

Article

A primary mental health programme in Eastern Province, Saudi Arabia, 2003–2013

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ABSTRACT

Background Globally, mental health problems are increasing. The Ministry of Health in the Eastern Province of Saudi Arabia (SA) has established a Primary Mental Health Care (PMHC) programme to meet the increasing demand of mental health problems in the community, and to act as a model for integrating mental health with primary care.

Objective The survey aimed to explore the outcomes of follow-ups to patients seeking care at PMHC programme clinics in the Eastern Province of SA.

Design and setting We conducted a retrospective chart review of three PMHC centres located in Dammam, Al Khobar and Qateef regions of the Eastern Province since their establishment in 2003. ICD-10 code was used to diagnose the

common mental health problems. Follow-ups of these patients were analysed to see the pattern and outcome of mental health management at primary care level. Outcome was determined for frequency of diagnosis, type of diagnosis, follow-up rate and response to treatment. A chi-square test was used to compare socio-demographic variables in patients' outcome with statistical significance at P -value = 0.05.

Results There were a total of 3,548 patients, with a mean age of 20.06 ± 15.8 and females being high in proportion (53.2%). The gender difference was obvious for prevalence of mental illnesses at different age groups: 43.2% of male patients were between 1–18 year ($P < 0.0001$), and 34.5% of female patients were between 30–50 years ($P < 0.001$). Other significant demographics were single males,

students, housewives and elementary school children. The most common diagnosis was anxiety (30.2%) with its different types, followed by depression (23.3%). The follow-up of patients revealed that 47.3% improved, 28.2% were in remission, and only 1.2% did not respond. Some 0.5% were lost to the follow-up, and 4.8% were referred to psychiatric hospital. Diabetes and hypertension were prevalent among depressed patients, while gastrointestinal complaints were common among patients with anxiety ($P < 0.001$).

Conclusion: Our results indicate that the integration of mental health services in primary health care is quite successful in achieving targeted outcomes. This effect can boost the confidence of stakeholders to make mental services available at community level with its comprehensive, continuous care in primary health care centres all over the country.

Key words: primary mental health programme, mental health training, primary health care, Saudi Arabia

Introduction

Mental health burden

Mental health problems are very common in primary care and up to 60% of patients presenting in primary care have mental health problems. Many mental health patients in primary care are undetected, which therefore leads to a treatment gap.¹ Because of this, WHO and Wonca urge countries and service providers to increase mental service support by providing an effective intervention that will support early recognition and management of mental health problems within primary care settings.² Late recognition of these problems can lead to difficulties in social functioning as well as increase the burden of mental disease, which can be disabling.³ Furthermore, it can also lead to delayed treatment, longer hospital stay and increased cost for care.⁴ Moreover, individuals with these problems reported to have number of potential barriers to care: problems with acceptability, availability, and accessibility.^{5,6} This study highlights on of the initiatives in Saudi Arabia to narrow the science to service gap in Saudi Arabia.

Area of study

This study was conducted in the Eastern Province, the largest province of Saudi Arabia. The province's capital is the city of Dammam, which hosts the majority of the province's population and the province's government. It has an area of 672 522 km² and a population of 4.1 million people according to the 2010 census.

Dammam has 24 primary health centres served by 78 physicians. Qateef has 29 primary health centres; Al Khobar has ten primary health centres served by 26 physicians. There is a psychiatric hospital in Dammam and a psychiatric department at King

Fahad University Hospital in Al Khobar. Both have inpatient and outpatient services. Two other cities in the province have outpatient psychiatric clinics, Qateef and Jubail.

PMHC in Saudi Arabia

The Ministry of Health in Saudi Arabia took initiatives in 1990 to integrate the provision of mental and physical health services within the primary care setting.⁷ The major components of this project were the initiation of mental health training programmes within primary care to support early diagnosis and management. The training covered areas including general psychiatry, child and adolescent psychiatry, and the psychiatry of women.

The evaluation of this project showed that the training was good at improving the doctors' short-term knowledge but failed to translate into tangible patient outcomes.⁸ One possible reason for its failure was that training courses were hospital based training; hence the issue of stigma persisted.

