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RESEARCH PAPER

Development of a psychiatric liaison service in Rawalpindi, Pakistan

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The paper reports a descriptive survey of the referrals received by a new psychiatric liaison service in Rawalpindi in the first 2 years. The survey showed a rapid increase in use of the service, particularly by the emergency department. There was a lower proportion of referrals for self-harm and substance misuse than occurs in similar services in high-income countries but a higher proportion of patients presenting with dissociative (conversion) disorders. The large proportion of patients who had abnormal findings on physical examination remains unexplained and warrants further investigation.

Research on liaison psychiatry in low- and middle-income countries is limited. Fido & Al Mughaiseeb (1989) reported that about half of their referred patients in Kuwait presented with parasuicidal behaviour. Aghanwa (2002) compared liaison psychiatry referrals in Fiji with a psychiatric in-patient population but excluded patients referred from the emergency department. Huyse *et al* (1996) observed that the status of liaison services in a hospital depends on local factors. Even within Europe, wide variations exist between countries. They suggest that it is therefore useful to review local data in order to determine how a new service is being used and to give pointers for future configuration.

Benazir Bhutto Hospital (BBH) is a public general hospital in central Rawalpindi, Pakistan. It is the main teaching hospital for the Rawalpindi Medical College. Its psychiatry department, the Institute of Psychiatry, contains the World Health Organization Collaborating Centre for Mental Health Research, Training and Substance Abuse. In recent years the Institute of Psychiatry has begun to offer a psychiatric liaison service to hospitals in the twin cities of Rawalpindi and Islamabad. The present study is a longitudinal descriptive survey of the cases presenting to this service in its first 2 years. The objectives were to determine the types of problem that present through the new service and to elicit early trends in the use of the service by the various hospital departments.

Method

Before the development of the new liaison service, the Institute of Psychiatry functioned as an independent clinical unit on the BBH campus, with new patients presenting directly to the Institute. The new liaison service was promoted to all medical staff of BBH, the Holy Family Hospital, the District Headquarters Hospital in Rawalpindi and other hospitals in the twin cities of Rawalpindi and Islamabad, in which medical officers were available on a 24-hour basis for referral and consultation. Patients were assessed either in the referring departments or in the Institute. The medical officer recorded details of the assessment in a liaison register. All cases were presented to a consultant psychiatrist at a daily meeting, where the management plan was agreed.

The liaison register recorded referral source, gender, marital status, education, occupational group, employment status, the residential district (and whether urban or rural), findings from the physical examination, psychiatric diagnosis and disposition. For analysis, disposition categories were collapsed into admission-appropriate, clinic-appropriate or no follow-up.

Comparisons between the years were made using the chi-squared test for most variables and the *t*-test for age.

Results

There were 463 referrals in the first year of the survey and 668 referrals in the second. Of all the referrals, 96% came from BBH. Emergency departments referred 80% of the study population. Reasons for referral included subjective distress, presentation suggestive of psychiatric illness, suicidal thoughts or actions, somatic symptoms, behavioural disturbance, management problems and medical problems. In 8% of referrals no problem had been specified.

The demographic characteristics of the sample were as follows: 52% of patients were male and 48% female; 43% were single and 53% were married, while separated, divorced and widowed patients constituted only 4%.

Nearly all patients (99%) received a physical examination; findings were recorded as within normal limits (68%) or abnormal (31%). Of all patients referred, 30% required psychiatric admission and 41% were offered psychiatric or psychological out-patient follow-up.

Table 1 shows the frequencies of the different diagnoses. There was no significant difference between the diagnostic groups in the second year when compared with the first; nor were there significant changes in age, gender balance, marital status, occupational group or educational level. There was a significant increase in the proportion of employed people, which rose from 30% to 38%. The percentage of patients from rural areas decreased from 34% to 27% ($P < 0.05$). The proportions of patients who were offered

Table 1
Diagnoses of patients referred to the new liaison service: 2 years' data combined

Diagnosis	Frequency	%
Depression	258	27.1
Dissociative (conversion) disorder	127	13.4
Delirium	98	10.3
Bipolar affective disorder	97	10.2
Other neurosis	73	7.7
Organic	61	6.4
Substance misuse	53	5.6
Schizophrenia	44	4.6
Self-harm	11	1.2
Other	113	11.9
No psychiatric diagnosis	16	1.7
Subtotal	*951*	*100.0*
Missing	180	
Total	*1131*	

admission and those not followed up were lower in the second year but the proportion of patients offered out-patient follow-up increased. Although the changes were statistically significant, the effect sizes associated with these changes were not large. Use of the service by different hospitals did not change significantly. Referrals from the emergency department rose from 75% to 83% of the total ($P < 0.001$) and absolute numbers of referrals from medical and surgical wards decreased (Table 2).

Table 2
Changes in sources of referrals

	Count (within-year percentage)		
Department of referral	Year 1	Year 2	Total
Emergency	347 (75.1%)	512 (83.1%)	859 (79.7%)
Medicine	76 (16.5%)	59 (9.6%)	135 (12.5%)
Surgery	35 (7.6%)	33 (5.4%)	68 (6.3%)
Others	4 (0.9%)	12 (1.9%)	16 (1.5%)
Total	*462*	*616*	*1078*

P<0.001.

Discussion

Geller (2009, p. 4314), commenting on the psychiatrist's role in assessing capacity to give consent and in difficult diagnostic situations, noted that 'a well-functioning consultation-liaison service is a fountain of good will for the psychiatry department'. We believe this to be as true in low- and middle-income countries as it is in high-income countries.

Few demographic characteristics of the patients changed from the first year to the second. Significantly greater uptake of the service by employed people in the second year cannot be explained by a change in gender balance.

In contrast to European psychiatric liaison services, substance misuse and self-harm were not prominent in this population, reflecting the infrequent use of self-harm as a response to distress in Pakistani culture. However, self-harm offends the sensibilities of general medical and nursing staff. Therefore, even though numbers are small, the availability of a service to respond to this type of presentation would be valued by emergency department staff as well as improving the care given to a stigmatised group of patients.

The high level of referrals for dissociative (conversion) disorder reflects the ongoing high incidence of somatoform disorders in Pakistan (Bender, 2001; Minhas & Nizami, 2006). Because it presents physically, the emergency department, rather than the psychiatry department, is the normal place for such patients to present. Ready access to psychiatric treatment for these patients benefits both them and emergency department medical staff.

The emergency department was the major user of the service and its use increased in the second year. This may reflect higher overall numbers of patients attending that department, but we could not obtain data to confirm whether this was the case. It may reflect satisfaction with the new service, especially if it increased patient throughput. A less likely possibility is that increasing awareness among the local population of the presence of the psychiatric department in the hospital increased the usage of the emergency department by patients specifically seeking a psychiatric service. However, one would then expect to see an increase in the proportion of those disorders that are readily identified by the lay population as mental illness, such as schizophrenia and bipolar disorder, which was not our experience.

The decline in rural access is of concern but reasons are not readily apparent. The declines in referrals from the departments of medicine and surgery could be natural fluctuations. Examination of figures from subsequent years will show whether or not this is a genuine trend. Sensky *et al* (1985) found that offering an 'unlimited access' type of referral resulted in a threefold increase in the referral rate from a general medical ward. If the decline in referrals from medical and surgical wards continues, then the way in which the service is offered could be a fruitful focus of attention. For a psychiatry department considering the establishment of a new liaison service, our findings would point to the emergency department as the obvious starting point.

The proportion of patients with abnormal findings on physical examination (31%) is surprisingly high. Inclusion of patients with epilepsy, self-harm, distress due to a physical condition and extrapyramidal side-effects would contribute to this. However, these four groups combined constituted only 5.3% of the whole sample, so the other abnormal findings remain unexplained. Recording the nature of the physical disability in the register would have furnished more useful information.

Although the pattern of disposition of cases in the second year was significantly different from

that in the first, effect sizes were relatively small, which suggests that this did not represent a major change in the way patients were being managed by Institute staff.

The study highlights the importance of the emergency department as an area of significant psychiatric need. Given the paucity of psychiatrists in Pakistan and in low- and middle-income countries generally, the need will not be met by psychiatrists alone. In Australia and elsewhere, mental health service provision to emergency departments has come under review. Wand & White (2007) point to the usefulness of the mental health liaison nurse (MHLN) embedded within the emergency department. However, current mental health nurse training in Pakistan is unlikely to provide suitably qualified nursing personnel for such a role. Moreover, given nursing's low status in Pakistan, would such an expert be acceptable to non-psychiatric staff in general hospital emergency departments? The use of MHLNs in emergency departments should not be dismissed, but the challenges should not be underestimated.

The survey is limited by the incompleteness of the diagnostic data. Also, we were unable to determine how many of the records were for multiple attendances of the same patient. Further studies to determine this would provide useful information for service planning.

It would also have been helpful to canvass the response of the emergency department and general hospital staff to the new service, but this was not included in research planning. Canvassing responses retrospectively would probably yield unreliable results. Future work to establish a new service should plan to record the responses of general hospital staff, as well as of consumers and other stakeholders.

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RESEARCH PAPER

The effect of aerobic exercise in the maintenance treatment of depression

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We investigated the efficacy of aerobic exercise alongside antidepressant medication as an adjuvant maintenance treatment for depression. Fifty patients in remission were randomly assigned to either medication only or medication plus exercise. Assessment of psychopathology was made at 6-weekly intervals (for 24 weeks) using the Hamilton Rating Scale for Depression. The medication-plus-exercise group showed significantly more improvement at 12 and 24 weeks than the medication-only group. This study adds to a growing evidence base that suggests aerobic exercise is worthy of further development in the treatment of depressive disorders.

The role of exercise in treating depression has been studied extensively in recent years. For example, Rethorst *et al* (2009) carried out a meta-analysis of 58 randomised controlled trials, and found that groups whose treatment incorporated exercise had significantly lower depression scores than controls. De Zeeuw *et al* (2010) showed that exercise could have preventive potential, as it was found to reduce the likelihood of depression in high-risk employees with sedentary jobs and an inactive lifestyle. Exercise has also been reported to reduce relapse rates. For example, Babyak *et al* (2000) found that participants with major depressive disorder who used exercise therapy alone had significantly lower relapse rates than those who received medication.

Despite these promising findings and its low cost, the effectiveness of exercise is yet to be fully addressed in the psychosocial treatment literature or incorporated into mainstream treatment practice. For example, the National Institute for Health and Clinical Excellence (NICE, 2009) recommended 'structured group physical activity' only as a low-intensity psychosocial intervention for subthreshold depressive symptoms, or depression with chronic physical health problems. This may be because many studies have been criticised for their methodological limitations and incomplete literature searches (Rethorst *et al*, 2009); indeed, the classification and duration of exercise are not specified in the majority of reports. Of further note is that the efficacy of exercise in a maintenance capacity remains largely unexplored. Thus, our rationale was to investigate the role of exercise alongside antidepressant medication as a post-remission maintenance therapy, in terms of reducing both the severity of psychopathology and relapse rates.

Method

The 50 patients recruited were attending the psychiatric out-patient department of Sir Sunderland Hospital, Banaras Hindu University, India. Selection was made (via referrals from two senior psychiatrists at the hospital) by the researcher who carried out the post-treatment evaluations. The following selection criteria were used:

- age 15–45 years, in order to cope with the physical exercise regime
- a diagnosis of major depressive or dysthymic disorder, according to DSM-IV-TR criteria (American Psychiatric Association, 2000)
- absence of any comorbid psychiatric illness
- no major cardiac or orthopaedic illness that would contraindicate exercise.

Ethical approval was granted by the University's research ethics committee.

After inclusion in the study, patients were prescribed sertraline (200 mg/day – the maximum permitted daily dose) and alprazolam (1 mg/day) for 3–4 weeks in order to achieve remission of clinical depression. Once significant remission – defined as scoring less than 16 on the 21-item Hamilton Rating Scale for Depression (HRSD; Hamilton, 1960) – was obtained, patients were randomly allocated to groups; blinding was not possible, however, as participants were necessarily aware of the treatment group they were in and the researcher who administered exercise therapy also did the follow-up assessment of psychopathology.

Pre-treatment evaluation

The researcher assessed the following using a semi-structured pro forma:

- sociodemographic and clinical data
- severity of depressive psychopathology (using the HRSD, plus a structured interview guide)
- stressful life events (lifetime and past 3 months), using the 51-item Presumptive Stressful Life Events Scale (PSLES; Singh *et al*, 1984) (a culturally appropriate instrument)
- melancholic and atypical features of depression (as per DSM-IV-TR)
- baseline heart rate (mean taken from three 1-minute time slots)
- fitness levels using the Harvard Step Test, to monitor compliance with the exercise programme (Brouha, 1943).

