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Effectiveness of a Training Programme for Primary Care Physicians Directed at the Enhancement of their Psychiatric Knowledge in Saudi Arabia

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ABSTRACT Objective: *A substantial number of patients with psychiatric disorders consult primary care physicians for comprehensive health care; however, the diagnosis and effective treatment of psychiatric disorders are deficient in primary health care. The aim of this intervention study is to assess the pre- and post-psychiatric training knowledge of primary care physicians.*

Method: *The setting of this study was Buraidah Mental Health Hospital. The research design consisted of a pre- and post-test comparison of physicians' responses (n = 70) with a control group (n = 40). The instrument includes a Knowledge Test comprised of 50 questions on primary care psychiatry.*

Results: *There were no significant differences between the intervention and control groups with regard to several confounding sociodemographic variables, but physicians' age and duration of medical practice were significantly higher in the control group. There were significant differences between knowledge of intervention and controls prior to psychiatric training and this difference was further highly significant post-psychiatric training. The gain in knowledge of intervention group post-psychiatric training was highly significant as compared to pre-test knowledge but there was no difference in the knowledge of the control group.*

Conclusion: *Psychiatric training courses can enhance physicians' knowledge in clinical psychiatry with possible psychiatric implications, including early diagnosis and better treatment of primary care patients with psychiatric problems.*

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Introduction

Psychiatric training courses tend to affect primary care physicians' knowledge in psychiatry (Mohit *et al.*, 1999; Hodges *et al.*, 2001; Qureshi *et al.*, 2004). Several other factors including sociodemographic, psychography (e.g., various personality types, socio-cultural systems), experiential, and assignment of specific clinical responsibilities could also predict gain both in primary health care (PHC) physicians' knowledge in psychiatry and healthy attitudes towards psychiatry (Wolff *et al.*, 1996; Angermeyer & Matschinger, 1997; Qureshi *et al.*, 2001; Walker & Read, 2003). Notably, a large body of research suggests that PHC doctors need continuing psychiatric training due to multiple reasons, including: WHO has recognized mental health to be one of the components of PHC; PHC physician undergraduate psychiatric training is unfocused; there are rapidly occurring scientific advances influencing psychiatric diagnoses and treatment; the relatively deficient psychiatric diagnostic and therapeutic services at the PHC level; a substantial number of patients with an array of psychiatric disorders, psychopathological subsyndromes, physical co-morbidities, and psychosocial problems (up to 85%) who consult PHC physicians; while doctors diagnose and treat a proportion of PHC patients with psychiatric disorders, approximately 60% of patients remain unidentified, misdiagnosed, and sub-optimally treated in PHC settings; deficient psychiatric services have several adverse effects on the delivery of mental health services to PHC attendees; and, finally, the trained physicians with healthy attitudes towards psychiatry develop strong therapeutic alliances with psychiatric patients, offering comprehensive services with reduced performance anxiety (WHO, 1990; Higgins, 1994; Sim *et al.*, 1996; Van der Pasch & Verhaak, 1998; Pini *et al.*, 1999; Rubin & Zorumski 2003; Claassen & Kruger, 2005; Levav *et al.*, 2005). Additionally, for PHC physicians, patients with medically unexplained symptoms, co-morbid physical diseases, and multiple drug abuse pose diagnostic and treatment difficulties at consultation (Reid *et al.*, 2001). Therefore, PHC physicians require specific psychiatric competencies through training for dealing with psychiatric patients with potentially complex biological and psychosocial problems.

Research aims

This intervention study aims at assessing PHC physicians' pre- and post-training responses on a psychiatric Knowledge Test (KT), with comparisons made to a control group. We hypothesized that a three-day psychiatric course would considerably enhance PHC physician knowledge in psychiatry.

Material and Method

Sample Selection and Training Course

Seventy PHC physicians working at different PHC centers in the Al-Qassim region were included in this study. There were three psychiatric training courses each year with the purpose of “integrating psychiatry into primary care” – a project started in 1995. Each course was attended by 20–25 PHC physicians. These physicians were selected by a coordinator of this project in such a way that the delivery of PHC services were not compromised; physicians previously exposed to psychiatric training were not invited to participate. A total of 40 PHC physicians who were never exposed to psychiatric training were selected as a control group for completing KT twice within a three day interval. The present study focuses on those PHC physicians who participated in three psychiatric training courses during the year 2003.