PMHC in Eastern Province

As a result of the failure of this intervention to translate into sustainable patient outcome, the Ministry of Health established a primary mental health programme in Eastern Province in January 2003. The programme aimed to create a sustainable training environment within primary care settings, and to train primary care physicians through continuous interaction with patients, along with support and mentoring from experienced primary care teams.

The programme's primary care teams were multidisciplinary in nature, with staff members in family medicine, psychiatry, psychology, social work and

nursing. There was also a group of trained primary health physicians.

All the trained primary care physicians in this programme received an additional six to nine months of training comprising educational activities pertaining to mental health problems. Additionally, the team members were rotated for three months in the psychiatry departments at King Fahad University Hospital in Al Khober or Alamal Complex of Mental Health in Dammam. This training aimed to enable staff members to identify and treat people with common mental disorders through psychotherapy and medication in an outpatient setting. These departments also act as important referral sources for suspected cases of mental health problems seen by other primary health physicians within the province.

Currently the programme runs mental health services through four primary healthcare centres in the three main cities – Dammam (two centres), Al Khobar and Qateef, which started in 2003, 2006 and 2010 respectively. This programme aimed to integrate mental health within primary health care to provide an easy access to people in need of mental health services, consequently minimising the effect of mental health stigma.

Patients' flow process

When a patient arrives at one of the programme's primary health centre receptions, trained nurses open a file, examine and record the patient's vital signs, and then send the patient to trained primary care physicians, mental health workers or a consultant. In initial assessment they take a detailed history, incorporating bio-psycho-social components, in order to make a proper mental health assessment. After making an initial assessment, the case is further presented and discussed with the primary care team, which includes the social worker, nurses and a psychologist to formulate a management plan and follow-up procedure. Cases of psychotic symptoms or drug addiction are referred to a psychiatrist.

After that, patient will be followed through regular follow-up visits: a second after one or two weeks, a third visit after three or four weeks, and then three to six weeks later, depending on patient response to the management plan. It is expected that by the third visit improvement will be obvious, and that remission will usually be apparent by the fourth visit. If the patient does not respond to the initial plan, they will then be reassessed and re-discussed.

This study's aim

This study focuses on illustrating the frequent diagnosis of mental illness among those attending primary

mental sittings in Eastern Province, SA. It describes the pattern and outcome of mental health management.

Methods

All data used in this study was obtained from the records of mental health clinics in the Dammam, Qateef and Al Khober cities. The PMHC programme's clinics receive patients from all primary care centres in the catchment area.

Data collected included: age, gender, nationality, level of education, marital status, occupation, number of children, diagnosis and duration of mental condition, the number of visits to the mental health clinic, type of management, level of response to management; in addition to presence of physical illness and its diagnosis. The diagnosis is based on ICD-10 classification. The definition of follow-up care consisted of receiving two or more visits to any service sector, because respondents who began management from their first visit may not have had sufficient time to experience the intended effect. Remission is defined as the complete disappearance of symptoms. Improvement was based on the patient's description of partial improvement.

All analysis was performed using IBM SPSS Statistics (version 16). The chi-square test compared categorical age, education, marital status and education with gender, in addition to the type of management and the patient's outcome. A *P*-value of less than 0.05 was the level of significance.

Results

The data of 3548 patients who attend the primary mental health clinics (PMHCs) was collected and included in the analysis; most of them were from Dammam (Table 1).

The mean age of patients was 20.06±15.8. Men and women constituted 46.8% and 53.2%, respectively. Most of them were Saudi: 3408 (96.1%) in comparison with non-Saudi 137 (3.9%). 54.3% of patients were referred by their primary healthcare physicians, and 45.7% were self-referred.