Treatment

Both groups continued to receive sertraline (200 mg/day) and alprazolam (1 mg/day) and did not take part in any form of counselling or psychotherapy. For the medication-plus-exercise group, participants also received training in daily exercise therapy. That therapy consisted of a 5-minute warm-up, 15 minutes of stationary running, and a 10-minute cool-down, this being convenient and economical for all participants regardless of gender or location and within guidelines on exer cise (Whaley *et al*, 2006). Participants were also advised not to perform any other exercise beyond usual daily activities. Heart rate recordings were made in order to adjust the intensity of exercise to keep within the target heart rate zone, this being 60–84% of the maximum achievable heart rate (Whaley *et al*, 2006); exercise sessions at home were logged and monitored by carers, and the logs were reviewed by the researcher at every follow-up. None of the participants or their carers reported missing any exercise sessions or cutting sessions short. Follow-up was at 6-weekly intervals for 24 weeks for all participants, and HRSD and PSLES scores were assessed on each occasion. The medication-plus-exercise group also received refresher exercise training and the Harvard Step Test was performed at every follow-up.

Analysis

Statistical tests used were the chi-square and Student *t*-test. Epi Info 6 software, version 6.04a, was used to analyse the data.

Results

Although all 50 patients initially agreed to participate, seven did not complete the study (three from the medication-plus-exercise group and four from the medication-only group). Table 1 shows the sample characteristics and features of depression, which were evenly distributed between the groups. Table 2 shows the inter-group comparisons at all 6-weekly follow-ups. The medication-plus-exercise group showed a greater improvement in HRSD scores (change in score from baseline) than the medication-only group from the first follow-up, at 6 weeks, and this difference became statistically significant at weeks 12 ($P = 0.04$, $t = 2.10$) and 24 ($P = 0.02$, $t = 2.42$); there was no significant difference between the groups' PSLES scores at any follow-up point.

Table 1
Baseline characteristics of the sample

Variable	Medication-only group ($n = 25$)	Medication-and-exercise group ($n = 25$)
Number (%) female	9 (60)	6 (40)
Number (%) male	16 (46)	19 (54)
Usual degree of physical activity: number (%)		
sedentary	15 (65)	8 (35)
light	9 (41)	13 (59)
moderate	1 (20)	4 (80)
Mean (s.d.) age (years)	29.6 (8.2)	30.5 (8.9)
Mean (s.d.) PSLES score for lifetime	216.2 (124.9)	188.0 (86.3)
Mean (s.d.) PSLES score for last 3 months	105.0 (72.6)	107.2 (65.3)
Mean (s.d.) HRSD score*	23.2 (4.2)	22.8 (3.7)
Mean (s.d.) number of melancholic features*	1.2 (1.6)	0.7 (1.1)
Mean (s.d.) number of atypical features*	0.1 (0.33)	0.0 (0.3)

HRSD, Hamilton Rating Scale for Depression; PSLES, Presumptive Stressful Life Events Scale.

*Between group comparisons were non-significant.

Table 2
Mean (s.d.) improvement (difference from baseline) in score on the Hamilton Rating Scale for Depression

Follow-up	Medication-only group	Medication-and-exercise group	*t*	d.f.	*P*
6 weeks	2.6 (5.3)	4.1 (3.4)	1.17	46	>0.05
12 weeks	2.3 (5.2)	5.0 (3.4)	2.10	45	0.04
18 weeks	3.0 (6.5)	5.6 (5.1)	1.45	42	>0.05
24 weeks	1.0 (7.0)	5.6 (5.4)	2.42	41	0.02

Relapse rates were also recorded via subjective reports and as a measured increase of >50% from baseline HRSD scores (Neumeister *et al*, 1997). In total, nine patients relapsed, two from the medication-plus-exercise group (both in week 18) and seven from the medication-only group (one relapse in week 6, two in week 12 and four in week 24). This difference in relapse rates did not reach significance (Fisher's exact test: one-tailed, $P = 0.07$; two-tailed, $P = 0.14$).

Discussion

We found that the maintenance treatment of medication-plus-exercise resulted in significantly lower HRSD scores than medication alone at 12-week and 24-week assessments, as well as a promising reduction of relapse rates. These differences were not considered to be due to extraneous life events, as there was no significant difference between the two groups' PSLES scores. These findings are in line with Rethorst *et al*'s (2009) meta-analysis in terms of the potential for exercise to lower depression scores, and with the finding from Babyak *et al* (2000) that exercise is effective in reducing relapse. We found no studies, however, on the combined role of exercise and antidepressant medication as a maintenance therapy for depressive disorder. The present findings suggest a potential role for exercise as a protective agent during remission, and one which might reduce long-term cost.

The study was limited in several ways. There is potential for bias via use of a clinician-rated tool such as the HRSD, particularly in an unblinded study. However, to reduce this, the same experienced assessor was used for the pre-intervention and follow-up assessments and a second assessor made random cross-checks at least once for every participant. Assessors completed the rating scales with the participants through discussion. The sample size was limited to 50, which precluded analysis of potential confounds. For example, the medication-only group was randomly allocated a greater proportion of sedentary members from the outset. There was also an unequal proportion of male/female participants; however, this reflected the population of patients within the hospital.

A further limitation was the lack of comparison with an exercise-only group. It is possible that the exercise group may have derived social gain from the increased contact with carers and researchers; interestingly, Babyak *et al* (2000) raise the point that psychological factors such as proactive agency may be engaged via choosing to exercise.

A further issue for the current study was the drop in the rate of improvement for the medication-only group at week 24. The reasons for this are unclear; however, such a change dictates that studies with longer periods of assessment are needed to make stronger interpretations. Thus, future studies could benefit from: larger and more representative samples; extended follow-up periods; additional outcome measures (including patient-rated scales); and the inclusion of further control groups, such as exercise only, social contact only, and group versus solitary exercise.

In conclusion, this study adds to the growing evi dence base that suggests exercise is valuable in the treatment of depressive disorders. In particular, we highlight its potential role as a supplementary maintenance treatment during remission. It is worth highlighting that, despite the relatively short time for which the participants exercised, there were measurable benefits. We believe this area of research warrants further attention, particularly as exercise provides a low-cost, flexible and easily implemented treatment with minimal adverse effects, and especially where costly delays in receiving mainstream psychological interventions are commonplace.

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RESEARCH PAPER

Scaling up mental healthcare in the Republic of Niger: priorities for and barriers to service improvement

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As part of a pilot programme to scale up community mental health services, local health centre directors, community health workers and key informants were interviewed in two neighbouring political districts of Niger. Major priorities for improving services included training staff on the diagnosis and treatment of mental illness, collaborating with traditional healers, educating the community about the origins of psychiatric illness and building infrastructure for medication delivery. Barriers to care included long distances for travel to the nearest hospital and lack of funding for home-based visits by health workers. This study was the first step in Niger's plan to implement the World Health Organization's Mental Health Gap Action Programme (mhGAP) at a national level.

Mental health remains one of the most neglected areas in healthcare in sub-Saharan Africa (World Health Organization, 2011), where the focus of health and development programmes has been on malaria, HIV/AIDS, maternal and child health and malnutrition. Current mental health system reform in Niger plans to use the World Health Organization's Mental Health Gap Action Programme (mhGAP) as a guide to scale up mental health services by integrating them with primary care, employing general healthcare staff in a process of task-shifting (World Health Organization, 2008). This article presents a study that aimed to increase understanding of the context of the reform and barriers to it in two adjacent political districts that are running the programme's pilot phase. The goal of this work is to provide a framework for systematically addressing barriers when scaling up mental health services in Niger (Saraceno *et al*, 2007; Eaton *et al*, 2011).

Setting

Niger, in West Africa, ranks near the bottom of the Human Development Index, which is a combined measure of life expectancy, education levels and standard of living (United Nations Development Programme, 2009). Over 80% of the country is in the Sahara Desert, which presents unique challenges to healthcare provision. The treatment gap for severe mental disorders is estimated to be over 90%, partly because mental health services and senior professionals are located in central tertiary institutions – primarily at the University Hospital in Niamey, the country's capital (Wang *et al*, 2007). In the last decade, initial efforts at decentralisation have been made, with 15 psychiatric nurses posted outside of the capital, mostly at regional or district hospitals.

Although non-governmental organisations (NGOs) are an important provider of services in Niger, few work in mental health. One exception is the organisation CBM/ProDiB, which uses a community-based rehabilitation (CBR) model with field workers supported by outreach visits from a psychiatric nurse. In 2010, this organisation partnered with the National Mental Health Programme to develop an implementation strategy for scaling up community-based services at the national level.

To prepare for implementation of the national policy, two districts, Dosso and Dogondoutchi, were chosen for a pilot programme. They are located in the south-western corner of Niger, where most of the population lives, 139 km and 273 km east of the capital city of Niamey, respectively. In both regions, subsistence farming involves more than 80% of the adult population (Système Nationale d'Information Sanitaire, 2007). Table 1 presents health and demographic statistics for the two districts of Niger that are the focus of this study.

Table 1
Health statistics and resources in Niger

	Nationwide	Dogondoutchi District	Dosso District
Population	15,306,250[a]	622,957 (estimated)	446,028 (estimated)
Life expectancy at birth	53.8 years (54.3 female, 53.4 male)[b]	–	–
Adult literacy rate	28.7% (15.1% female, 42.9% male)[c]	–	–
Fertility rate (births per woman)	7.1 (highest rate in the world)[b]	–	–
Number of public hospitals, all types	3 national, 6 regional, 30 district	1 district	1 regional
Numbers of integrated health centres (IHCs)			
type 1 IHCs	482	15	19
type 2 IHCs	151	5	4
Number of local health clinics (LHCs)	1938	98	82

[a]Source: United Nations Development Programme, *Human Development Report*, 2009.
[b]Source: United Nations Population Division, *World Population Prospects*, 2009.
[c]Source : United National Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics, 2005.
All health facility resource data from Système Nationale d'Information Sanitaire, Niger, 2007.

Method

Semi-structured interviews were conducted with primary care providers at 25 health centres in the two districts. Respondents were asked about their knowledge and attitudes, perceived wants and needs and available resources in the area of mental health services. In addition, study staff met key informants at the district, regional and national levels and accessed databases and hospital records for demographic and epidemiological information. Unpublished statistical data, including some of those presented in Table 1, were also collected from the office of the National System for Health Statistics (Système Nationale d'Information Sanitaire, SNIS) in 2007.

Multiple validated instruments were reviewed, including the World Health Organization Assessment Instrument for Mental Health Systems (WHO-AIMS, Version 2.2), the World Psychiatric Association's Discrimination and Stigma Scale Version II (DISC II), the Mental Health Knowledge Scale (MAKS3), the Reported and Intended Behaviour Scale 4 (RIBS 4) and questionnaires approved and used for advanced academic dissertations (World Psychiatric Association, 2001; Badagé, 2007; Thornicroft *et al*, 2009). However, none of these fully matched the intended aims of our study, so we developed a locally specific survey using relevant portions of these instruments. Two psychiatric nurses were consulted for modifications before the survey was finalised.

This article presents responses from two sec tions of the survey:

- priorities for improvement – respondents were asked to rank-order a list of priorities for improving mental health services at their respective facilities
- barriers to care – respondents were asked to discuss barriers to accessing psychiatric care for community members.

Results

In total, the head nurses at 14 integrated health centres (IHCs) and community health workers at 11 local health clinics (LHCs) were interviewed. In addition, five key informants were interviewed: the psychiatric nurse at the Dosso regional hospital; the regional manager for public health; the medical directors of both district departments of health; and a Dosso-based community field worker.

Table 2
Priorities for improving mental health services in Niger, as ranked by 25 interviewees at primary care clinics

Priority	Proportion (number) of interviewees ranking as top priority
Training staff in diagnosis, treatment and follow-up for psychiatric illness	52% (13)
Raising awareness and providing workshops for the community and patients' families about mental illness	28% (7)
Building relations with and providing training to traditional healers	12% (3)
Access to medication	8% (2)

Priorities for improvement fell into four main categories, summarised in Table 2: training staff in diagnosis, treatment and follow-up; raising awareness about mental illness; building relations with traditional healers; and access to medication.

Staff training

Community health workers at the LHCs undergo 6 months of training, with no formal entry qualifications. They do not have authority to prescribe medications, although they do distribute anti-malarial drugs, contraceptives, vitamins and antibiotics.

The heads of IHCs are state-licensed nurses who have attended 3 years of nursing school and can prescribe medications. In 2003 a psychiatric nursing school opened in Niamey and it is now graduating seven or eight students every 2 years. Before this, students most often went to Burkina Faso (Eaton *et al*, 2009). Only four of the 25 providers interviewed had received any training in mental health beyond what they had learned during the fundamental 20-hour course offered in general nursing or community health. One

respondent at an IHC said he had the authority to order and prescribe psychotropic medications, but since he had not been trained on proper dosage or monitoring for mental illness, he did not feel comfortable issuing prescriptions.

Training for psychiatrists most commonly takes place in Benin, Senegal, Morocco or France, as Niger does not have a training programme. At the time of study there were four psychiatrists working in Niger, all based in the capital.

The majority of clients at LHCs and IHCs were immediately referred to a tertiary care centre because the healthcare workers felt they did not have the required medical expertise. Patients in both districts were usually sent to the regional hospital of Dosso, which has a department of psychiatry and a psychiatric nurse. There was little to no follow-up done at a community level after the patient was discharged from the hospital. Community-based staff said they did not receive the counter-referrals from the hospital with intake and discharge information, and were not trained or resourced to provide follow-up care.