Only the intervention group was given a three-day condensed course in psychiatry covering several topics of PHC relevance, including rationale of integration of mental health into psychiatry, somatoform disorders, anxiety disorders, mood disorders, substance use disorders, schizophrenia, attention deficit hyperactivity disorders, childhood enuresis, counseling, and referral systems. Seven consultants who had extensive clinical experience in psychiatry and medical education adopted different teaching models (Qureshi *et al.*, 1999) for imparting relevant information to the trainees – who were encouraged to interact throughout the training course. The several methods of learning included problem-based tasks, group discussions, interactive lectures and handouts, seminars, skills workshops, self-learning-library, individual work and the internet, field visits, role play, and practical case discussion. For training courses, the authors adopted group discussions, interactive lectures, role play, case vignettes, and practical case demonstrations because these modules provide relatively more effective learning opportunities both for the trainees and the trainers. The trainees were allowed to interrupt the trainers for clarifying any unclear information and, moreover, they were also given ample time, post-lecture, for detailed open discussion. Each interactive lecture lasted for one to two hours. Above all, six clinical cases were presented to the trainees for intensive discussion on the last day of each course. A Training Manual, including questionnaire, is available from the authors upon request.

Instrument

The Al-Qassim Psychiatric Knowledge Test and Attitude Questionnaire has three sections, of which two sections were used.

Section 1 contains 16 sociodemographic and experiential variables: (1) age; (2) gender; (3) marital status; (4) nationality; (5) MBBS – and which country; (6) post-graduate qualification; (7) psychiatric training; (8) duration of medical practice; (9) personal psychiatric problems; (10) family history of psychiatric problems; (11) confidence dealing with psychiatric problems; (12) contact with

psychiatric patients; (13) number of patients seen within the past six months; (14) psychiatric help offered; (15) type of help offered; and (16) willingness for psychiatric training.

Section 2 consists of the KT, which included 50-multiple choice questions with four alternatives meant for tapping the knowledge of the trainees in six domains: organic and substance use disorders; schizophrenia; depression; anxiety; somatoform; and childhood disorder. Two examples of the questions are: (1) "atypical antipsychotics include all except one: (a) clozapine, (b) risperidone, (c) olanzapine, (d) haloperidol" and (2) "the treatment of depression includes all the following except one: (a) antidepressants, (b) lithium, (c) electroconvulsive therapy, (d) diazepam". As in other recognized surveys (Sriram *et al.*, 1990), a clinical vignette was used for each domain, except for childhood disorder. Questions answered wrongly were scored 0 whereas questions answered correctly were scored 1. The range of the scores on the KT is 0 to 50. Notably, in a pilot testing exercise that recruited 60 subjects (half of them were psychiatrically informed), the revealed reliability of KT was acceptably good (Chronbach's $\alpha = .84$).

Statistical Analysis

Several statistical tests including frequency distribution, descriptive, paired *t*-test, and Chi square test were used for analyzing the data.

Results

The trainee and control group mean ages (range 27–63 versus 30–63, respectively) were 40.79 and 45.70, with a standard deviation of 6.98 for each group. There were 17 female trainees (24.3%) while the control group had eight females (20%). Other sociodemographic and experiential variables are presented in Table 1. A *t*-test analysis of continuous variables and Chi-square analysis of categorical characteristics revealed no significant sociodemographic differences between the intervention and control groups ($p > 0.05$), except the control group was significantly older (40.79 ± 6.98 versus 45.7 ± 6.98 , $p = 0.0006$) and had been in practice longer (3.31 ± 0.96 versus 3.68 ± 0.73 , $p = 0.04$) – see Table 1).

A comparison between the means in pre-test knowledge of the intervention and control groups revealed a significant difference ($p = 0.01$), with the control group scoring lower. However, assessment at post-training showed a considerably higher gain in knowledge in the intervention group ($p = 0.001$). Paired sample statistics, run for pre- and post-psychiatric training knowledge mean scores of the intervention group also revealed a highly significant gain in knowledge ($p < 0.001$). There was no significant difference between pre- and post-training knowledge mean scores of the control group ($p = 0.89$) – see Table 2.

Table 1. Sociodemographic characteristics of the trainee ($n=70$) and control ($n=40$) groups

