psychology*, **64**, 349–360.
- DOLS, M.W. (1992) *Majnun: The Madman in Medieval Islamic Society* (ed. D.E. Immisch). Oxford: Clarendon Press.
- EL-ISLAM, M.F & ABU-DAGGA, S.I. (1992) Lay explanations of symptoms of mental ill health in Kuwait. *International Journal of Social Psychiatry*, **38**, 150–156.
- FISHER, J.D. & FARINA, A. (1979) Consequences of beliefs about the nature of mental disorders. *Journal of Abnormal Psychology*, **88**, 320–327.
- GHUBASH, R., HAMDI, E. & BEBBINGTON, P. (1994) The Dubai Community Psychiatric Survey: acculturation and the prevalence of psychiatric disorder. *Psychological Medicine*, **24**, 121–131.
- GOLDBERG, D., MUBBASHAR, M. & MUBBASHAR, S. (2000) Development in mental health services a world view. *International Review of Psychiatry*, **12**, 240–248.
- HARPHAM, T. (1994) Urbanization and mental health in developing countries: a research role for social scientists, public health professionals and social psychiatrists. *Social Science and Medicine*, **39**, 233–245.
- HILL, D.J. & BALE, R.M. (1980) Development of the Mental Health Locus of Control and Mental Health Locus of Origin Scale. *Journal of Personality Assessment*, **44**, 148–156.
- JACOB, K.S. (1999) Mental disorders across cultures: the common issues. *International Review of Psychiatry*, **11**, 111–115.

- KILLIAN, T.M. & KILLIAN, L.T. (1990) Sociological investigations of mental illness: a review. *Hospital and Community Psychiatry*, **41**, 902–911.
- KIRMAYER, L.J., FLETCHER C.M. & BOOTHROYD, L.J. (1997) Inuit attitudes towards deviant behaviour: a vignette study. *Journal of Nervous & Mental Disease*, **185**, 78–86.
- KLEINMAN, A. & COHEN, A. (1997) Psychiatry's global challenge. Scientific American, 276, 86–89.
- KLONOFF, E.A. & LANDRINE, H. (1994) Culture and gender diversity in commonsense beliefs about the causes of 6 illnesses. *Journal of Behavioural Medicine*, **17**, 407–418.
- LAM, L.C., CHAN, C.K. & CHEN, E.Y. (1996) Insight and general public attitude on psychotic experiences in Hong Kong. *International Journal of Social Psychiatry*, **42**, 10–17.
- LITTLEWOOD, R. (1998) Cultural variation in the stigmatisation of mental illness. *Lancet*, **352**, 1056–1057.
- LI, P.L., LOGAN, S., YEE, L. & NG, S. (1999) Barriers to meeting the mental health needs of the Chinese community. *Journal of Public Health Medicine*, **21**, 74–80.
- MADIANOS, M.G., ECONOMOU, M., HATJIANDREOU, M., PAPAGEORGIOU, A. & ROGAKOU, E. (1999) Changes in public attitudes towards mental illness in the Athens area (1979/1980–1994). *Acta Psychiatrica Scandanivica*, **1**, 73–78.
- MURRAY, C.J. & LOPEZ, A.D. (1996) Evidence-based health policy lessons from the Global Burden of Disease Study. *Science*, **274**, 740–743.
- NG, C.H. (1997) The stigma of mental illness in Asian cultures. *Australian and New Zealand Journal of Psychiatry*, **31**, 382–390.
- NICHÓLSON, J., SWEENEY, E.M. & GELLER, J.L. (1998) Mothers with mental illness: I. The competing demands of parenting and living with mental illness. *Psychiatric Services*, **49**, 635–642.
- OJANEN, M. (1992). Attitudes towards mental patients. *International Journal of Social Psychiatry*, **38**, 120–130.
- OKASHA, A. & KARAM, E. (1998) Mental health services and research in the Arab world. *Acta Psychiatrica Scandinavica*, **98**, 406–413.
- PANTER-BRICK, C. (1991) Parental response to consanguinity and genetic disease in Saudi Arabia. *Social Science and Medicine*, **33**, 1295–1302.
- PARRA, F. (1985) Social tolerance of the mentally ill in the Mexican American community. *International Journal of Social Psychiatry*, **31**, 37–45.
- PATEL, V., SIMUNYÚ, E., GWANZURA, F., LEWIS, G. & MANN, A. (1997) The Shona Symptom Questionnaire: the development of an indigenous measure of common mental disorders in Harare. *Acta Psychiatrica Scandinavica*, **95**, 469–475.
- PHELAN, J.C. & LINK, B.G. (1998) The growing belief that people with mental illnesses are violent: the role of the dangerousness criterion for civil commitment. *Social Psychiatry and Psychiatric Epidemiology*, **33**, S7–S12.
- READ, J. & LAW, A. (1999) The relationship of causal beliefs and contact with users of mental health services to attitudes to the 'mentally ill'. *International Journal of Social Psychiatry*, **45**, 216–229.
- ROTH, D., ANTONY, M.M., KERR, K.L. & DOWNIE, F. (2000) Attitudes toward mental illness in medical students: does personal and professional experience with mental illness make a difference? *Medical Education*, **34**, 234–236.
- RUSCHOFF, S.I. (1992) The importance of Islam religious philosophy for psychiatric practice. *Psychiatrische Praxis*, **19**, 39–42.
- S'EVIGNY, R., YANG, W., ZHANG, P., MARLEAU, J.D., YANG, Z., SU, L., LI, G., XU, D., WANG, Y. & WANG, H. (1999) Attitudes towards the mentally ill in a sample of professional working in a psychiatric hospital in Beijing (China). *International Journal of Social Psychiatry*, **45**, 41–55.
- SOUFI, H.E. & RAOOF, A.M. (1992) Attitude of medical students towards psychiatry. *Medical Education*, **26**, 39–41.
- SUSSMAN, S. (1997) The community's response to mentally ill people. British Medical Journal, 314, 458.
- WELLER, L. & GRUNES, S. (1988) Does contact with the mentally ill affect nurses' attitudes to mental illness? *British Journal of Medical Psychology*, **61**, 277–284.
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