One of the unfortunate side-effects of limited community-based expertise is that, according to one respondent, families avoid seeking help at the local clinic because they expect to be referred to the hospital and cannot afford the transportation costs; as a result, these families do not receive any care.

Raising awareness and building relations with traditional healers

According to the respondents, the majority of community members believe that supernatural forces lead to mental illness and therefore visit traditional healers, who use methods such as herbal remedies, incantations and animal sacrifice. Twelve of the 25 provider interviewees reported having a working relationship with the healers, and 8 of these 12 said that healers referred patients to them when traditional treatments failed. However, since traditional practices can be expensive (for example payment with a goat), affording modern medical services is subsequently more difficult. One respondent emphasised the importance of educating families and patients, as parents often do not seek medical care for children with mental illness. Another respondent recommended raising community awareness by presenting pictures or skits of people with mental illness, in treatment and 'healed'.

Access to medication

In theory, all of the psychotropic medications on the World Health Organization's Bamako Initiative list of essential generic drugs should be available in Niger, except amitriptyline and trifluoperazine. However, access to these drugs is extremely limited in reality. Phenobarbital, for example, should be available (for approximately US$2 per month) but few pharmacies or IHCs consistently carried the drug. Seven respondents provided phenobarbital at their facilities, at times contingent on receiving free supplies from NGOs or UNICEF. Diazepam is widely available and is primarily used for convulsions associated with malaria, but is frequently overprescribed for non-specified behavioural problems.

The absence of a structured drug delivery system hinders medication adherence. Most patients must go to the nearest IHC or hospital for medication, and transportation costs, usually with a carer, are unaffordable (typically US$20 or more), largely due to the long distances. The average worker makes less than US$1 a day and cannot leave the fields during planting season (June–August), which renders repeat prescriptions in particular economically and logistically unfeasible, and so many patients abandon treatment. A few nurses use their motorbikes to pick up medication for their patients, creating an ad hoc drug delivery system.

Local health workers expressed reluctance to conduct home and community visits, primarily for economic reasons. Government employees expect a daily allowance for 'out of office' duties. Health programmes in malaria and HIV/AIDS provide these *per diems*, which, according to the medical director at the Dogondoutchi health department, are up to US$10 for a community health worker, US$20 for a nurse and US$50 for a psychiatric nurse. This sets a high, often impossible, cost for the national government and local NGOs, and acts as a major barrier to decentralising and scaling up services (Vian *et al*, 2013).

Discussion

The expressed need to improve local access to mental healthcare and the tendency for providers to automatically refer to the hospital confirm the relevance of current shifts towards decentralised services. Since 90% of the population live in rural areas, providing reliable medication in primary care is essential for those requiring long-term treatment, as is often the case with psychiatric illness. Community-based assessment and treatment are desirable but cannot become a reality until practitioners are adequately trained and home visits are viewed as routine work, and not requiring additional pay.

Our findings also support previous studies that found that the community's understanding of the aetiology of psychiatric disorders leads people to seek treatment from a traditional healer rather than modern healthcare providers (Maiga *et al*, 2008). Sensitisation and awareness-raising, in conjunction with structured collaborations with traditional healers, may help patients receive appropriate care earlier in the course of disease.

Conclusion

Niger has an opportunity to address its huge burden of unmet mental health needs in a context of great poverty. The process of doing this must not only address internationally recognised challenges to scaling up (Saraceno *et al*, 2007) but also take into account locally identified barriers and resources.

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RESEARCH PAPER

Evaluation of undergraduate psychiatry teaching in Malawi

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In Malawi, mental health services account for only 2% of the health budget; there are just 4.5 full-time psychiatrists and 433 psychiatric beds. The Scotland Malawi Mental Health Education Project (SMMHEP) aims to provide sustainable support for psychiatric training for healthcare professionals and has increased the number of psychiatrists in the country. There has been a recent change in the educational programme in order to maximise clinical exposure and experience, particularly with the care of in-patients. The new programme has had a positive effect on students' attitudes towards psychiatry and their consideration of psychiatry as a career. This paper supports the ongoing work SMMHEP does in developing psychiatric services through education.

Malawi is a low-income country in sub-Saharan Africa. Life expectancy is 54 years and the literacy rate is 75.5% for men and 48.7% for women.

Malawi has an estimated population of 15.91 million and an area of approximately 118 000 km^2. It is split into 28 health districts, most of which have a district hospital. The Malawi College of Medicine in Blantyre opened in 1991 and is the only medical school. The country has one government psychiatrist, two psychiatrists employed by the College of Medicine, one psychiatrist from the American Peace Corps and one psychiatrist employed part time by the Scotland Malawi Mental Health Education Project (SMMHEP). The national psychiatric hospital, with 333 beds, is located in the former colonial administrative capital city, Zomba. Two 50-bed units are staffed by nurses and clinical officers, giving a total of 433 psychiatric beds for the country (Kauye, 2008). Two per cent of the country's health budget is spent on mental health (World Health Organization, 2005).

The neuropsychiatric burden for Malawi is 2497.43 disability-adjusted life years (DALYs) per 100 000 and the suicide rate is 7.03 per 100 000, compared with medians for all countries of 2964 DALYs and 6.55 suicides per 100 000 (Jacob *et al*, 2007). The 2002 international 'burden of disease' data from the World Health Organization suggested that unipolar depression is the fourth leading cause of disability in Malawi, following HIV/AIDS, cataracts and malaria (Bowie, 2006).

A recurrent suggestion to address such treatment gaps and lack of psychiatric training is that the UK could provide visiting psychiatrists to support educational programmes in other countries (Hanlon *et al*, 2006; Kulhara & Avasthi, 2007; Mullick, 2007).

The aim of SMMHEP is to provide sustainable support for psychiatric training at the Malawi

College of Medicine. The College has an annual intake of 60–70 students per year and provides a 5-year programme in which students do a clinical attachment to psychiatry in the fourth year. Historically the whole fourth-year cohort would do their 7-week psychiatry block at once, which proved problematic. In 2009 the curriculum was reviewed and it was decided to divide the students into groups of around 20 for their clinical rotations, so that more effective teaching could be provided. However, the new curriculum presented challenges for SMMHEP in sourcing UK volunteers to provide the teaching throughout the year rather than once only.

Prior to the initiation of SMMHEP (over a decade ago) Malawi had one psychiatrist, despite having a similar burden of mental health to all other countries. Being mindful of cultural issues and sustainability, SMMHEP endeavours to develop psychiatric services through education. The long-term aim is to train psychiatrists within Malawi such that the country can become self-sufficient in terms of psychiatric education.

Previous research has shown positive outcomes, with local medical students achieving results in undergraduate psychiatry examinations comparable to those of Edinburgh students (Baig *et al*, 2008). However, experts have highlighted that mental health education programmes in low-income countries are often too heavily based on theory, without enough practical elements (particularly in the community) (Saraceno *et al*, 2007). SMMHEP has now developed the undergraduate mental health block to maximise the use of clinical attachments in the mental hospital and clinics.

This paper reports how a revised psychiatric teaching programme has been delivered for Malawian medical students, and assesses its impact on students' learning and their attitudes towards psychiatry.

Method

A new undergraduate education programme maximises clinical opportunities and competency achievement. The older programme had separated lectures and case-based learning tutorials from clinic experience. The clinical attachment was mostly at the Blantyre out-patient clinic, with some day trips to Zomba Mental Hospital (which entailed up to 2 hours of driving each way). It was felt that introducing a residential attachment might help to reduce the stigma of visiting a mental hospital, and might encourage the students to be more positive about their engagement with the hospital, rather than seeing it as something to be feared.

There is now a 2-week residential placement in Zomba Mental Hospital, which allows students to undertake a role in the multidisciplinary clinical team: assessing new admissions, reviewing patients' progress and attending ward rounds. They are supported through clinical supervision with SMMHEP volunteers and case-based learning tutorials, which are integrated into the clinical attachments. These are designed to allow the students to research problems associated with a case and discuss their findings.

The students also have 2 weeks of out-patient clinical experience, which includes trips to community clinics and general hospital liaison referrals.

Finally, an applied mental health education workshop has been introduced. Malawians commonly attribute mental illness to illicit drug use, alcohol and spirit possession (Crabb *et al*, 2012). This workshop is designed by the students and is delivered at a local school. The aim is to raise awareness, dispel cultural beliefs and reduce the stigma of mental illness in the community.

Lectures and a rigorous assessment process (involving submitting long case reports and examinations) continue to be used.

Questionnaires with Likert scales were disseminated at the end of the attachment to evaluate the programme. These asked the students to appraise each of the above teaching components. They also gave an opportunity for the repeating students to compare the new course to the old. One part was designed to assess students' attitudes to psychiatry (stigma and career considerations) before and after the block.

Results

Questionnaires were given to all 22 of the medical students and all returned them (100% response rate). Seven students were repeating the block and were able to make direct comparisons between the old and new course.

All aspects of the new course were valuable to the students, with the new Zomba Mental Hospital residency being the most highly valued. The out-patient clinic attachment, lectures and case-based discussion tutorials were also judged to be of particular value to their learning.

The seven students repeating the year were all in agreement that the new programme was an improvement, with the residential attachment contributing to more effective learning.

Prior to undertaking the psychiatry block, only two students had considered pursuing psychiatry as a career and 15 had ruled it out. Following their clinical exposure, none had definitely excluded the option and 11 were interested in pursuing it as a career.

Nineteen students felt that the block had a positive impact on their attitudes to psychiatry, and all students reported that they had been equipped with transferable skills that they could utilise in other specialties.

All additional comments provided in the questionnaires were positive:

- 'We were able to admit patients and see their progress on a daily basis.'
- 'I now understand what psychiatry is about and how diverse it is. It does not only deal with aggressive people!'
- 'I am now able to look at people with mental illness as patients.'

Discussion

Mental health service provision in Malawi is critically low, with 4.5 full-time psychiatrists in the country and 2.5 psychiatric nurses per 100 000 people (compared with 11 psychiatrists and 104 nurses per 100 000 people in the UK) (Jacob *et al*, 2007). SMMHEP aims to address the treatment gap through education of students, staff and schools, and has helped produce three new Malawian psychiatry trainees.

Delivery of the new educational course was a positive experience for the volunteers but did present some challenges. Resources, such as textbooks, were limited and there were frequent power cuts. Practical difficulties during the Zomba residential attachment included the student accommodation, which lacked mosquito nets and cooking facilities.

Although this evaluation is of a relatively small number of students, there was a 100% return rate of questionnaires, showing that the new undergraduate programme, which includes a residential psychiatric hospital attachment, is a valuable and effective way for students to gain knowledge and skills. It also has a direct effect on reducing stigma and improving attitudes to psychiatric illness and psychiatry as a potential career path. The results of this survey appear positive and similar studies in Malawi support the finding that education improves attitudes to psychiatry (Beaglehole *et al*, 2008).

However, the reality is that although medical students would consider pursuing psychiatry, this interest is not translated into actual careers. In fact, only five graduates have chosen this path since the College first opened and postgraduate training continues to struggle to recruit people to specialise in psychiatry. It is therefore clear that ongoing work, development and support are required from SMMHEP and the College of Medicine to engage and encourage students to work in psychiatry in the future.

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RESEARCH PAPER

Hospital doctors' management of psychological problems at a Nigerian tertiary health institution

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A questionnaire was sent to all consenting doctors at the University of Ilorin Teaching Hospital, Nigeria. It asked about their management of psychological problems in their clinical practice. Over 90% would welcome more time to talk to patients and agreed that psychological and social factors should be routinely assessed and recorded for patients. Most respondents would refer patients with depression or disturbed behaviours. 'Ineffective treatment' and 'dislike of psychiatric referral' were not the main reasons for non-referral. A majority of the doctors had initiated treatment for anxiety and insomnia but not for alcohol withdrawal, psychosis, acute confusional state or depression. Doctors' awareness of 'the impact of psychological factors on the course of physical illness' was high. To sustain this high level of awareness and encourage referral, in-house psychoeducational training of hospital doctors should be intensified. In addition, an increased doctor/patient ratio, public education to reduce stigma and a well developed liaison psychiatric service are imperative.

We are grateful to all the staff of UITH, Ilorin, who participated in the study, for their patience and cooperation during the period of data collection.

Adequate management of psychological problems by hospital doctors (other than psychiatrists) can determine the effectiveness (or otherwise) of liaison psychiatric services in the hospital (Deventer *et al*, 2008). Hospital doctors should aim to ameliorate seemingly minor but incapacitating psychiatric disorders and symptoms. Many patients who require psychiatric services are deprived of them because of non-recognition of their psychological problems by attending physicians and lack of referral (Dixon *et al*, 2001; Bartels *et al*, 2005). This can prolong suffering and lead to a deterioration of the patient's clinical status and to complications. Globally, psychological problems account for a significant proportion of disease morbidity and mortality, and have taken a significant toll on time lost due to morbidity, in terms of disability-adjusted life years (DALYs) (World Health Organization, 2012). Therefore, it is of interest to determine how psychological problems are managed. According to Faizen *et al* (2012), the attitude to psychiatry of non-psychiatrists and non-psychiatry resident doctors is crucial because of the large number of psychiatric patients who will present to them, directly or indirectly.

