

Validity of the Use of GHQ-12 in Primary Health Care Setting in Northern Nigeria

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ABSTRACT

Background: Primary health care is the first point of entry into medical care and is often heavily attended. The attending health personnel require tools that can quickly assess the health needs of the patients both physically and mentally. A screening instrument such as the General Health Questionnaire (GHQ-12) will be useful in Primary Health Care setting for detecting emotional distress/probable psychological disorder if the diagnoses were largely in agreement with standardized diagnostic tool. The objective of the study was to determine the validity of the use of GHQ-12 and its agreement with standardized diagnostic tool (Schedule for Clinical Diagnosis for DSM-IV: SCID) in identifying emotional distress/probable psychological disorders. **Method:** It was a cross-sectional study involving one hundred and fifty patients attending Primary Health Care Centre selected randomly and interviewed in two stages. At the first stage, all the subjects completed socio-demographic and GHQ-12 questionnaires administered by the PHC staff. At the second stage, all subjects diagnosed as having emotional distress by GHQ-12 and few of those that screened negative were interviewed with anxiety and depressive modules of Structured Clinical Interview for DSM-IV Disorders (SCID) by the author. **Result:** The GHQ-12 identified 41 (27.3 %) of the subject as meeting criteria for emotional distress/probable psychological disorder at a threshold score of 3 and above. The SCID identified 38 subjects to be having emotional disorders (25.3%). Thirty-four of the subjects identified with emotional disorders with SCID has a positive GHQ-12 Score of 3 and above; giving sensitivity rate of 89.5%% agreement rate of 82.9% **Conclusion:** The GHQ-12 has a good validity property with high diagnostic concordance with standard diagnostic tool. The GHQ-12 is easy and can be administered by health personnel at primary health care level to identify those in need of mental health services who may require referral to higher treatment level.

Keyword: Validity, GHQ-12, Primary Health Care, Setting

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INTRODUCTION

Quality health care is a fundamental right of all Nigerians and the primary health care (PHC) is the corner stone and point of entry for health care services in Nigeria.^[1] The PHC centres are relatively present in all local government areas of Nigeria, making it the closer to the people than any other health care facilities in the country.¹ Studies have shown that 25- 30% of patients that seek care at this level, including the general out-patient clinics of secondary and tertiary health care facilities have psychological disorders.^[2,3]

The turn-out of patients at General Out-Patient Department (GOPD) is often heavy with few physicians to attend to patients' needs both physically and emotionally. Having a reliable diagnostic tool that can easily be administered will enhance prompt service delivery.

One of such diagnostic tools that enables prompt diagnosis of mental health challenges is the General Health Questionnaire (GHQ). The GHQ is a self-administered screening instrument that is use for detecting non-psychotic psychiatric morbidity. It was designed by Goldberg in 1972 as a 60-item questionnaire.^[4] This has been modified into various shorter versions for quick and ease of administration such as the 30-item version, the 28-item version and the 12-item version. It has been shown to be a valid instrument for detection of psychiatric morbidity in both general medical settings and in general population.^[5] The GHQ-12 is brief, simple, easy to complete and Goldberg *et al* noted that the shorter version of GHQ is as robust and work well as the longer version and gender, age and educational level have no significant effect on its validity.^[6]

The GHQ-12 has a good psychometric property for detecting emotional distress/probable psychological disorders and some studies have reported sensitivity

of 80 - 87.3% and specificity of 75 - 79.8%.^[7,8] The scale is easy to be administered and it asks whether the respondent experience a particular symptom or behaviour recently. Each item is rated on four point-scale (less than usual, no more than usual, rather more than usual or much more than usual, giving a maximum score of 12 on bimodal scoring method (0-0-1-1) or 36 on Likert scale styles (0-1-2-3).^[9]

The aim of the study was to determine the sensitivity of GHQ-12 among our subjects and its agreement rate with standardized diagnostic tool with a view to recommend its use for PHC workers

METHODOLOGY

The participants were patients attending Primary Health Care Centre in Malali, Kaduna North Local Government Area of Kaduna State, North-west Nigeria. Informed consent was obtained from the participants and the study was approved by the Kaduna State Ministry of Health. The sample size was based on prevalence of 46.9% for psychological disorder as earlier reported by Cooker *et al* among their subjects in Lagos giving a minimum sample of one hundred subjects.³ The study was carried out over six weeks period between October and November, 2019 and one hundred and fifty subjects participated. Two PHC staff were trained on use of GHQ-12 by the author. A pilot study was earlier done at end of the training on twenty patients in September 2019 to assess the inter-rated reliability between the PHC Staff and the author on scoring of GHQ-12. This also help in determining the duration of administering the instrument and clarity of the questions. The questionnaires takes an average of fifteen minutes to be completed and the inter-rated coefficient was 0.8 which was considered good.