Table 2 displays the demographic characteristics and proportions of mental illness among those attending the PMHC. It was most prevalent in men among the 1–18 years age group (43.1%, *P*<0.0001). Among women, the highest prevalence was observed in the age group of 30–50 years (34.5%, *P*<0.001). Among men, the highest rate of mental illness was

Table 1 Distribution of patients according to the sectors

Sector	Total (%)	No of men (%)	No of women (%)	P
Dammam	2097 (59.1)	1016 (61.1)	1081 (57.3)	0.0001
Khober	790 (22.3)	323 (19.4)	467 (24.8)	
Qateef	661 (18.6)	323 (19.4)	338 (17.9)	
Total	3548	1662 (46.8)	1886 (53.2)	

Table 2 Distribution of mental illness according to demographic data

Age	Total (%)	No of men (%)	No of women (%)	P-value
1-18	1218 (34.3)	716 (43.1)	502 (26.6)	<0.001
19-30	1089 (30.7)	506 (30.5)	583 (30.9)	
30-50	1005 (28.3)	354 (21.3)	651 (34.5)	
51-70	203 (5.7)	71 (4.3)	132 (7.0)	
≥ 70	31 (0.9)	14 (0.8)	17 (0.9)	
Marital status				
Single	1803 (53.4)	1050 (67.6)	753 (41.3)	<0.001
Married	1353 (40.1)	467 (30.1)	886 (48.5)	
Widowed	88 (2.6)	32 (2.1)	102 (5.6)	
Divorced	134 (4.0)	4 (0.3)	84 (4.6)	
Occupation				
Jobless	435 (12.3)	292 (17.6)	143 (7.6)	<0.001
Housewives	921 (26.0)	0	921 (48.8)	
Students	1142 (32.2)	623 (37.5)	519 (27.5)	
Teachers	166 (4.7)	69 (4.2)	97 (5.1)	
Soldiers	154 (4.3)	154 (9.3)	0	
Retired	79 (2.2)	63 (3.8)	16 (0.8)	
Others	651 (18.3)	461 (27.8)	190 (10.0)	
EDUCATION				
Illiterate	499 (16.3)	186 (13.4)	313 (18.8)	<0.001
Primary	925 (30.2)	487 (35.0)	438 (26.3)	
Intermediate	383 (12.5)	185 (13.3)	198 (11.9)	
Secondary	715 (23.4)	288 (20.7)	427 (25.6)	
University	529 (17.3)	244 (17.5)	285 (17.1)	
Higher degree	9 (0.0%)	3 (0.2)	6 (0.4)	

found among single patients (67.6%); in contrast, among women the highest prevalence was in married patients (48.5%, $P<0.001$). Housewives scored higher prevalence of mental illness among females (48.5%), while in the male population prevalence was higher among students (37.5%). Regarding education, high prevalence was observed among elementary schoolchildren of both boys and girls: 35.0% and 26.3% respectively ($P<0.0001$), as shown in Table 2.

Table 3 shows that the most prevalent disorders were anxiety in its various forms (30.2%) and depression (23.3%); the majority of sufferers had a mild moderate level of severity. Psychosis was presented only in 6.5% of all patients; most of them had schizophrenia and mania.

With regards to the sub-classifications of anxiety, the most prevalent variety was generalised anxiety disorder (GAD) at 691 cases (19.7% of the total mental disorder), followed by adjustment disorder

Table 3 Distribution of mental illness in the programme's clinics

Mental illness	Total (%)	No of men (%)	No of women (%)	<i>P</i> value
Depression	826 (23.3)	258 (15.5)	568 (30.1)	<0.001
Anxiety(all types)	1073 (30.2)	421 (25.4)	652 (34.5)	
– GAD*	691 (19.5)	282 (17.0)	409 (21.7)	
– Adjustment disorder	142 (4.0)	33 (2.0)	109 (5.8)	
– OCD**	131 (3.7)	45 (2.7)	86 (4.6)	
– Phobia	109 (3.1)	61 (3.7)	48 (2.5)	
Psychosis	230 (6.5)	137 (8.3)	3 (4.9)	
Somatization	65 (1.8)	27 (1.6)	38 (2.0)	
Personality disorder	97 (2.7)	45 (2.7)	52 (2.8)	
Drug abuse	60 (1.7)	52 (3.1)	8 (0.4)	
ADHD***	219 (6.2)	170 (10.4)	49 (2.6)	
Others	326 (9.2)	158 (9.5)	168 (8.9)	

*GAD= General anxiety disorder, **OCD=obsessive compulsive disorder, ***ADHD=Attention deficient hyperactive disorder

at 142 (4.1%), obsessive compulsive disorder at 131 (3.7%), and then other types of phobia at 109 (3.1%).