Morgan & Killoughery (2003) revisited a study by Mayou & Smith (1986) on hospital doctors' management of psychological problems in London hospitals. In their study, more hospital doctors were aware of the psychological needs of patients (Morgan & Killoughery, 2003). There appeared to have been improvement in liaison psychiatric services, as evidenced by an increase in the number of qualified psychiatrists at public health institutions in Nigeria. This improvement was expected to translate to more shared knowledge between mental and other health practitioners and better mental health services. Some doctors, however, although familiar with mental health issues, are likely not be too different from non-doctors in stereotyping and stigmatising mental illness. The negative attributes of these doctors could affect their practice when they encounter individuals with mental illness (Faizen *et al*, 2012).

The present study set out to replicate these previous studies, using the same methods in Nigeria, in order to ascertain whether a supposed increase in awareness of mental health issues and the introduction of liaison psychiatry had had any impact on the management of mental health conditions by hospital doctors.

Method

The data for this study were collected as part of a larger study to determine hospital doctors' management of mental illness and the psychological impact of their work on the doctors, particularly in terms of their alcohol use (Issa *et al*, 2012). The study was carried out at the University of Ilorin Teaching Hospital (UITH), a tertiary centre that provides health services for Kwara State and surrounding states (Nigeria is a federation of 36 states). Questionnaires together with information sheets and consent forms were distributed to all doctors in the service of the hospital except those in the department of behavioural sciences. One questionnaire covered: sociodemographic information (age, gender, marital status); professional qualification; receipt of treatment for any form of emotional disturbance by the participants or their relatives; and working conditions (e.g. membership of workplace leisure or social clubs, perceived cordiality with co-workers and patients, perception of workload, and satisfaction with remuneration). They also completed a questionnaire (the same used by Mayou & Killoughery) on their management of psychological problems in their clinical practice, on which this report is based.

The ethics and research committee of the hospital approved the study protocol.

Results

Questionnaires were distributed to 350 doctors: 100 house officers, 150 resident doctors and 100 senior doctors (i.e. medical officers and consultants). Responses were received from 241 (68.9%), of whom 134 (55.6%) were aged 35–45 years, 182 (75.5%) were male, and 202 (83.8%) were married. The largest number of respondents were from the department of internal medicine (35 or 14.5%), followed by department of surgery (32 or 13.3%).

About half (109 or 45.2%) of the respondents had 3–10 years' working experience. About three-quarters (190 or 78.8%) had had 4–8 weeks of exposure to mental health training at undergraduate level, while 181 (75.1%) had had no exposure at postgraduate level. Most of the respondents (221 or 91.7%) had no personal history of mental illness and the majority had no family history of it (180 or 74.7%).

General attitudes to mental illness and medical responsibility for its management

Over half of the respondents believed that 'emotional and social aspects of care enhanced their job interest' while less than 40% agreed that 'management of emotional issues is solely a medical responsibility' (Table 1).

About a quarter of the doctors agreed that they have major roles in the management of depression (Table 2). Just under half would take responsibility for the management of acute confusional state, while over two-thirds would take responsibility for drug overdose, a fifth for chronic drinking problems, less than a fifth for disturbed behaviours but over half for the emotional care of dying patients.

Time constraints and assessments of psychological problems

Over 90% of the doctors would 'welcome more time to talk to the patients' and agreed that 'psychological and social factors should be routinely assessed and recorded for patients' (Table 1). However, about a quarter of the doctors agreed that it was 'impractical for hospital doctors to assess and treat emotional problems', and on this item there was the largest difference between the

Table 1

Questionnaire responses in the present study and two comparison studies: percentage agreement with statements

Statement	Present study	Morgan & Killoughery (2003)	Mayou & Smith (1986)
Psychological factors can influence the course and outcome of physical disorders	92.5	96	77
Emotional and social aspects of care enhance job interest	58.1	58	66
Management of emotional issues is solely a medical responsibility	39.4	25	33
I would welcome more time to talk to my patients	90.5	92	78
It is impractical for hospital doctors to assess and treat emotional problems	22.8	52	46
Psychological and social factors should be routinely assessed and recorded for in-patients	92.9	78	Not reported
When psychological factors appear to be an important cause of the presenting problem, I confine myself to physical assessment	16.2	16	35
I should concern myself with emotional care of regular attenders with chronic physical illnesses	68.9	80	60
Hospital doctors should be able to use psychological methods such as listening/reassurance	94.2	88	'Most'
Hospital doctors should be able to use psychological methods such as discussion of anxieties and problems	91.7	94	'Most'
I frequently discuss emotional problems with relatives	73.9	73	55
I use cognitive or behavioural methods of treatment	63.9	36	<25
Hospital doctors should be able to use psychotropic drugs	71.8	78	81
I use antidepressants frequently or occasionally	20.3	60	43
I would like more contact with psychiatric services	57.3	78	Just over half
I would like to know more about what psychiatry has to offer in the management of medical or surgical patients	83.8	73	Not reported
Psychiatrists have little to offer in a general hospital	4.1	5	24

Table 2

Agreement with statements that major responsibility for common types of psychological problems lies with hospital doctors (other than psychiatrists): percentage of the present sample ($n = 228$), with responses from Morgan & Killoughery (2003) and Mayou & Smith (1986) respectively in parentheses

	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
Depression	4.4 (10, 5)	20.6 (21, 21)	4.4 (10, 20)	49.1 (49, 41)	21.5 (9, 3)
Acute confusional state	4.4 (27, 17)	42.5 (51, 59)	11.8 (7, 13)	32.5 (9, 10)	8.8 (7, 1)
Overdoses	16.2 (24, 7)	55.7 (37, 29)	9.2 (9, 33)	15.8 (19, 27)	3.1 (10, 3)
Chronic drinking problems	5.7 (6, 5)	14.9 (24, 20)	8.8 (18, 33)	43.0 (36, 38)	27.6 (16, 5)
Disturbed behaviour	7.0 (4, 3)	9.6 (19, 25)	6.6 (23, 35)	42.5 (34, 34)	34.2 (20, 3)
Emotional care of dying patients	15.4 (15, 10)	43.2 (59, 23)	12.8 (14, 26)	25.6 (8, 37)	3.1 (3, 4)

present findings and those of the two earlier (UK) studies. In the present survey, 16.2% of doctors would 'confine themselves to physical assessment only' even when psychological factors appeared to be an important cause of the presenting problem.

Attitudes to psychiatry, psychiatric treatments and barriers to referral

A large majority of the respondents agreed that hospital doctors should be able to use psychological methods such as 'listening/reassurance' and discussion of anxieties and problems (Table 1). About three-quarters agreed that 'hospital doctors should be able to use psychotropic drugs', but only 20% claimed to 'use antidepressants frequently or occasionally'. Very few respondents agreed with the statement 'Psychiatrists have little to offer in a general hospital', while more than half would like 'to have more contact with psychiatric services'. In addition, over 80% would 'like to know more about what psychiatry has to offer in the management of medical and surgical patients'.

Almost all the respondents would refer patients with depression (96.5%), disturbed behaviours (96.5%); dementia (67.8%) or acute confusional state (69.6%). However, significant numbers would 'not refer a patient because of a diagnostic problem' (60.5%) or 'non-compliance with treatment' (60.2%).

Only 9.7% of respondents gave 'ineffective psychiatric treatment' as the reason for non-referral of patients, and only 25.3% gave 'dislike for psychiatric referral', but 48.8% said it would be because of 'stigmatisation'. A substantial number of the doctors had initiated treatment in anxiety disorders (57.4%) and insomnia (73.3%), but most had not initiated treatment in alcohol withdrawal (91.5%), psychosis (88.1%), acute confusional state (78.6%) and depressive disorders (75.0%).

Discussion

A response rate of 68.8% was considered reasonable, considering the anonymous nature of the study, which seemed to have reduced

researcher-influenced bias in completing the questionnaire.

The relatively few years of practice of most of the respondents in this study is likely explained by the younger ages of our respondents (most were under 45 years old). Traditionally in Nigeria, candidates are admitted to medical school after their secondary school education, unlike in some countries where a university degree is a prerequisite for admission. Thus, these candidates graduated as doctors while still young.

The Nigeria medical curriculum is designed to expose medical students to a minimum of 4 weeks of mental health education and clerkship. Graduate doctors therefore might not have acquired adequate training in basic mental health, which could adversely affect their practice. The postgraduate residency training that could further expose these doctors to mental illness is provided for only a few postgraduate specialties. For example, surgery and surgical subspecialties do not rotate through the psychiatric department during their residency training, although medically related specialties such as internal medicine and family medicine do include such postings. This gap in training has the potential to adversely affect mental health practice and management among these doctors after their qualification.

In this study a majority of the respondents did not report a history of psychiatric illness among themselves or their relatives. Similarly low frequencies of reported mental illness have been documented in previous studies (Phillips *et al*, 2000; Saunders, 2003) and this has been largely attributed to stigma (Saunders, 2003; Westbrook, 2011).

The management of common psychological problems

Awareness of the impact of psychological factors on the course of physical illness was high and comparable to the British studies. The doctors in this study, similarly to the previous studies (Mayou & Smith, 1996; Morgan & Killoughery, 2003), recognised that psychological factors could influence the course and outcome of physical disorders. This could be described as being good for mental health and its practice because the psychological health of physically ill patients is then adequately considered in the management of such physical illnesses, more especially if more time can be devoted to these patients. Similarly, well over half the doctors agreed that emotional and social aspects of care enhanced their job interest, as in the previous studies. Most of the doctors did not agree that the management of emotional issues was solely a medical responsibility.

The positive responses observed in this study could have resulted from medical training (both undergraduate and postgraduate) or from the positive impact of liaison psychiatric services.

A majority of the respondents in this study would 'rather not leave the care of depression to psychiatrists'. Over two-thirds disagreed that hospital doctors (other than psychiatrists) have the major responsibility for the management of depression (higher than in the British studies). In contrast, a majority agreed that non-psychiatrists have the major responsibility for overdose and for the emotional care of dying patients, but not for disturbed behaviours or chronic drinking problems, which were predominantly regarded as being in the realm of psychiatrists.

The reason for around half of the hospital doctors agreeing that they have the major responsibility for the management of acute confusional state could be that most causes of this disorder are physical, such as infection, surgical emergencies, head injuries and medication side-effects. This may reflect the traditional mind/body dichotomy, whereby medical disorders are regarded as diseases of the mind or body (Mehta, 2011).

Time constraints

As in the previous studies (Mayou & Smith, 1986; Morgan & Killoughery, 2003), a majority of the doctors would welcome more time to talk to their patients. This supports the notion that time constraints are a reason for non-psychiatrist doctors not making adequate diagnosis of psychological problems. Time constraints have been identified as a major factor preventing the diagnosis of mental disorder by general practice doctors (Alexander & Fraser, 2008).

A solution to this problem might be proper time management, because most of the doctors agreed that they should provide emotional care for regular attenders with chronic physical illnesses. Similarly, most did not agree that when psychological factors appeared to be an important cause of the presenting problem they would nonetheless confine themselves to physical assessment. Such assertions seemed to indicate the readiness of these doctors to participate in the assessment and treatment of patients with psychological problems and physical disorders. A psychoeducational programme aimed at improving the diagnosis and management of psychological problems by non-psychiatrist doctors and the use of short diagnostic instruments (to reduce evaluation time) would go a long way to overcoming time constraints.

A contributory factor is the inadequate doctor/patient ratio in low-income countries like Nigeria. In the year 2005, the doctor/patient ratios in Nigeria, Ghana, Kenya and South Africa were 28, 15, 14 and 77 per 100 000 population, and 151 and 134 in Seychelles and Tunisia, but about 333 per 100 000 population in Germany and France (United Nations Development Programme, 2006). A lower ratio would help overcome the time constraints reported by this cohort of Nigerian hospital doctors.

Attitude to psychiatry and barriers to referrals

Similar to the previous studies, all aspects of talking therapies were endorsed by the doctors, thus indicating positive (or improved) attitudes of the hospital doctors to patients who are

mentally ill. Caution is needed here, however, as hospital doctors still require training on the use of psychotherapeutic methods. While listening and reassurance are skills that all doctors must possess, the use of cognitive and behavioural methods (claimed to be used by nearly two-thirds of respondents) should be reserved for specialists (i.e. psychotherapists). In fact, the use of such methods in previous studies (Mayou & Smith, 1986; Morgan & Killoughery, 2003) was much less impressive than the level reported in this study. A reason for this could be that the respondents in this study did not comprehend what was meant by cognitive and behavioural methods, as formal cognitive and behavioural therapies are not provided at the study centre. Contrary to this was the use of psychotropic drugs. As in the previous studies (Mayou & Smith, 1986; Morgan & Killoughery, 2003), respondents agreed that hospital doctors should be able to prescribe psychotropic drugs. While one would agree with the doctors on this unrestricted prescription of psychotropic drugs, this has to be done with extreme caution, so as to prevent dependency and tolerance (and any resultant iatrogenic psychological problems). The low proportion of respondents prescribing antidepressants (frequently or occasionally) was not surprising, given that, when compared with the two previous studies (Mayou & Smith, 1986; Morgan & Killoughery, 2003), a much smaller proportion agreed that hospital doctors had the major responsibility for the treatment of depression.

