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Validation of short screening tools for common mental disorders in Nigerian general practices ☆

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ABSTRACT

Objective: The objective was to examine the psychometric properties of two brief screening questionnaires for common mental disorders in general practices in areas speaking the three main Nigerian languages.
Method: Consecutives attendees of selected general practices in Ibadan, Enugu and Kaduna were screened with the General Health Questionnaire 12-item version (GHQ12) and K6. We selected all cases and 50% of noncases for second-stage interview with the Composite International Diagnostic Interview. The receiver operating characteristic curves were generated for both questionnaires, and optimal cutoffs were determined. Exploratory factor analysis was done for both questionnaires.
Results: The K6 had an area under the curve (AUC) of 0.62 for depression and 0.58 for anxiety disorder. The GHQ12 had an AUC of 0.74 for depression, while that for generalized anxiety disorder was 0.6. The GHQ12 was able to correctly classify 75% of the subjects with or without depression, while the K6 was able to correctly classify 56% of the subjects with or without depression. The optimal cutoff for both questionnaires was 4, selecting the point of best balance of sensitivity and specificity.
Conclusion: The findings suggest that the GHQ12 will be a useful tool in screening for common mental disorders in general practice in Nigeria.

1. Introduction

Psychiatric disorders have been known to occur in about a third of patients attending general practice [1]. Depression and anxiety disorders constitute the majority of mental disorders seen in general practice. It is also documented that most people with depression or anxiety disorders will visit their general practitioners whether or not they complain of their psychological symptoms [2]. It is actually common to have patients in primary care complain of physical symptoms rather than psychological symptoms even when a psychological disorder is apparent [3].

In a Europe-wide study of prevalence of common mental disorders in general practice attendees, King et al. (2008) estimated that major depression occurs in 13.9% of women and 8.5% of men. Anxiety disorders, on the other hand, were reported in 10% of women and 5% of men [4]. In a survey of 28 practices in Trinidad and Tobago, Maharaj et al. (2007) reported a 12.8% prevalence of depression in 508 general practice attendees [5]. In a review of the epidemiology of depression in primary care, Katon and Schulberg reported an estimated prevalence of between 5% and 10% [6]. Jegede et al. (1990) reported a 40% prevalence of psychiatric morbidity in 104 patients attending the general outpatients' clinic of a University Teaching Hospital in Ibadan, Nigeria [7].

The bulk of patients with psychiatric disorders attending general practices are missed by the attending physician [8]. Higgins (1994) reported that primary care physicians fail to recognize mental illness in a range of 33% to 79% of the time [9]. Recognition rate of mental disorders in a typical Nigerian primary care setting was reported to be 55.1% in an international multicenter study of mental disorders in general health care [10]. One of the measures that have been deployed to address this low recognition rate is the use of screening tools for psychological distress in general; this has been shown to result in improved recognition by some workers [9,11]. Depression and anxiety disorders are not routinely screened for in general practice in Nigeria. The existing screening instruments in the general population are either too technical or too long to be primary care friendly, hence the need for a simple, easy-to-administer and short questionnaire. The validity, reliability and factor structure of the General Health Questionnaire 12-item version (GHQ12) had been

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previously studied in primary care in the Yoruba-speaking area of Nigeria [12]. Similar validation studies of the GHQ12 in other languages commonly spoken in Nigeria are not known to the authors; neither has the validity of the K6 been conducted in general practice in Nigeria. We report on the psychometric properties of these two brief questionnaires administered in the general practices located in three different geopolitical zones of Nigeria (covering the three main languages spoken in the country).

2. Method

2.1. Aim of the study

The aim of this study is to validate simple short screening tools for assessing the presence or not of mental distress for use in typical Nigerian general practice setting. The main objectives were to determine the best cutoff point on the screening tools that offer the best chance of detecting depression and anxiety disorders; the secondary objective was to determine the psychometric properties of the tools in terms of sensitivity, specificity and predictive values (positive and negative) and to determine the factor structure of both questionnaires.

2.2. Design

This was a cross-sectional survey of patients attending three general practices.

