

## Evaluation of a Mental Health Training Course for Primary Health Care Workers in Ogun State, South West, Nigeria

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### Abstract

**Objective:** One of the major challenges of successful integration of mental health into Primary Health Care (PHC) is the lack of adequate knowledge and skills for mental health service delivery by PHC workers in the community. This study is undertaken to evaluate the effectiveness of a mental health training course on the knowledge and mental health practice of PHC workers participating in the Aro Primary Care Mental Health Programme (APCMHP) for Ogun State, Nigeria.

**Method:** We conducted a quasi-experimental study on eighty (80) PHC workers with a training course locally developed from the WHO mhGAP intervention guide (2010). The course was aimed at improving diagnosis and management of five priority conditions: Psychosis, Depression, Alcohol & Substance abuse, Epilepsy and Other Significant Emotional Complaints (OSEC). Data was collected on socio-demographic characteristics, health practice experience, knowledge and skills to diagnose and treat mental health case vignettes before and after a three day training course.

**Results:** Of the 80 PHC workers, 90.0% were females and 87.5% of them were nurses. Post-training rate of accurate diagnosis by the PHC workers significantly improved by 12.5% for psychosis ( $p=0.018$ ), 12.5% for substance abuse ( $p=0.018$ ), 30.0% for OSEC ( $p=0.001$ ) while the mean scores for appropriate intervention improved by 114.0% for psychosis ( $p=0.001$ ), 109.3% for depression ( $p=0.001$ ), 77.9% for substance abuse ( $p=0.001$ ), 102.7% for epilepsy ( $p=0.001$ ) and 91.9% for OSEC ( $p=0.001$ ). A total of 473 patients were treated in the communities within a period of 12 months.

**Conclusion:** This study shows that mental health training course for PHC workers resulted in improved knowledge and expected mental health practice with greater effect on case management than case recognition. Mental health training of PHC workers is essential for reducing the mental health service gap in Nigeria.

**Keywords:** Mental health training; Primary health care workers; Ogunstate; Nigeria

### Introduction

Over the last two decades, several initiatives have been undertaken to improve mental health service in low-income rural areas in developing countries [1].

Almost 20 million Nigerians are living with one form of mental disorder, but among those people, less than 10% receive any form of treatment and less than 1% receives specialist mental health care [2]. In Nigeria, the disabilities resulting from mental disorders are enormous with a great burden of care on the patients, caregivers and society in general [3].

Psychiatrists are scarce resource in Nigeria: there are 130 psychiatrists to a population of over 140 million yielding a ratio of 1 psychiatrist to 1.1 million people [4]. Most of the psychiatrists are concentrated in the large cities, and consequently over 75% of

Nigerians have no access to mental health services as they live in rural and peri-rural areas [5].

The World Health Report recommended the provision of management and treatment of mental disorders in primary health care in developing countries with shortage of mental health professionals [6]. Integration of mental health care into primary care enables the largest number of people to gain faster and easier access to mental health care services [7], and can reduce stigma, improve social integration and improve human resources for mental services [8].

As long ago as 1989, the National Health Ministry of Nigeria adopted mental health as the ninth component of Primary Health Care (PHC), however, this is yet to be fully integrated into PHC Services [5,9,10].

One of the major obstacles to the integration of mental health care is that most PHC workers have minimal mental education which is insufficient for effective mental health service delivery [6,11,12]. Studies among PHC workers in Nigeria showed that most of them were poorly enlightened about mental health principles, had poor knowledge and exhibited negative attitudes towards the mentally ill

persons [13-16]. In a study at primary care level in a community in Kwara State, Nigeria, the prevalence of psychiatric disorder was 21.3% and PHC workers were only able to detect 13.8% of the psychiatric cases identified in the study population [15].

Mental health training of PHC workers has been shown to improve their knowledge and skills for mental health service delivery [17-21].