The cohorts' attitude to psychiatry was, however, encouraging. Their readiness to have more contact with psychiatric services and eagerness to know more about what psychiatry has to offer in the management of medical and surgical patients were satisfying. These attributes need to be reinforced for a more holistic management of patients with physical disorders. Psychiatrists have more responsibilities in general hospital settings in this regard.

Despite the readiness of the doctors to refer patients, many were not referring because of the perceived stigma.

Limitations of the study

Being a self-reported questionnaire study, it is not possible to determine whether the questionnaire responses accurately reflected actual clinical practice, and the study design was subject to social desirability bias (Morgan & Killoughery, 2003). However, the same questionnaire was used in the two British comparison studies.

Conclusion

The doctors in this study, similar to those in the previous studies, recognised that psychological factors could influence the course and outcome of physical disorders. Many were ready to take responsibility for the care of some organic mental disorders, such as acute confusional state, but much less so depression and disturbed behaviours. The respondents were, though, more receptive to 'assessing and treating emotional problems' than in the two British studies. Time constraint was recognised as a major impediment to the diagnosis of psychological disorders but the doctors expressed readiness for more contact with psychiatric services. While willing to refer patients with psychological problems to psychiatrists, stigma was identified as a barrier. Therefore, we suggest that in-house psychoeducational training of hospital doctors should be intensified. The training could include the use of brief diagnostic tools that would shorten the time taken to make diagnoses. Such training might also help disseminate information to the doctors on the use of psychotropic drugs and psychological therapies. Improving the low doctor/patient ratio is also advised. Addressing these issues could help ameliorate the problem of time constraint.

Lastly, well developed liaison psychiatric services where psychiatrists are incorporated within medical or surgical teams could help to solve the problems hampering referral for psychiatric evaluation.

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RESEARCH PAPER

Mental health e-supervision for primary care doctors in Sudan using the WHO mhGAP Intervention Guide

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Anne Aboaja was a volunteer supervising psychiatrist on the e-supervision programme; Peter Hughes developed and coordinated the e-supervision programme and acts as an *ad hoc* WHO mhGAP consultant and trainer.

This paper describes the evaluation of a pilot e-supervision programme, with a focus on feasibility. The findings suggest that e-supervision in mental health using the World Health Organization (WHO) Mental Health Gap Action Programme (mhGAP) Intervention Guide and case-based discussions is valued by participants and can improve the knowledge, confidence and beliefs of primary care doctors in low- and middle-income countries.

It has been suggested that where there is a shortage of psychiatrists in low- and middle-income countries (LMICs), primary care doctors might confidently undertake the task of identifying and managing some mental illnesses in a primary care setting, after receiving short-term mental health training and with ongoing supervision (Kakuma *et al*, 2011). However, inadequate training, limited knowledge, fear and negative misconceptions about mental illness have been associated with primary care health workers being reluctant or ill-equipped to assess, diagnose and treat mental illness (Kakuma *et al*, 2011). The World Health Organization (WHO) published the Mental Health Global Action Programme Intervention Guide (mhGAP-IG) as a training tool for primary care health workers (WHO, 2010).

Sudan is a low-income country with a shortage of doctors trained to meet national mental health needs (WHO, 2005, 2011; Bruckner *et al*, 2011; World Bank, 2014). An evaluation of a 1-week face-to-face mhGAP-IG course for Sudanese general practitioners (GPs) (Ali *et al*, 2012) reported subsequent improvement in knowledge and attitudes and recommended that the GPs then receive internet-based support from outside Sudan to enhance the training received.

A programme of internet-based support (e-supervision) from the UK was developed in response to this recommendation. The e-supervision programme assumed integration of mental health into primary care, complemented by a tertiary level of expertise for complex cases and hospitalisation. The Ministry of Health in Sudan nominated GPs who had undertaken the face-to-face training to participate in the e-supervision programme. E-supervision supervisors were psychiatrists identified through the Volunteer and International Psychiatry Special Interest Group within the Royal College of Psychiatrists. E-supervision sessions were expected to occur for at least 1 hour per month, to cover the content of the WHO mhGAP-IG, and to include GP-led case-based discussions. Psychiatrists were invited to contribute to a group email discussion forum where they could share ideas and experiences relating to the e-supervision programme. The rationale was that through e-supervision, the knowledge, confidence and beliefs of the Sudanese GPs in relation to mental health would improve.

The use of face-to-face supervision in psychiatry is widely recognised as a useful training method in the management of clinical cases (Julyan, 2009). Less is known about the potential utility of e-supervision. The aim of the study was to explore its feasibility in a 6-month pilot programme (December 2011 to June 2012). This paper reports the quantitative and qualitative findings of the study relating to feasibility, potential outcomes and value.

Method

The coordinator of the programme was responsible for screening all potential participants for suitability and then assigning each Sudanese GP to a volunteer psychiatrist who would assume the role of supervisor. The coordinator informed each supervising psychiatrist of the expectations of a typical e-supervision session. After the pre-programme data (described below) had been collected from an assigned GP, the GP and supervising psychiatrist were responsible for agreeing when supervision would occur, the expectations of the GP, the expectations of the supervisor and the limits of responsibility of the supervisor. A typical e-supervision session is outlined in Table 1.

A mixed-methods evaluation design involving collection of both quantitative and qualitative data at different stages of the evaluation period was adopted.

All data were collected electronically. The mental health knowledge, confidence and beliefs

Table 1
Outline of a typical e-supervision session

Duration (min)	E-supervision session activity
5	Log on. Outline of session
50	Discussion of a mental health topic from the WHO mhGAP-IG with direct reference to the guidance and using clinical cases from the GP's clinical practice
5	Review of session and agree topic for next session
–	Close session

Table 2
Examples of statements to test knowledge, confidence and beliefs of Sudanese GPs

Aspect of training	Example of statement	Response
Knowledge	In women of child-bearing age with bipolar disorder, the mood stabiliser valproate is the first-line treatment	True/false
Confidence	I feel confident in managing the treatment of depression	Five-point Likert scale (strongly disagree to strongly agree)
Beliefs	I am scared of people with mental illness	Five-point Likert scale (strongly disagree to strongly agree)

of the GPs were measured at the start of the programme and 6 months later. GP data were collected through a self-administered knowledge questionnaire comprising 20 true/false statements about psychiatry based on the WHO mhGAP-IG in both English and Arabic (Table 2). They were also given a questionnaire of statements requiring a five-point Likert scale response for agreement, ranging from strongly disagree to strongly agree, to assess their confidence in managing different mental disorders and their beliefs about mental health (Table 2).

The GPs were asked to complete the same questionnaires 6 months after they had commenced the e-supervision programme. GPs who failed to complete both questionnaires and who had not commenced e-supervision by 31 December 2011 were excluded from the evaluation.

Three GPs, randomly sampled from those who had completed 6 months of e-supervision, and three psychiatrists, similarly sampled, were invited to participate in a semi-structured online interview in order to provide subjective qualitative data on their experiences of the e-supervision programme. Questions covered the experience of the supervision pilot, whether the WHO mhGAP-IG was used in every session, how much time was spent on the pilot each month and what problems were encountered.

Anonymised data from the psychiatrists' email discussion forum were extracted to provide additional information on the qualitative experiences of the e-supervision programme.

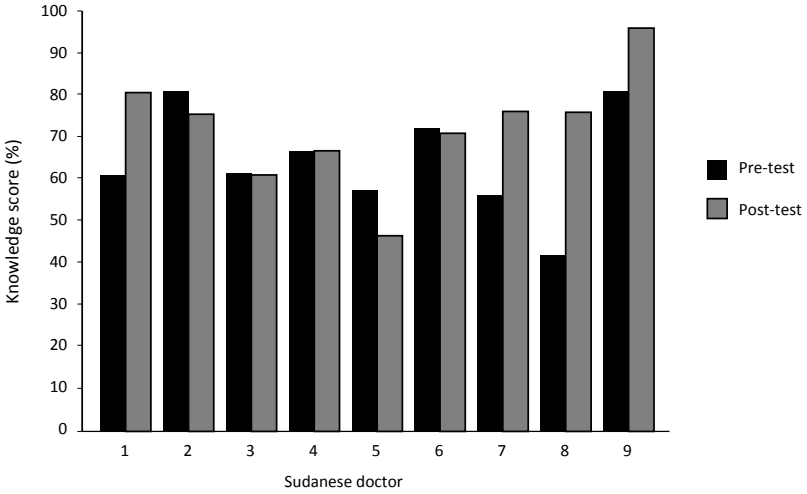

Fig. 1
Knowledge scores before and after 6 months of e-supervision

Quantitative data were analysed using Stata version 11.0. Paired *t*-tests were used to assess the significance of differences in knowledge over time. Wilcoxon signed rank tests were used to assess differences in confidence and beliefs over time. Missing data for answers to individual knowledge questions were treated as incorrect answers and scored accordingly. Items with missing data for questions assessing confidence and beliefs were excluded from the analyses. Framework analysis was used to analyse qualitative data to identify barriers to the delivery of the programme and any additional benefits.

Results

Seventeen of the 29 GPs who had been nominated for and who subsequently agreed to commence the e-supervision proceeded to complete the pre-programme questionnaires. Within this group, 13 GPs commenced e-supervision sessions before 31 December 2011. Of these 13, nine completed the repeat questionnaire 6 months later.

For these nine GPs, after 6 months of e-supervision there was an increase in knowledge, with pre- and post-programme median scores of 60% and 75%, respectively (Fig. 1), but this was not statistically significant ($P = 0.20$).

Post-test increases in perceived confidence to any degree on the Likert scale were reported for managing all scenarios and treatments, with numbers of GPs who reported any increase ranging from 1 (11%) for the management of schizophrenia to 7 (78%) for the use of amitriptyline (Table 3). After 6 months of e-supervision there was a significant increase in the number of GPs who agreed or strongly agreed with statements of perceived confidence in managing most of the clinical scenarios presented, with the exceptions of managing the violent patient and the patient with schizophrenia (Table 3). Statistical significance in changes in perceived confidence in managing scenarios was found only in the assessment of capacity (one person felt confident in the pre-test phase, six in the post-test phase; $P = 0.025$). Overall, GPs reported an increase in perceived confidence in using all six treatments listed, including psychotherapy; this was statistically significant for chlorpromazine, amitriptyline and sodium valproate (Table 3).

Again, nine of the original 13 GPs completed the post-test survey section about beliefs. Three of these GPs strongly disagreed with the statement 'I am scared of people with mental illness' 6 months after the e-supervision began compared with one before supervision sessions began ($P = 0.26$). The proportion of GPs who strongly disagreed with the statement 'If I work with people with mental illness I can become mentally disturbed' increased from two to four ($P = 0.80$).

Framework analyses of data from the semi-structured interviews and the email discussion forum showed barriers to the delivery of the e-supervision programme and benefits of the programme (Table 4). Volunteer psychiatrists found the experience of e-supervision highly rewarding

Table 3
Number (%) of affirmative responses from nine Sudanese GPs to questionnaire statements

Confidence statement	Pre-programme	Post-programme	*P*
I feel confident in managing the following scenarios:			
Schizophrenia	5 (56)	4 (44)	0.564
Depression	6 (67)	8 (89)	0.157
Catatonia (*n* = 8)	1 (11)	2 (25)	0.564
Violent patient	3 (33)	3 (33)	1.000
Assessing capacity (*n* = 8)	1 (13)	6 (67)	0.025
Assessment of suicide risk	5 (56)	7 (78)	0.317
I feel confident using the following treatments:			
Chlorpromazine	4 (44)	8 (89)	0.046
Amitriptyline	3 (33)	7 (78)	0.045
Sodium valproate	5 (56)	9 (100)	0.046
Psychotherapy	3 (33)	4 (44)	0.564
Depot antipsychotic	2 (22)	4 (44)	0.317
Psychoeducation	3 (33)	5 (56)	0.317

Table 4
Framework analysis findings of the e-supervision experiences of psychiatrists and Sudanese GPs

Theme	Sub-theme
Barriers to delivery of the programme	Unreliable technology Cultural differences between psychiatrists and GPs Time constraints
Benefits of the programme	Improves patient management by GPs Increases confidence of GPs Highly rewarding and educational for psychiatrists

and educational; GPs felt that their recognition and management of patients with mental health problems had improved. Technological difficulties and cultural differences hindered the programme, but GPs valued the programme highly. While they expressed a willingness to pay for e-supervision in the future, the three psychiatrists were keen to offer support only on a voluntary basis.

In summary, the mhGAP e-supervision programme is challenged by a series of barriers. The outcomes were more marked in relation to increased confidence than to increased knowledge. The increase in confidence of GPs was found in both quantitative and qualitative results. Although not statistically significant, an improvement in attitudes towards mental illness is a potential outcome. An additional and unexpected benefit was the educational value for supervising psychiatrists. The programme is highly valued by GPs.