	Trainee	Control
Age*	40.79 ± 6.98	45.7 ± 6.98
Duration of practice**	3.31 ± 0.96	3.68 ± 0.73
Sex		
Male	53 (75.7)	32 (80.0)
Marital status		
Married	68 (97.1)	40 (100.0)
Single	2 (02.9)	–
Nationality***		
Non-Saudi	29 (41.4)	10 (25.0)
Arab-World	41 (58.6)	30 (75.0)
MBBS from		
Non-Arab World	26 (37.1)	10 (25.0)
Arab World	44 (62.9)	30 (75.0)
Postgraduate qualification		
Diploma	21 (30.0)	5 (12.5)
MS/MD	7 (10.0)	9 (22.5)
Other	5 (7.1)	1 (2.5)
No	37 (52.9)	25 (62.5)
Psychiatric training		
Yes	16 (22.9)	9 (22.5)
No	54 (77.1)	31 (77.5)
Medical practice		
< 5 years	5 (7.1)	1 (2.5)
5–9 years	9 (12.9)	3 (7.5)
10–14 years	15 (21.4)	4 (10.0)
> 14 years	41 (58.6)	32 (80.0)
Personal psychiatric problem		
Yes	10 (14.3)	7 (17.5)
No	60 (85.7)	33 (82.5)
Family psychiatric problem		
Yes	12 (17.1)	6 (15.0)
No	58 (82.9)	34 (85.0)
Confidence dealing with psychiatric problems		
Not at all	3 (4.3)	2 (5.0)
A little bit	23 (32.9)	12 (30.0)
Moderately	24 (34.3)	16 (40.0)
Quite a bit	11 (15.7)	7 (17.5)
Extremely	9 (12.9)	3 (7.5)
Contact with psychiatric patients		
Yes	51 (72.9)	30 (75.0)
No	19 (27.1)	10 (25.0)
Number of psychiatric patients seen within the past 6 months		
< 24	49 (70.0)	26 (65.0)
25–50 and more	2 (02.9)	5 (12.5)
0	19 (27.1)	9 (22.5)

(continued overleaf)

Table 1. (Continued)

	Trainee	Control
Psychiatric help offered		
Not at all	19 (27.1)	8 (20.0)
A little	15 (21.4)	11 (27.5)
Some	24 (34.3)	15 (37.5)
A lot	12 (17.1)	6 (15.0)
Type of help offered		
Counseling	24 (34.3)	11 (27.5)
Medications	2 (02.9)	–
Family/friend support	9 (12.9)	6 (15.0)
Referral to psychiatric clinics	16 (22.9)	15 (37.5)
Don't know	19 (27.1)	8 (20.0)
Willingness for psychiatric training		
Strongly willing	36 (51.4)	21 (52.5)
Willing	30 (42.9)	16 (40.0)
Unwilling	1 (01.4)	2 (5.0)
Don't know	3 (04.3)	1 (2.5)

* $p = 0.006$. ** $p = 0.040$. ***All PHC physician trainees were non-Saudis (mostly Asians).

Table 2. Effect of psychiatric training on physicians' knowledge

	Group Knowledge		<i>t</i>	df	<i>p</i>
	Pre	Post			
Intervention	27.64 ± 8.6	39.5 ± 8.21	– 9.54	69	<0.001
Control	23.95 ± 4.13	24.1 ± 3.89	– 0.17	39	0.89
	<i>t</i> = 2.54, df = 108, <i>p</i> = 0.01		<i>t</i> = 11.15, df = 108, <i>p</i> < 0.001		

Discussion

A three-day structured psychiatric training course was found to improve PHC physicians' psychiatric knowledge – a finding that is congruous with other studies (Hodges *et al.*, 2001; Al-Khathami *et al.*, 2003; Levav *et al.*, 2005). Notably, the pre-training knowledge of physicians in the intervention group was significantly higher than the control group, which could possibly be attributed to the programme coordinator's selection bias – i.e., more likely selecting physicians already having keen interest and good knowledge in psychiatry as well as other factors like nationality. However, the type of clinical experience and exposure to psychiatric training could explain the differences in the knowledge domain. Notably, the higher age and longer duration of medical

practice of physicians in the control group did not influence overall observed knowledge. An important issue is persistence and application of knowledge gains. In one study, it was found that immediate gains in knowledge and skills persist over time (Bowman *et al.*, 1992) and may even increase with time. On the contrary, King and colleagues (2002) found, after six months, ineffectiveness of teaching GPs' skills related to brief cognitive behavior therapy in the treatment of patients with depression. In some cases, investigators observed gain in trained physicians' skills of managing depression, but this had little or no impact on the health of depressed patients or the delivery of health services (Gask *et al.*, 2004; Levav *et al.*, 2005).

The present study has some limitations including: non-randomization of sample; no validation of the questionnaire though it was designed after reviewing international literature on multiple choice questions and attitudes; and post-training immediate assessment of knowledge of physicians. In future studies, there should be more evaluations of trained PHC physicians' knowledge at later intervals. Furthermore, the impact of gain in knowledge on PHC physicians' clinical practice needs to be studied.

In summary, the psychiatric training course enhanced PHC physicians' psychiatric knowledge. Psychiatric training courses should continue with the goal of providing better care to PHC patients with multiple psychiatric problems. This will result in, among other outcomes, physicians better recognizing and referring more patients with severe psychiatric disorders to the secondary care level and increased rates of consulting psychiatrists on the telephone for diagnosing and delivering counseling services to patients with simple psychosocial problems.

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