## Aim and Objectives

The training course was purposely developed for Aro Primary Care Mental Health Programme with the goal of equipping PHC workers with knowledge and skills to provide essential mental health service under on-going support and supervision at 40 selected PHC centers in Ogun state, Nigeria.

This paper reports on the effectiveness of the training course on the diagnostic accuracy and treatment plans of the 80 PHC workers.

The null hypothesis was that there is no significant difference in the ability of PHC workers to make accurate diagnosis, and to list appropriate treatment recommendations for mental health conditions before and after training.

## Methods

### Training setting

Ogun State is located in the south-west of Nigeria with a total land area of 16,409.26 square kilometers and a population of over 3.7 million (National Census, 2006). It comprises of 20 local government areas, grouped into four zones: Egba, Yewa, Remo and Ijebu with five local government areas in each zone. There are more than 300 PHC facilities in Ogun State, with primary care manpower ranging from 4 to 20 at each facility, a reflection of their locality and functional status.

### Selection of health workers for training

Four PHC workers were nominated for mental health training from each of the 20 local government areas making a total of 80 PHC workers. The selection was based on the health workers' interest in delivery of mental health services in their practice.

### Study design

A Pre-training questionnaire was administered to course participants to obtain baseline data on socio-demographic characteristics and health practice experiences and skills. The health practice skill section contained six case vignettes (comprising Psychosis, Depression, Epilepsy, OSEC, Alcohol & Substance abuse and malaria) to assess their ability to make accurate diagnosis, and to list appropriate treatment recommendations for these conditions. The participants were scored on the correctness of the diagnoses, and number of their recommended interventions that agree with the modified mhGAP guideline for each case vignette. At the end of training, the same vignettes were re-presented to detect changes.

### Training course content and format

The training course was developed in collaboration with mental health professionals with special interest in PHC from the Lancashire Care NHS Foundation Trust and University of Manchester, United Kingdom, under a British Council's Health-Links Scheme. Training

materials were based on the WHO mental health Gap Action Programme (mhGAP) Intervention Guide (2008), which was modified to suite local circumstances. The scope of the training was to assess and treat five priority psychiatric disorders including Psychosis, Depression, Other Significant Emotional Complaints (OSEC), Epilepsy and Alcohol & Substance abuse. Written support materials, including assessment flow charts, case record and follow-up sheets were developed for the primary care workers to guide their practice and keep record of their practice.

A 3-day training course was developed to equip the 80 nominated primary care workers with knowledge and skills to diagnoses treat and/or refer people with the five priority disorders. The training was delivered by faculty members from Aro Hospital and Lancashire Care Trust using didactic and participatory methods including lectures, video demonstrations, role plays, exercises and discussions.

Four, 2-day training sessions were carried out in locations within the four socio-political zones of Ogun State with 20 PHC workers in each zone, following a one-day plenary introductory lecture on mental health, classification, causes and treatment approaches in mental disorders at the Neuropsychiatric hospital Aro Abeokuta. The training was conducted between September and October, 2011.

Data analysis was done using SPSS Version 17 [22]. Chi-Square statistics was used to test association between categorical variables and Paired Sample T-test was used to test the effect of training of the health workers by comparing variables before and after intervention, applying a significance of  $p < 0.05$ .

Ethical approval was granted by the Hospital Research Ethics Committee, and consent of the PHC workers was obtained for the study.

## Results

Of the eighty (80) Primary Health Care workers, 72 (90.0%) were females (Table 1). The mean age of the workers was 43.4 (SD=8.3) years, and most were married (90%). The majority (87.5%) were nurses, while 12.5% were Community Health Extension Workers.