Discussion

To our knowledge, this is the first study to evaluate a unique mhGAP programme involving e-supervision to increase the capacity of primary care to deal with mental health problems in a low-income country. Overall, within 6 months of commencing the e-supervision programme, Sudanese GPs had greater knowledge of mental illness, felt more confident in managing mental illness and held views about mental illness that were less negative. The findings support the programme's rationale.

The feasibility of the programme could be improved by addressing some of the barriers identified. Restricting e-supervision to text-only instant messaging and avoiding audio-visual communication modes such as Voice over Internet Protocol (VoIP) may overcome the technology barrier to a degree. However, the evidence suggests that distant supervision between clinicians in a high-income country and those in a low-income country has limitations when restricted to the use of text, such as email (Rahman *et al*, 2006). Prior to commencing the first e-supervision session, all participants could be given advice on how to minimise technological disturbance. The language difficulties arising from the low number of Arabic-speaking psychiatrist supervisors sometimes hindered communication during e-supervision sessions. Recruiting more Arabic-speaking psychiatrist volunteers from the UK would help to minimise language problems. Some time constraints could be overcome by extending the programme by up to 3–6 months, to allow sufficient time to cover the WHO mhGAP-IG content.

Despite these identified barriers, the Sudanese GPs reported improved patient management and increased confidence in identifying and managing mental illness. This is consistent with findings reported in a study which showed some benefits of clinical supervision of nurses by a psychiatrist using videoconferencing within the same country, when the geographical distance was a barrier to regular face-to-face contact (Heckner & Giard, 2005).

There were difficulties in retaining GP participants within the e-supervision programme. Some GPs moved to better-paid jobs in more affluent countries in the Middle East. Proposed solutions to the 'brain drain' of doctors from lower-income countries have included the home country taking responsibility for improving retention through increased pay, training and work opportunities, with support from higher-income countries, in particular the country to which doctors move, which would share expertise and best practice and also provide funding for training and improving infrastructure for health in the lower-income country (Kuehn, 2007). In the present pilot, the effect of GPs migrating to other countries resulted in a relatively small number of people who actually completed 6 months of e-supervision. These GPs were not were not followed up in the present study. Further study of the rate and reasons for GP attrition in the programme would identify further barriers to the feasibility of the e-supervision programme and determine whether the e-supervision should also be offered to non-medically qualified health workers with appropriate training (Bruckner *et al*, 2011).

A key limitation of this pilot study is the small sample size, which may not only have skewed the findings of the qualitative analysis but also have affected the interpretation of quantitative data and

associated significance testing (Duffy *et al*, 2005). The evaluation was also limited by the absence of a comparison group which did not receive the e-supervision. Therefore, positive outcomes cannot be confidently attributed solely to the e-supervision programme. The study design, which relied heavily on the direct report of participants, could have been strengthened by including additional objective measures of outcome, such as a grading of the change in confidence of the GPs as assessed by the supervising psychiatrist following case-based discussions. Although the evaluation attempted to assess the overall standardisation of e-supervision sessions through the semi-structured interview questions about time and use of the WHO mhGAP-IG, no evaluation data were collected about the degree of standardisation of individual e-supervision sessions of all participants. A lack of standardisation in the execution of e-supervision sessions may have affected the outcomes of the programme. A future trial of the programme should include more stringent controls of quality and standardisation.

In summary, the limited findings of this small pilot do not confirm whether the mhGAP-IG can be used effectively to supervise primary care doctors at a distance. It is recommended that the barriers to the e-supervision programme are addressed fully. It would then be appropriate to re-evaluate the mhGAP e-supervision programme with a larger number of GPs and psychiatrists. Ideally, this evaluation should follow a controlled trial design and include a detailed economic evaluation. This needs to take place before the e-supervision programme can be confidently rolled out to other countries.

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RESEARCH PAPER

The WHO mhGAP Intervention Guide for people with intellectual disability: the Sri Lankan experience

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In recognition of the treatment gap in mental health, the World Health Organization (WHO) Mental Health Gap Action Programme (mhGAP) was launched in 2008 and has proved successful. The paper describes the launch of the first mhGAP intellectual disabilities pilot project in Sri Lanka. It reports on the development of the materials and the key lessons learnt.

Mental disorders and intellectual disability are universal, but many low-income countries are unable to provide the appropriate healthcare services. This results in a significant treatment gap. It is estimated that 76–85% of patients with mental disorders do not receive the treatment they need (Khon *et al*, 2004). Some cultures emphasise the role of religion in understanding intellectual disability and caring for people with such conditions. This population is then less likely to seek help from medical professionals (Royal College of Psychiatrists, 2011). According to the World Health Organization (WHO), within low- and middle-income countries (LMICs) 80% of all people with a disability live in poverty in isolated rural areas, often stigmatised and, despite their high rates of morbidity, have poor access to healthcare (WHO, 2009). The WHO (2011) estimated a shortage of 55 000 psychiatrists and over 600 000 mental health nurses worldwide.

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The presence of services alone does not guarantee access to them. The WHO (2007) concluded that geographical factors and the socioeconomic status of the persons needing care affected whether services were accessed. These appear to have greater impact within LMICs. Furthermore, the use of clinical guidelines that establish minimum standards to ensure proper care and interventions for persons with intellectual disability is lower in these countries. The challenge to meet this need calls for innovative solutions.

In recognition of this treatment gap the WHO launched the Mental Health Gap Action Programme (mhGAP) in 2008. It aims to support the scaling up of services for mental, neurological and substance use disorders (WHO, 2008). The programme emphasises the delivery of pharmacological and psychosocial interventions in non-specialised healthcare settings. The importance of geographical factors in access to care for patients with intellectual disability highlights the need for a model to support non-specialist workers to deliver healthcare in rural settings. The mhGAP has been implemented in Ethiopia, Jordan, Panama and Nigeria, and more countries have expressed an interest. It is available in a number of languages, including French, Arabic, Russian and Chinese (Saxena, 2011).

There is a substantial amount of literature on the implementation of the programme for the general population but not for those with intellectual disability. Abdulmalik *et al* (2013) describe the implementation of mhGAP for the general population in Nigeria, using a key component of its delivery – the Intervention Guide (IG). This is a manual with guidance to facilitate the recognition and evidence-based management of common conditions. Key lessons learnt from this work include the importance of engaging local stakeholders early and acknowledging the gaps in both services and the knowledge of primary care workers. The project emphasised the importance of experiential teaching methods, such as role-play and group work. The importance of integration into primary care with good working relationships between primary health workers, general practitioners and psychiatrists was also highlighted, with the provision of ongoing supervision being an important factor to ensure sustainability of the programme.

The current mhGAP training does not address the mental health needs that are encountered among people with intellectual disability. Bearing this in mind, the International Links working group on intellectual disability of the Royal College of Psychiatrists developed modules on intellectual disability (mhGAP-ID modules) which were first piloted in Sri Lanka. Once finalised, the aim was to deliver them conjointly with mhGAP training in order to maximise resources and output.

The Sri Lankan context

Sri Lanka has a population of 19 million. None of the country's 48 consultant psychiatrists are specialists in intellectual disability. In addition, there are a number of psychiatrists in training and medical officers for mental health (MOMH), who have received around 6–12 months of training prior to deployment (Jenkins *et al*, 2012). The WHO (2011) estimated the requirement for psychiatrists to be 1.62/100 000 population by 2015, well above the current level of provision. Additionally, there is a shortage of over 3000 mental health nurses and over 1500 psychosocial care providers. Psychiatric care is mostly provided from the capital, Colombo. Community services are limited to government-run primary care dispensaries, supplemented by some private providers of primary care (Jenkins *et al*, 2012).

Sri Lanka benefits from diverse forms of traditional medical treatment for physical and mental illnesses, from ancient times (Beiser *et al*, 2003; Fernando & Weerackody, 2009). The *Mahavamsa* (originally written in Pali between the 6th century BC and the 4th century AD) suggests Sri Lanka was the first country in the world to have established dedicated hospitals (see http://mahavamsa.org).

The two principal ethnic groups in the country are the Sinhalese, who tend to be Buddhist and constitute approximately 74% of the population, and the Tamil minority, who are mainly Hindu and mostly reside in the north and east. Psychological interventions now popular in the West such as meditation, mindfulness and elements of cognitive–behavioural therapy have been used in Buddhist and Hindu traditions for centuries. Sri Lanka has a complex social, religious and political history that has resulted in its population having a rich mix of Sinhalese, Tamil, Muslim, Buddhist, Islam, Hindu and Christian beliefs, as well as the influence of colonisation. Sri Lankan beliefs, knowledge and practices in relation to mental health include rituals and performances, meditation, *bodhi pooja* (veneration of the peepul tree), yoga, astrology, palmistry, healing through spirits, exorcism, *thovil* (ritual dancing and exorcism), charms and amulets (Fernando & Weerackody, 2009). Community members often seek traditional medicine first and attend community-based mental health services only when the traditional methods fail, thereby delaying diagnosis and treatment. Many Sri Lankan families hide mental illness from society to avoid stigma and discrimination. In addition, the experience of mental illness is widely considered to be the result of either fate or blame. A general lack of mental health literacy among patients, friends and families is also reported. These factors lead to a lack of appropriate health-seeking behaviours, which is a major barrier to the provision of mental health services within Sri Lanka, as in other countries. Even when help has been sought, evidence shows that there is poor reintegration into families following treatment at a psychiatric institution in Sri Lanka (Samarasekara *et al*, 2012).

The National Institute of Mental Health (NIMH) in Angoda, Colombo, is a state-run hospital functioning under the Ministry of Health. This highly acclaimed and award-winning

hospital is now Sri Lanka's largest tertiary care institution caring for patients with mental illness. The NIMH has a total of around 1500 beds and provides care for a range of mental illnesses and intellectual disability. Annually over 8000 patients are admitted to the NIMH, which provides acute and intermediate care, as well as specialised services. The main psychiatric hospital comprises 16 wards, including perinatal, forensic and intellectual disability wards. There is a separate unit for children with intellectual disability. That unit is well resourced, with space for family members and a good range of daytime activities. Adults with intellectual disability are normally admitted to general adult wards for treatment. The Health Education Unit of the hospital was relaunched as the Mental Health Training Unit in 2006 with full multimedia facilities.

Project aims and objectives

Following guidance from the WHO regarding implementation of mhGAP, local health training needs, including those in intellectual disability, were identified by the stakeholders. Training in this area is very limited for medical and nursing staff within the hospital and this limited understanding of intellectual disability, and the lack of specialist psychiatrists to supervise and support training, leads to a lack of confidence when managing psychiatric disorders in people with intellectual disability.

Over the past decade, annual training programmes were conducted by the Volunteers from Sri Lanka Psychiatric Association (SLPA) UK, coordinated by the Learning Disability Fund, in partnership with the NIMH and Sri Lanka College of Psychiatrists. At the request of the Director of the NIMH, Dr Jayan Mendis, we adapted the mhGAP for use with people with intellectual and developmental disorders. This followed the successful completion of a 2-year training programme on integrating mental health into primary care in collaboration with key stakeholders in Sri Lanka (Jenkins *et al*, 2012). This paper describes the launch of the 'training the trainers' pilot project, adapted from the mhGAP programme with permission from the WHO, by the International Links working group on intellectual disability. The project was supported by the World Psychiatric Association and the Royal College of Psychiatrists, UK.

Sri Lanka has universal free provision of health services and this provided an excellent opportunity to pilot the mhGAP model with a medical workforce, as it allowed informed refinement and development before delivery to other healthcare professionals and non-specialists. The 5-day training programme was carried out in September 2013 at the NIMH, Colombo.

The key objectives of the programme are highlighted in Box 1.

Box 1. Objectives of the mhGAP-ID pilot

- Model teaching skills required to deliver and cascade mhGAP-ID training
- Introduce and develop the key concepts of mhGAP to an audience of mental health doctors
- Teaching/training in skills, including communication
- Introduce and develop role-play as a core teaching methodology
- Generate interest for research projects within the country
- Generate enthusiasm for further training and teaching

Method

The training programme was delivered to approximately 40 doctors working and training at NIMH. The audience consisted of MOMH and psychiatry registrars (doctors in higher training). The programme focused on key areas of intellectual disability psychiatry and was split into modules delivered over 5 days. Teaching modules incorporated and encouraged didactic teaching, use of role-play and audio-visual aids, and encouraged reflection on clinical practice. Culturally appropriate case scenarios and role-play were a key part of the material, which allowed trainees to put learning into practice. The modified presentation in this cultural context has to be appreciated since religious beliefs and alternative medicines play a key role in patients' and carers' treatment-seeking behaviour. All participants were presented with comprehensive teaching materials prior to the programme, which included lecture slides, role-plays and other relevant material. The programme is outlined in Table 1.

The progress of trainees was evaluated by pre- and post-course multiple-choice questions (MCQs). We assessed the strengths and weaknesses of the course using an evaluation form covering the domains of: relevance to clinical practice, educational needs, quality of teaching and group work. It also included space for other comments and recommendations.