Amongst men and women the highest prevalence of mental illness observed was anxiety (25.8% and 34.5% respectively) followed by depression disorder (15.5% and 30.1% respectively), with *P*-value <0.001.

In the case of depression, mean age was 34.7±12.9 years, in comparison with a younger 23.42±15.6 years (*P*<0.001) for other mental illness. It was more prevalent among women (568 cases, 68.8%) and it was most prevalent among married women (496 cases, 61.9%, *P*<0.001).

Among patients aged less than 18 the most prevalent disorders were behavioural disorder (573 cases, 50.6%), attention deficit hyperactivity disorder (ADHD, 215 cases, 19%), GAD (89 cases, 7.9%), depression (40 cases, 3.5%), and autism (31 cases, 2.7%).

Mean duration of illness was 5.3±2.33 years, the mean number of visits was 3.8±4.5 and the median was two visits.

Table 4 shows the mode of response to management in the clinics for patients diagnosed with depression, anxiety and other mental disorders after exclusion of those who made only one visit, which accounts for 1361 (38.4%) of the patients. Overall, it

was found that 47.3% showed improvement, 28.2% were in remission status, and only 1.2% were not responding well to management. Another 0.5% were lost to follow-ups. Some 4.8% of patients were referred to a psychiatric hospital, and most of those were diagnosed with psychosis (6.5%), personality disorder (2.7%), or drug abuse (1.7%).

Table 5 revealed associated chronic disease. There is a significantly higher prevalence of diabetes and hypertension amongst depressed patients in comparison with other mental illnesses, whilst gastrointestinal complaints were more prevalent among patients diagnosed with anxiety (*P*<0.001).

Discussion

This project showed that integration of mental health services within primary health care can be achieved, reflected by a high rate of improvement amongst treated cases. These results are in accordance with the experts' view.¹ These findings can have impacts on healthcare systems in various ways: guiding planners and stakeholders devising plans; decreasing workload of inpatient care; reducing the stigma of seeking care at mental health

Table 4 The way patients respond to management

Variable	No of depression (%)	No of anxiety (%)	No of other mental illness (%)	P
Not respond	9 (1.6)	10 (1.3)	7 (0.9)	<0.001
Need following-up	113 (19.7)	136 (17.3)	145 (17.6)	
Improved	229 (39.8)	317 (17.3)	488 (59.4)	
Remission	209 (36.3)	312 (39.6)	95 (11.6)	
Referral	15 (2.6)	11 (1.4)	79 (9.6)	
Lost follow-up	0 (0.0)	2 (0.3)	8 (1.0)	

Table 5 Association of mental illness with physical disease

Disease	Total (%)	No of Depression (%)	No of anxiety (%)	No of other mental illness (%)	P
DM	96 (3.2)	40 (5.8)	33 (3.6)	23 (1.6)	<0.001
Hypertension	91 (3.0)	33 (4.8)	36 (3.9)	22 (1.6)	<0.001
Asthma	77 (2.6)	13 (1.9)	23 (2.5)	41 (2.9)	0.388
Hypothyroidism	33 (1.1)	9 (1.3)	17 (1.9)	7 (0.5)	0.007
GI	46 (1.5)	13 (1.9)	25 (2.7)	8 (0.6)	<0.001
Epilepsy	34 (1.1)	1 (0.1)	3 (0.3)	30 (2.1)	<0.001
Other disease	213 (7.1)	44 (6.4)	23 (2.5)	110 (7.8)	0.353

hospitals; and making mental health services available within primary care setting.

This project was compared to one compiled dataset from Doncaster and Newham in the UK, which showed that the percentage of self-referred patients in our study was higher (45.7% compared to 8.6%). In contrast, the referral from primary health physicians was lower (54.3% compared to 88.6%) and this could be because in our setting there are no strict limitations to the access of healthcare services.⁹ The highest number of the patients were recorded from Dammam, and this is because it was the first referral centre to be established in the region and, in the earliest stages of the programme, received patients from across Eastern Province, and from other provinces of SA.