During the study proper, the PHC staff administered the socio-demographic and GHQ-12 questionnaires to all the subjects. At the threshold of three and above score on GHQ-12, the respondent was rated as positive for emotional distress/probable psychological disorders and those with score of two or less were rated negative. Any of the study participants that scored three and above on GHQ-12 and one or two of those with GHQ-12 score of two or less were sent to the author for assessment with SCID on each day of the study. In all the forty-on subjects screened positive and nineteen screened negative, totaling sixty that were assessed with anxiety and depressive modules of SCID to identify those that met the diagnostic criteria of anxiety and/or depressive disorders. It takes an average of forty-five minutes to administer the SCID to each participants. Data was analyzed with SPSS 20

RESULT

The socio-demographic characteristic of the participants is shown in Table 1 below

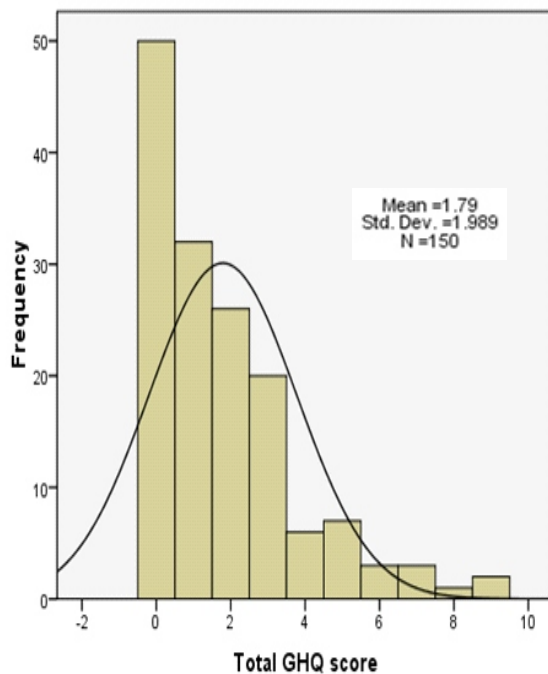
Table 1: Socio-demographic Characteristics of the Participants

Characteristics	Number	Percentage
Age group (years)		
15–30	20	13.3
31–45	28	18.7
46–60	65	43.3
60	37	24.7
Total	150	100
Gender		
Males	55	36.7
Females	95	63.3
Total	150	100
Religion		
Christianity	32	21.3
Islam	118	78.7
Total	150	100
Marital Status		
Single	26	17.3
Married	85	56.7
Divorce/Separated	39	26.0
Total	150	100
Educational Status		
None	25	16.7
Primary	51	34.0
Secondary	44	29.3
Tertiary	30	20.0
Total	150	100
Occupation		
Unemployed	45	30.0
Self employed	68	45.3
Civil servant	37	24.7
Total	150	100

GHQ-12 Score Distribution of the Participants

The minimum GHQ-12 score was 0.00 and the maximum score was 9.00 with a mean score of 1.79(SD ± 1.98). The GHQ-12 score distribution of the participants was shown by Histogram in figure 1 below.

Figure 1: Histogram of the GHQ-12 Scores of the participants (N=150)



Prevalence of Emotional Distress/Psychological Disorders

The case diagnosed by GHQ-12 was 41, giving a prevalence of 27.3% while that of SCID was 38 (Prevalence of 25.3%). This is shown in Table 2 below

Table 2: Emotional distress/probable psychological disorders identified by GHQ versus Emotional Disorder identified by SCID

GHQ -12	SCID		Total
	Case	Non -Case	
Case	34	07	41
Non -Case	04	105	109
Total	38	112	150

Sensitivity: 89.5%, Specificity: 93.8%, Positive Predictive Value: 82.9%, Negative Predictive Value: 96.3%

DISCUSSION

This study aimed to determine the validity of the use of GHQ-12 among the participants attending primary health care. Out of the forty-one participants identified with emotional distress/probable psychological disorder by GHQ-12, thirty-four were confirmed with emotional disorders using a standardized diagnostic instrument such as SCID. Thus, the sensitivity of GHQ-12 in this study is 89.5%. This is in agreement with several other studies that put the range 70-90% in the ability of GHQ-12 to truly identified emotional disorders in out-patient general settings.^[4,6,7]

While the GHQ-12 as a screening instrument reported prevalence of emotional disorders among the study participant to be 27.3%, the standardized diagnostic instrument that required expertise and long time to be administered put the prevalence rate to be 25.3%, the difference of which was statistically insignificant (P=0.13). This evidence support the

diagnostic agreement between the two instruments which makes the GHQ-12 handy as a diagnostic in primary health care setting. The specificity of the GHQ-12 in this study was 93.8%. Its ability to identify nine out of every ten people that does not truly has emotional problems give further confidence in using the instrument for mass screening. In primary health care setting where the population in need of services often overwhelm the few available health personnel, this instrument becomes a reliable means of identifying those with emotional health needs who can be referred for specialist care.

CONCLUSION

This study showed that GHQ-12 has good validity properties and the diagnosis arising from its use is largely in agreement with standardized diagnostic tool that required more time and expertise to be administered. With little training, the low cadre manpower at primary health care level can easily use it to identify those in need of mental health services.

Conflict of interest: None

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