Results

Pre- and post-course MCQ results indicated significant improvement in knowledge (average number of pre-test questions correct was 77% compared with 84% of post-test questions). The most marked improvements were for questions on psychopathology in intellectual disability (23% improvement), communication aids for people with intellectual disability (38%), Down syndrome (20%) and sudden unexplained death in epilepsy (41%).

The course was highly appreciated, averaging satisfaction ratings of 85%, although there were also pragmatic suggestions for improvement. It was considered to be highly relevant to both clinical practice and educational needs (Table 2). The pre-course reading material was highly regarded. Discussions or real cases supported the knowledge-based lectures and reflection on learning was used effectively. Additional topics suggested included counselling parents, sexual relationships and marriage, and childbearing for people with intellectual disability. Social topics such as these could be delivered but would require extensive local input, as the cultural and legal frameworks should

Table 1
The programme

	Day 1	Day 2	Day 3	Day 4	Day 5
09.00	Welcome	Recap	Recap	Recap	Recap
09.15 (45 min)	Pre-test	Mental disorders (MD)/ intellectual disability (ID) overview	Autism spectrum disorders and ID	Epilepsy and ID	A toolkit for health workers in the community
10.15 (35 min)	Introduction to ID	MD/ID continued	Role-play – video	Role-play	Role-play
10.50	*Tea break*	*Tea break*	*Tea break*	*Tea break*	*Tea break*
11.10 (80 min)	Overview of ID	Role-play	ID and problem behaviour (PB)	Sudden unexpected death in epilepsy	*Workshop*: Services for people with ID – the art of the possible
12.30	*Lunch*	*Lunch*	*Lunch*	*Lunch*	*Lunch*
13.15 (150 min)	Communication	ID and dementia	Management of PB	Medication use in ID	Post-test
15.45	Evaluation	Evaluation	Evaluation	Evaluation	Certificates

Table 2
Trainee feedback

	Average score (1 = poor, 5 = excellent)
Relevance to clinical practice	4.68
Relevance to educational needs	4.43
Quality of teaching	4.46
Group work and participation	4.25

be clearly understood. The final day involved work to adapt a local toolkit for the assessment of intellectual disability, and resulted in the development of a forum to move this research forward and to maintain avenues of communication between the trainers and learners.

From a trainer's perspective, the MOMH were dedicated and keen to learn, and consequently participation in role-play and group discussion was good. The language barrier posed a few difficulties, but attention to slow and clear delivery overcame this quickly. Teaching material and delivery of teaching were adapted with the support of psychiatrists with local knowledge of Sri Lanka. A good understanding of cultural aspects and local health systems is essential before embarking on teaching. In particular, role-plays must be pertinent to the local culture and should be developed with a good understanding of available local resources and workforce. The evaluation of trainees was limited to the MCQs, which did not adequately evaluate skills related to clinical practice.

Discussion

Evaluation of the mhGAP-ID course has demonstrated that it is an effective training tool. The course is iterative, with each successive programme improving from lessons learnt from the previous sessions. We are confident about the quality and relevance of training but the programme should now focus on developing a modified mhGAP-ID intervention guide to be used to train the trainers before a full roll-out within Sri Lanka and further. Future training should not only target hospitals and tertiary care centres, but involve cascading to primary care physicians, who manage intellectual disability in the community. This will facilitate early recognition and intervention of health needs within this population. In order to ensure effective delivery of teaching to primary care physicians, the mhGAP-ID programme will need to be adapted and piloted for this group. Programmes should be flexible and adaptable to local circumstances and encourage increased training in rural areas, with an emphasis on community-based treatments, where resources are scarce. Furthermore, the capacity of non-specialists and primary care should be built within these areas through the effective use of mhGAP-ID training resources.

The cultural and legal frameworks of countries should be well understood when adapting modules for other countries, as the management of health problems in intellectual disability raises social and legal issues. Fernando & Weerackody (2009) have posited that imposing models of services based on Western notions inherent in biomedical psychiatry is not the best way forward in Sri Lanka and they underscored the relevance of the cultural and religious perspective as a key to a successful outcome. The mhGAP curriculum and teaching materials originally developed by the WHO and modified for use with people with intellectual disability were consequently further adapted in close collaboration with Sri Lankan colleagues within this context. Similarly, other mhGAP-ID trainers should have a good understanding of the local culture, resources and workforce. This could be ensured through the use of an induction programme, where trainers work with local psychiatrists to adapt materials. Furthermore, delivery methods and the approach to testing the progress of trainees should be informed by methods familiar to the local trainees. It is advisable that role-play exercises be adapted according to the understanding of the local workforce. Although knowledge can be adequately tested through MCQs, practical skills and problem-based approaches require other methods of evaluation (e.g. structured clinical examination).

We hope to follow the success of the mhGAP programme and implement mhGAP-ID in other countries through forums such as the Royal College of Psychiatrists International Links working group on intellectual disability. Combined mhGAP and mhGAP-ID training would allow efficient use of sometimes scarce resources and opportunities.

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RESEARCH PAPER

Acceptability and challenges of implementing the NICE guidelines for schizophrenia in Lagos, Nigeria

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This study aimed to examine the suitability and challenges of implementing in a Nigerian tertiary mental health facility the guidelines for the management of schizophrenia produced by the UK National Institute for Health and Care Excellence (NICE). The study was based on a group discussion at the Psychiatric Hospital, Yaba, Lagos. A panel of ten individuals (consultants, senior registrars, senior psychologists and senior social workers and nurses) discussed the guidelines, having been given ample time to study the document. Five patients were also interviewed. Some of the recommendations of the NICE guidelines are already being practised in the hospital to various extents. Full implementation would be hampered by a shortage of human resources and financial constraints. The guidelines need to factor in sociocultural differences. The NICE guidelines with modifications are suitable for use in a Nigerian setting.

Clinical guidelines aim to assist health workers and service users in making effective decisions about the management of specific clinical conditions. They strive to implement available evidence and bridge the gap between research and practice (Gray, 2005). Ample evidence exists about the usefulness of guidelines. Grimshaw & Russell (1993) did a systematic review of 59 published evaluations of clinical guidelines, of which 55 detected significant improvement in the process of care after the guidelines were introduced.

The guidelines for schizophrenia produced by the National Institute for Health and Care Excellence (NICE; formerly the National Institute for Clinical Excellence) were developed through collaboration between professionals, service users and carers (NICE, 2002, 2009). They address major treatments and services for people with schizophrenia, are evidence-based and each recommendation is graded according to level of evidence (Gray, 2005). The guidelines divide the treatment and management of schizophrenia into three phases: initiation of treatment of the first episode; acute phase; and promotion of recovery. They recommend collaboration with service users and carers in each phase. The use of care notes and care plans is also encouraged. Crisis resolution, home-treatment teams, early-intervention teams, community mental health teams and acute day hospitals are recommended, with in-patient treatment if necessary. The treatment package

also includes comprehensive needs assessment, cognitive–behavioural therapy (CBT) and family interventions.

With respect to medication, atypical antipsychotics are preferred, although the revised version calls for a balance of cost and benefit. Depots should be considered for non-adherent users, and clozapine should be introduced only after a trial of two different antipsychotics (including one atypical).

Rowlands (2004) evaluated the challenges of implementing the NICE guidelines at the individual and organisational level. He identified the key issues in implementation as dissemination, ownership, barriers to change and sustainability. The resource implications, even in an affluent society, can be enormous. In low-income countries like Nigeria, home-grown guidelines are scarce, with the result that guidelines either do not exist or are imported. This study examined the acceptability and challenges of implementing practice guidelines, using the specific example of the NICE guidelines for schizophrenia.

Method

The study was conducted at the Psychiatric Hospital, Yaba, Lagos, Nigeria. In a group discussion with dual moderators, ten members of staff (consultants, senior registrars, senior psychologists and senior social workers and nurses) evaluated the NICE guidelines for schizophrenia, after studying the document (copies of which were made available to each discussant). The discussion session was recorded on tape and subsequently transcribed. Questions for discussion were selected by the group to cover the various aspects of the guidelines. Ethical approval was obtained from the hospital's ethics and research committee. Analysis of the transcribed text was done using NVIVO for qualitative research (version 8).

After the discussion, five patients on admission with a diagnosis of schizophrenia were interviewed to obtain their perspective on various aspects of the guidelines.

Results

The discussants were unanimous about the need for practice guidelines in the hospital. These, they pointed out, would help to harmonise and standardise practice. A collaborative approach to management, as recommended by NICE, was adjudged desirable in achieving the overall goal of quality patient care. Care notes and care plans were also deemed beneficial.

They observed that atypical antipsychotic medication had become more accessible in view of the new generic brands. For those who cannot access them, it may still be necessary to rely on conventional antipsychotics.

The major identified barrier to a community-based approach was the shortage of human resources. Suggestions included outreach teams and staff training in community mental health services. Nurses and social workers could be engaged in doing an initial needs assessment, after which the whole team could deliver outreach and community services. Primary health centres could provide platforms for community intervention.

Cognitive–behavioural therapy and family interventions targeted at relapse prevention, reduction of symptoms, improvement in insight and promotion of medication adherence were considered vital. A barrier to this may again be the shortage of trained staff. Statements which summarised the opinion of the discussants include 'We should look at the illness itself and also the manpower' and 'We must tailor what comes from abroad to suit our purpose'.

The discussants unanimously voted for adoption of the NICE guidelines by the hospital. It was pointed out, however, that modifications would need to be made. Other guidelines may also need to be consulted in fashioning a document for use in the hospital.

While some interviewed patients felt the choice of atypical antipsychotics could not be so easily made due to cost, a couple stated that they were comfortable with whatever the doctor prescribed. One of the patients responded that the guidelines were 'a good way of taking care of us'.

Discussion

This study addresses the feasibility of implementing management guidelines in a resource-constrained setting like Nigeria, using the NICE guidelines for schizophrenia as an example. The cost implications of managing schizophrenia in a low-income country like Nigeria can be quite enormous (Suleiman *et al*, 1997), bearing in mind that a large proportion of the populace live below the poverty line. The inadequacy or outright unavailability of social support systems such as welfare and disability benefits and unemployment benefits means that many patients cannot access proper healthcare. While some early studies highlighted the possibility of good outcomes in Nigerian patients with schizophrenia compared with those in high-income countries, others have disputed this claim (Gureje & Bamidele, 1994).

The human resource challenge of managing schizophrenia in line with guidelines such as NICE's can be enormous. Whereas community management is preferred, there are often barely enough workers to cater to the hospital in-patient population, leaving very few to attend to patients at home or in the community. Treatment modalities such as psychotherapy are often not administered or inadequately administered due to the pressure on the few sufficiently trained personnel.

The importance of the cultural milieu and the need to adapt guidelines and interventions to suit the particularities of the given culture were also highlighted. These include positive ones such as the extended family system and negative ones like a widespread attribution of mental illness to spiritual causes and the tendency to seek unorthodox care. With specific reference to the cultural adaptability of CBT, a randomised controlled trial involving

patients with schizophrenia from ethnic minorities in the UK revealed that those who participated in a culturally adapted form of CBT for psychosis achieved significantly better results than those who received treatment as usual, with some gains maintained at follow-up (Rathod *et al*, 2013). High levels of satisfaction were also reported. A preliminary evaluation from Pakistan (Habib *et al*, 2014) also reported that culturally adapted CBT was effective in reducing symptoms of psychosis and in improving insight in in-patient settings.

Another key area of adaptability is the use of medication. In keeping with recent research, the NICE guidelines have been revised to better accommodate conventional antipsychotics. While atypical antipsychotics are the preferred option in most high-income countries, a robust body of research has examined the efficacy and side-effect profile of conventional versus atypical antipsychotics; the conclusion is that, with clozapine as a notable exception, the cost of atypical antipsychotics is often unjustified (Bruijnzeel *et al*, 2014).

Conclusion

The NICE guidelines are a useful template for care in Nigeria. Constraints to full implementation include human resources and cost. The guidelines need to factor in sociocultural differences. With modifications, they are suitable for use in Nigeria.

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RESEARCH PAPER

Mental health research in the Arab world: an update

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Publications on mental health were collected using PubMed and PsychINFO for 21 Arab countries. The data were then categorised according to the first author's country of affiliation, the year of publication, the topic of research and the type of journal. In 2006–12, the Arab world published 1029 articles (an average of 147 per year). The estimated increase in yearly productivity during this period was about 25% over the 7 preceding years. When considering the research output per million population, Kuwait, Bahrain and Lebanon were the top three producers, as they had been over the preceding four decades. After adjusting for gross domestic product (GDP) per capita, the five top producers were Egypt, Jordan, Tunisia, Lebanon and Morocco. Based on child and adolescent mental health research only, the Arab world's productivity was around one-sixth that of the United States and Europe.

Mental disorders are significant contributors to the burden of disease in the Arab region (World Health Organization, 2008). Mental health research sheds light on local data such as the prevalence of disorders and the extent and modalities of treatments, which are crucial in planning national policies.