Our study into integrated care found that the anxiety and depression were the most common disorders. This distribution of mental health problems is close to already established norms.¹⁰⁻¹² Similarly, the epidemiological data obtained from 27

studies attempting to evaluate the size and consistency of mental disorder prevalence found that the most frequent disorders are anxiety, depressive, somatoform and substance dependence disorders.¹³ In contrast to these frequent disorders, the prevalence of somatisation was very low (1.8%). This could be due to underestimation of medically unexplained symptoms in primary care which could reach from almost half¹⁴ to two-thirds¹⁵ of all reported symptoms. Likewise, about 10% to 15% of these symptoms are found to be caused by organic illnesses examined over a one-year period.¹⁴ Somatisation prevalence is even higher due to psychiatric comorbidity and reaches up to 22.9% and 43.2%.¹⁵ Detection of this problem at the level of primary healthcare can be improved by using scales measuring somatisation, thus improving utilisation of medical visits and cost.^{14,16} Similarly to somatisation, drug abuse prevalence was also lower than internationally expected. This could be due to stigma around drug abuse that may hinder its preva-

lence in a conservative religious culture; it could also be because drug abuse is forbidden by the Islamic religion.

The high response rate in this project is attributable to the use of a comprehensive management plan which included brief psychotherapy, such as short-term cognitive behavioural therapy (CBT), and pharmacotherapy. SSRIs (citalopram and fluoxetine) and tricyclic antidepressant (amitriptyline) were used as first-line treatment options. The high response rate of this management plan treatment reflects the success of this project, which is comparable to similar models.¹⁷ This further confirms that the integration of mental health services is possible within an outpatient/primary healthcare setting.¹⁷

We examined the association of socio-demographic factors. This study could not identify comprehensively the spectrum of socioeconomic statuses of the participants, partly due to limitations of information from the records, which did not meet the anticipated standard criteria for recording. There were inconsistent findings regarding the fact that lower socioeconomic status is associated with not receiving effective care.^{18,19} However, in Saudi Arabia, medical services are available free to the citizens and governmental employees, which could have played a part in decreasing the level of the inequity of care given.

It was found that significantly more younger people were involved than elderly ones, which could be explained by older people's perception of stigmas around mental disorder being greater than among younger people²⁰ and accordingly seeking medical services. Similarly the number of men seeking medical care was established to be less than women,²¹ which suggests a mandated screening strategy could improve detection of mental illness among them.²² It was noted that one of the highest prevalence of those attending health mental clinic was among students, which is established in other literature.^{23–25} This association may help guide the design of future policies and resources, targeting subgroups prone to mental illness for appropriate interventions.

In the area of physical illness (diabetes and hypertension) and its association with mental illness, this study revealed what has been observed in several studies^{26–29} about comorbidity of depression and diabetes mellitus, although the mechanism underlying the relationship is not established.²⁷ However, it is difficult to generalise about it because cases in this data are under-diagnosed in comparison to the population. This can be attributed to having diagnoses based on supplementary questionnaires given to the patients rather than reviewing medical records, due to insufficient electronic recording systems. These systems enable physicians in the sectors access to the patient's full profile, and depend on the facts, either detailed in the referral or those that have

been stated by the patient. The same observation was applied for hypertension.^{30–31}

In the case of anxiety, the data suggests that anxiety disorders and depression, which are associated with diabetes, hypertension, and gastroenterological disorders, were higher than other mental illness. It is therefore suggested that anxiety should be considered conjointly with depression for screening and intervention, particularly in primary care.³²

In this study, mental disorders were assessed based on highly reliable standardised diagnostic interviews conducted by trained clinicians; however, findings from this study suffer from several methodological limitations. The data obtained from records suffers from a limited comprehensive assessment of socioeconomic status; and the diagnosis of physical illness was obtained from the records without ensuring the cut-off point for the diagnosis.

Conclusion

It seems important to note that despite limitations, the integration of mental health services in primary healthcare can be achieved. This illustrates that trained primary health care physicians in a healthy and well-prepared primary healthcare environment can provide effective mental health services. This effect can generate a high perception of its value from the stakeholders, in order to help disseminate those clinics all over the country, to decrease the load on mental health services, and to make mental services available, with its comprehensive, continuous care in primary health care centres.

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