Post training, rate of diagnostic accuracy by the PHC workers significantly improved by 12.5% for Psychosis ( $p=0.018$ ), 12.5% for Alcohol & Substance abuse ( $p=0.018$ ), 30.0% for OSEC ( $p=0.001$ ). Correct diagnosing of Depression, and Epilepsy was greater post training but did not attain statistically significant level. Similarly, pre and post training case identification of malaria did not show any difference (Tables 2 and 3). Table 4 shows the participant's mean scores for appropriate treatment which improved by 114.0% for Psychosis ( $p=0.001$ ), 109.3% for Depression ( $p=0.001$ ), 77.9% for Alcohol & Substance abuse ( $p=0.001$ ), 102.7% for Epilepsy ( $p=0.001$ ) and 91.9% for OSEC ( $p=0.001$ ). The caseloads of patients seen across the state within a period of 12 months are shown in Table 5. A total of 473 patients were seen with diagnostic breakdown as follows: Psychosis (45.9%), Epilepsy (38.3%), Depression (10.1%), OSEC (3.2%) and Alcohol & Substance Abuse (2.5%).

## Discussion

In this study, most of the PHC workers were female and they were in the age bracket of 40 to 59 years. Health workers at the Primary care level were mostly Nurses and some were Community Health Extension Workers. These profiles are similar to findings from

previous studies [13,15,23].At the Primary care level with shortage of manpower, health services delivery are provided by paramedics. Majority of the PHC workers in the study were exposed to mental health courses during their training and they often come across patients with mental illness in their practice but do not have adequate skills to treat and make appropriate referrals. This agrees with findings of previous studies [13,16,23]. The training intervention met requirements for an effective educational intervention in that it was interactive, practical with participatory teaching methodology using role plays, video demonstration and practical interviewing sessions supervised by mental health professionals [18].

Characteristics	Frequency	Percent (%)
Sex		
Male	8	10
Female	72	90
Mean Age(SD)	43.4(83) years	
Age Range		
19 – 39 years	26	32.5
40 – 59 years	54	67.5
Religion		
Christianity	66	82.5
Islam	14	17.5
Education		
Diploma (OND)	8	10
HND	14	17.5
B.SC	10	12.5
Registered Nurse/Midwife	48	60
Marital Status		
Single	6	7.5
Married	72	90
Widowed	2	2.5
Post/Designation		
Junior CHEW	6	7.5
Senior CHEW	4	6
Nursing Officer II – Senior N.O	24	30
Principal NO – C. N. O.	46	57.5
Mean (SD) Length of years as Health worker	16.9 (9.7) years	

**Table 1:** Socio-demographic Characteristics of Respondents N = 80. The mean length of time as health workers was 16.9 (SD=9.7) years. The majority (92.5%) had been exposed to mental health courses during their training for at least four weeks. Most (92.5%) of the PHC workers reported that they had come across patient with mental illness; 55% of such cases were advised and sent home with only 2.5% being referred to psychiatric facilities. CHEW- Community Health Extension Worker; NO- Nursing Officer; CNO-Chief Nursing Officer,OND- Ordinary National Diploma; HND- Higher National Diploma

Characteristics	Percent (%)
Exposure to Mental Health Courses	
Yes	92.5
No	7.5
Duration of Exposure	
Less than 4 weeks	2.5
4 – 8 weeks	70.0
9 – 12 weeks	12.5
Mean duration(SD) of Exposure was	7.3 (1.6) weeks
13 weeks and above	5.0
Setting Previously worked	
Primary Health Centre	77.5
General Hospital	12.5
Psychiatric Unit/Hospital	2.5
Others	7.5
Have come across mentally ill patients in their practice.	
Yes	92.5
No	7.5
Commonest complaints by the Patients	
Insomnia	15.0
Sadness/depression	15.0
Epilepsy	7.5
Crawling Sensation	10.0
Drug Abuse	2.5
Hallucination/Psychosis	12.5
Confusion, Memory problem	2.5
How Cases Were Handled	
Did not know what to do	7.5
Advised and sent home	55.0
Referred to General Hospital	2.5
Treat with Non specific medication	22.5
Referred to Private Hospital	2.5
Referred to Psychiatric Hospital	2.5
Others	2.5