2.3. Settings

Busy general practices were selected in three geopolitical zones of the country representing the three predominant languages spoken in the country. In the southwest zone representing predominantly Yoruba-speaking area, the St Mary's Catholic Hospital Oluyoro, Ibadan, was selected. This hospital is located in a densely populated urban low-income area of the city and runs one of the busiest outpatient clinics in Ibadan. In the southeast zone, the outpatient department of the University of Nigeria Teaching Hospital was the site for patient recruitment, while in the northwest, the general outpatient clinic of the Barrau Dikko specialist hospital in Kaduna was the site selected. All the centers have in common the fact that they are busy general practices where patients are seen firsthand by nonspecialist general practitioners.

2.4. Sample

Consecutive attendees at the general practice clinics aged 18 years and above were recruited for the study over a period of 12 weeks following written or verbal informed consent. Attendees with physical illness requiring urgent attention, those who were too ill to be interviewed and those who were not fluent in the local language of the site were excluded from the study. The participants were compensated for their time with a token gift of a branded face towel.

2.5. Materials

2.5.1. K6

The K6 is a screening questionnaire developed by Ron Kessler. It is a six-item scale of nonspecific psychological distress included in many nationally representative health surveys. The K6 was designed to be sensitive around the threshold for the clinically significant range of the distribution of nonspecific distress in an effort to maximize the ability to discriminate cases of serious mental illness (SMI) from noncases. A small validation study carried out in a convenience sample in Boston found evidence that the scale performed quite well and that it is able to discriminate between cases and noncases [13]. The Japanese version of this scale was also found to have excellent psychometric properties comparable to the English version [14]. The K6 was also included in the Nigeria survey of mental health and well-being [15].

2.5.2. GHQ12

This is a well-known and extensively validated screening questionnaire for assessing probable psychiatric caseness. It is a reliable and valid measure of psychological distress and general wellbeing [16]. The GHQ is short and easy to complete, containing only 12 items. We employed the bimodal scoring style in this study.

2.5.3. Composite International Diagnostic Interview (CIDI)

The CIDI is a comprehensive, fully structured interview designed to be used by trained lay interviewers for the assessment of mental disorders according to the definitions and criteria of the *International Classification of Diseases, 10th Revision,* and the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (DSM-IV). It is intended for use in epidemiological and cross-cultural studies as well as for clinical and research purposes [17]. The CIDI was the core instrument used in the World Mental Health Survey. The depression and generalized anxiety disorder sections of CIDI are employed as our gold standard for psychiatric diagnosis.

2.6. Translation of materials

The CIDI, GHQ12 and K6 had previously been translated into Yoruba language [12]. Translation to other languages (Igbo and Hausa) was similarly derived through the standard protocol of iterative back translation conducted by bilingual experts.

2.7. Training of interviewers

Two university graduates (lay interviewers) from each center received 4-day training on the use of CIDI. The training was conducted in Ibadan in October 2010 by experienced certified trainers who have used the instruments and trained several such interviewers in the past. The screeners who have a minimum qualification of post high school diploma (Ordinary National Diploma or National Certificate of Education) were trained in their centers by the center's coordinators on how to apply K6 and GHQ12. The interviewers and screeners are fluent in English and the center's predominant major language.

2.8. Procedure

Consecutive attendees coming to the walk-in general clinic settings in Ibadan, Enugu and Ilorin were screened with the chosen tools. A predetermined cutoff of 4 on the GHQ was used to select cases and noncases. The cutoff was selected in such a way that subsequent analysis had sufficient scope to determine the “true” cutoff to be used in clinical practice. We then selected all cases and randomly selected 50% of noncases for second-stage assessment. The second-stage assessment was conducted using the CIDI administered by trained interviewers. The sections of the CIDI used were those for depression and generalized anxiety disorder. Prior to calculating the psychometric indices, the results were adjusted (weighted) back to the original population that was screened.

2.9. Ethical considerations

The questionnaires were administered following verbal informed consent of the subjects, and the proposal was approved by the Joint University of Ibadan/University College Hospital Ethics Committee with an approval number UI/EC/10/0089. The study was performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki and its later amendments.