In a previous study, we identified 2213 published articles related to mental health from the Arab region over four decades (1966–2005) (Jaalouk *et al*, 2012). We estimated that Arab countries produce around one-sixth of the global output of mental health research, an amount comparable to Latin America and Caribbean countries (Saxena *et al*, 2006). That output had been growing fast: in the last decade of the study period (1996–2005), Arab countries produced eight times more publications than their average for 1966–75 and 1976–85 and double that for 1986–95. This productivity varied widely and when publications were calculated per million population, the top publishing countries

for the four decades were Kuwait, Bahrain and Lebanon (Jaalouk *et al*, 2012).

This study aims to update these results by studying Arab countries' output of mental health research to 2012. This is important since trends might be changing with the rapidly increasing wealth of many Arab countries, the creation of new universities and the clear willingness of many to pull their communities into the scientific mainstream.

Method

Publications about mental health originating from the Arab world were identified using PubMed and PsychInfo for the years 2006–12. The search included 21 Arab countries: Algeria, Bahrain, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Palestine (West Bank and Gaza), Qatar, Saudi Arabia, Sudan, Syria, Tunisia, United Arab Emirates (UAE), Yemen, Mauritania, Djibouti and Somalia. Publications were also categorised by region: Arab, Middle East and Gulf.

The publications were coded according to: year of publication, type of journal (local/regional versus international), topics covered and the first author's country of affiliation. Articles were categorised as 'specific' if the first author was affiliated to an Arab county or 'non-specific' when the first author was not.

As the previous study covering the four decades 1966–2005 (Jaalouk *et al*, 2012), the main indicators derived for each country included: mean number of publications per year, and number of publications per million population per year. Results were then compared across decades. Additionally, we calculated the number of articles per US$10 billion gross domestic product (GDP) and US$1000 GDP per capita. The population size, GDP and GDP per capita figures used in our calculations were derived from the year 2010 (United Nations, 2010; World Bank, 2010a, 2010b).

Results

The total number of mental health publications in the Arab world in the period 2006–12 was 1029 (an average of 147 per year); 80.1% of them were categorised as specific. The five countries with the most publications per year were: Egypt, 22.4; Lebanon, 15.1; Tunisia, 14.7; Kuwait, 11.7; and Saudi Arabia, 10.9. The other Arab countries had fewer than 10 publications per year, ranging from 9.4 in Jordan to 0 in Djibouti and Mauritania (Fig. 1).

When studying the number of publications per million population per year, the top five producers in the period 2006–12 were: Kuwait, 4.3; Lebanon, 3.6; Bahrain and Oman, 2.1; and Jordan, 1.5. The range for other countries was 1.4 in Tunisia to 0 in Djibouti and Mauritania (Fig. 2).

Looking at the number of articles published per US$10 billion GDP, the top five producers in the Arab world were: Lebanon, 28.6; Jordan, 25.0; Tunisia, 23.2; Egypt, 7.2; and Bahrain, 7.0. The range for the other countries was 6.8 in Kuwait to 0 in Djibouti and Mauritania (data available upon request).

Looking at the number of articles published per $US1000 GDP per capita, the top five producers in the Arab world were: Egypt, 24.6; Jordan, 11.3; Tunisia, 10.9; Lebanon, 7.8; and Morocco, 7.4. The range for the other countries was 6.9 in Iraq to 0 in Djibouti and Mauritania (Fig. 3).

During the period 2006–12, 78.9% of the 'specific' articles were published in more than 300 international journals and the remaining 21.1% in regional or local journals. Most of the 'non-specific' articles (92.2%) were published in international journals. The topics covered by the 'specific' publications were diverse. Most addressed particular mental disorders: mood disorders (16.8% of all country-specific articles), anxiety disorders (12.9%), psychotic disorders (10.3%), substance use disorders (7.5%), autism disorders (5.8%), attention-deficit hyperactivity disorder (3.4%), dementia (3.2%), intellectual disability (2.1%), sleep disorders (2.1%) and eating disorders (1.6%). Other topics covered include: psychometric properties of instruments (6.2%), culture and the effect of war on mental health (5.8% and 4.1%, respectively), genetic studies on mental disorders (3.5%), pharmacological studies (3.3%), mental health services (3.0%), suicide (2.9%), the abuse of children (1.6%) or women (1.6%) and temperament (1.6%).

Discussion

As in previous decades, Arab countries showed wide variation in mental health research productivity. Reassuringly, the increase that started since the first year of our surveillance of this subject (1966) is ongoing: the estimated increase in yearly productivity during the 2006–12 period is on average about 25% over the immediately preceding 7 years. Some countries have shown more robust growth – Tunisia almost triple and Egypt and Lebanon almost double – while others showed modest increases (Iraq, Algeria, Qatar, Oman and Jordan). There was a probable decline for others (Kuwait, Saudi Arabia and the UAE).

When considering output of research per million population, Kuwait, Bahrain and Lebanon are still the top three producers, as in the preceding four decades.

A search of the literature could not identify a study on the global output of mental health research during the period 2006–12. This was confirmed upon communication with academics interested in this topic. However, we found a study which focused on publications on mental health related to children and adolescents. Between 2005 and 2010, European countries and the USA published 2052 and 873 articles respectively on this topic (Albayrak *et al*, 2012). In comparison, our data showed that Arab countries produced 238 articles on the mental health of children and adolescents between 2006 and 2012. Europe and the USA produced 0.56 and 0.57 publications/million population/year respectively, whereas the

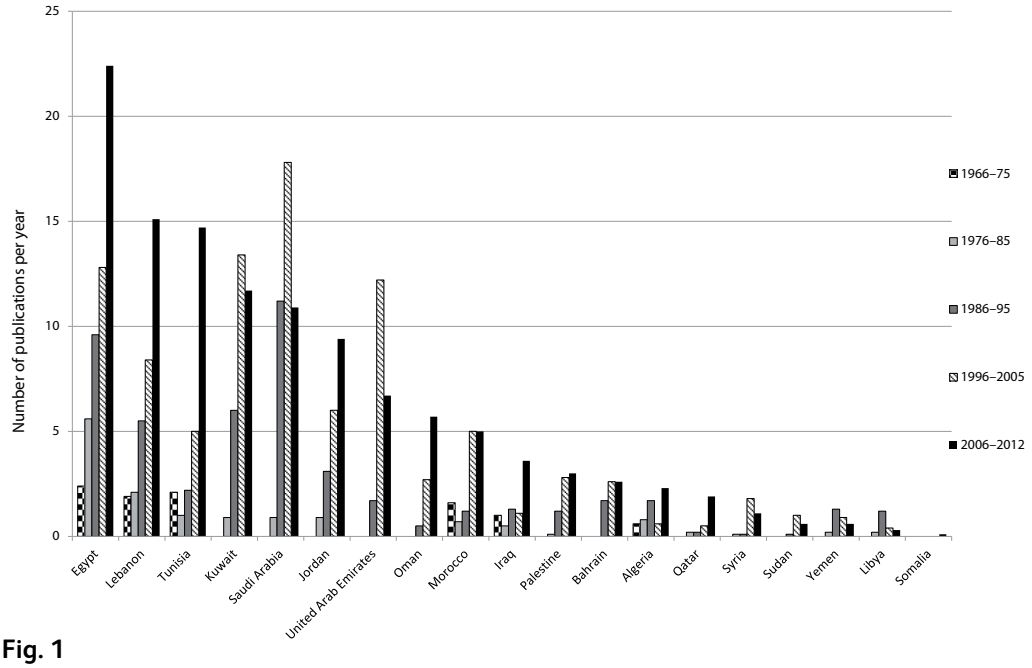

Fig. 1
Number of country-specific publications per year across different time periods

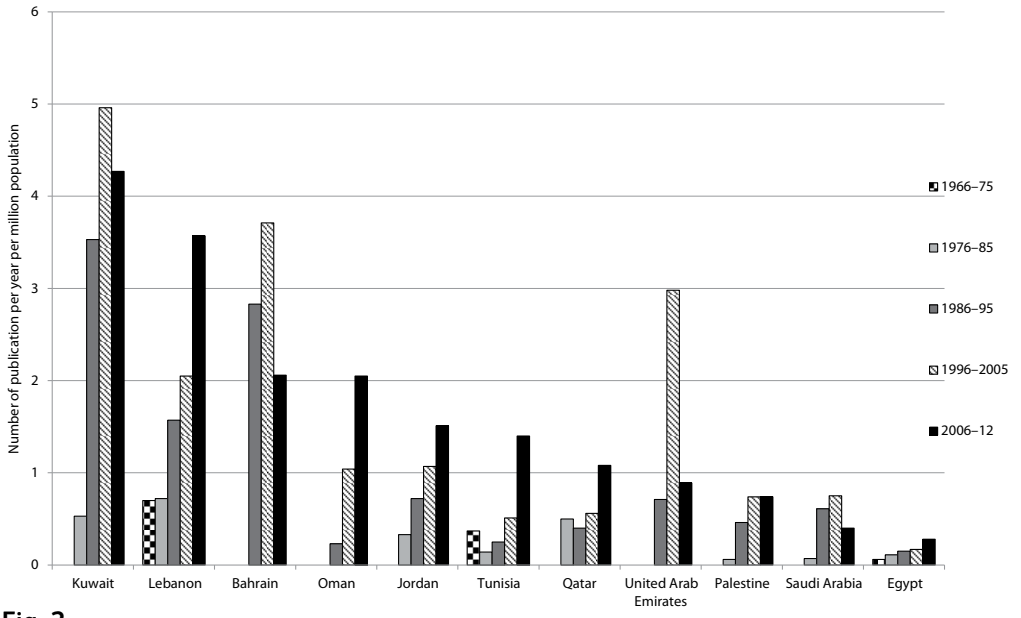

Fig. 2
Number of country-specific publications per million population per year (for the top 11 producers over 2006–12)

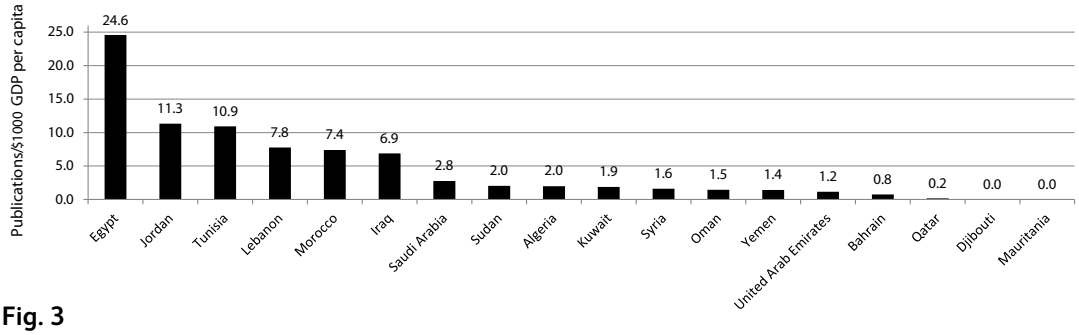

Fig. 3
Number of articles per US$1000 GDP per capita for the years 2006–12 (no data on GDP per capita were documented for Libya, Palestine and Somalia)

Arab world produced 0.09 publications per million population per year (around one-sixth of that of the European and US output). The numbers of articles per US$1000 GDP per capita per year were 136, 35 and 10 articles for Europe, the USA and the Arab world, respectively. Hence, the Arab world produced around 7% of the European output and around 30% that of the USA. As such, research on child and adolescent mental health is possibly an indirect reflection of research on other mental health topics.

We calculated, for the first time, the number of articles per US$10 billion GDP and per US$1000 GDP per capita (this was not done in our previous studies). When adjusting for these indicators, which are markers of the country's economic performance, the top producers are Egypt, Jordan, Tunisia, Lebanon and Morocco.

This study showed, too, that the percentage of 'specific' articles published from the Arab world in peer-reviewed international journals increased from 67% in 1996–2005 to 78.9% in 2006–12, signifying the greater recognition and openness of the international community to Arab research. This may also represent increased efforts on behalf of Arab researchers to publish in international journals for greater recognition.

In an effort to compare Arab research priorities with those of other regions, researchers were surveyed from low- and middle-income countries (African $n = 52$, American $n = 30$ and Asian countries $n = 32$ excluding the Middle East) regarding their opinion on mental health priorities. The highest-ranked priorities for research were: (1) depression/anxiety, (2) substance use and (3) psychoses. While Arab researchers were not part of this study, the priorities of the published research mirror the main topics of interest found in our study, with mood, anxiety and psychoses ranking among the top subjects (Sharan *et al*, 2009).

The results of this study should be interpreted in view of the following limitations. First, some studies may not have been caught in our search, yet the figures are surely indicative of trends in mental health research. Second, the estimates of population size, GDP and GDP per capita used for our calculations derive from 2010. This may have introduced some bias in our results due to the possible unequal increases in these indicators over the years.

Some additional remarks might be warranted. First, the Arab region is still deficient in nationally representative studies on mental illnesses, a requirement for cross-national comparisons: the countries that have such data are Lebanon, Iraq and Morocco. Second, genetic research is still lacking, although this part of the world could offer opportunities because of a higher rate of consanguineous marriages. Third, academics working in medical fields within the Arab world are mostly compensated for teaching and clinical work, and have limited funding for research. This could be improved with the increased commitment of Arab governments and stakeholders.

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