**Table 2:** Health Practice Experiences among the Respondents.

Vignette	Correct Diagnosis (%)	Wrong Diagnosis (%)	Test Statistics; Chi-Square	P – Value
Psychosis Pre-training	68 (85.0)	12 (15.0)	8.018	0.018
Post-training	78 (97.5)	2 (2.5)		
Depression Pre-training	74 (92.5)	6 (7.5)	4.642	0.200
Post-training	75 (93.8)	5 (6.2)		
Alcohol & Subs Abuse Pre-training	68 (92.5)	12 (15.0)	8.018	0.018
Abuse Post-training	78(97.5)	2 (2.5)		
Epilepsy Pre-training	76 (95.0)	4 (5.0)	6.026	0.450
Post-training	78 (97.5)	2 (2.5)		
OSEC Pre-training	56 (70.0)	24 (30.0)	26.214	1.00
Post-training	80 (100.0)	-	-	
Malaria Pre-training	80 (100.0)	-		0.018
Post-training	80 (100.0)	-		

**Table 3:** Comparison of Pre-training and Post Training. N=80

Vignette	Mean(SD) Score of Correct Interventions	Test Statistics PAIRED SAMPLE T – TEST	P- Value
Psychosis Pre-training	1.50 (0.50)	12.562	0.001
Post-training	3.21 (2.12)		
Depression Pre-training	1.50 (0.50)	11.577	0.001
Post-training	3.14 (2.13)		
Alcohol & Subs. Pre-training	1.49(0.46)	9.137	0.001
Abuse Post-training	22.65 (1.90)		
Epilepsy Pre-training	1.46 (0.48)	11.331	0.001
Post-training	2.96 (2.1)		
OSEC Pre-training	1.49 (0.50)	6.951	0.001
Post-training	2.86 (2.14)		

**Table 4:** Comparison of Pre-training and Post Training Correct Intervention/Treatment of Case Vignettes N=80

The results clearly revealed improvement of the Primary Health Care (PHC) workers theoretical mental health knowledge, improved mental health care skills and improved expected mental health clinical practice. The findings that trained PHC workers exhibited increased diagnostic accuracy and appropriate use of treatment measures appears congruent with other studies that showed that training PHC workers on mental health issues improved their knowledge and practice of mental health at the Primary Care level. This improved case

recognition and treatment skills is the needed catalyst for the provision of sustainable mental health services at the PHC level [24]. A pre-training survey revealed that a large proportion of participants expressed willingness to treat patients with mental illness if they possess the required knowledge and skills.

Diagnosis	Number	Percentage
Psychosis	217	45.90%
Epilepsy	181	38.30%
Depression	48	10.10%
Other Significant Emotional Complaints	15	3.20%
Alcohol and Substance Abuse	12	2.50%

**Table 5:** Patients Caseloads within 12-Month Period N=473.

The caseload of patients seen within twelve months period is a reflection of improved access to mental health care within the communities. Integration of mental health into Primary health care requires investment in the training of staff to detect and treat common mental disorders. General health staff must have the knowledge, skills and motivation to treat and manage patients suffering from mental health disorders as much as possible within their competencies.

### Limitation

The purposeful sample selection of the 80 course participants was on the basis of their expressed interest in mental health service delivery. Consequently, the data presented in this study may not be a true reflection of pre-training mental health knowledge and skill base at the primary care level in Ogun state. The purposeful selection of participants is however required for the success of the programme.

## Conclusion

One of the major challenges of successful integration of mental health into Primary Health Care is shortage of mental health professionals. Evidence from this study showed that mental health training intervention for Primary Health Care workers resulted in improved knowledge and clinical practice. Mental health component should be included in the educational curriculum of all social and health workers and ongoing training, retraining, support and supervision should be provided for Primary Health Care workers.

Training more Primary Health Care workers in mental health service delivery will make the service more extensive and comprehensive thereby reducing the treatment gap in the community.

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