A Namibian version of the 28 item General Health Questionnaire

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ABSTRACT

Background: *Namibia faces a daunting array of mental health problems. However, there is no Namibian screening instrument for psychological distress.* ***Aim:*** *To develop a Namibian version of the 28 item General Health Questionnaire (GHQ-28).* ***Methods:*** *A consecutive sample of 159 Oshiwambo speaking patients attending rural health clinics in the north of Namibia were enrolled in the study. Basic demographic data were collected and subjects asked to complete the GHQ-28 that had been translated into Oshiwambo. Thereafter all subjects were interviewed with the Clinical Interview Schedule (CIS). Using the CIS data as a marker for psychiatric caseness, the sensitivity, specificity, and receiver operating characteristics (ROC) of the Oshiwambo GHQ-28 were assessed.* ***Results:*** *Based on a 0-0-1-1 scoring system, the Oshiwambo GHQ-28 was found to have a sensitivity of 82.1% and a specificity of 79.4%. The ROC analysis revealed good discriminating power with an area under the curve of 0.86* ***Conclusions:*** *The Oshiwambo version of the 28 item GHQ is a valid screening instrument for psychological distress in clinic attendees.*

Keywords: *Namibian, 28 item, General Health Questionnaire (GHQ)*

Introduction

Namibia faces a daunting array of mental health problems.[1] A significant hindrance when addressing these issues is the absence of a valid and reliable screening instrument for detecting psychological distress. When it comes to developing such an instrument in developing nations there are two main approaches. The etic method has arisen from a desire to standardize assessments across cultures. Based on classification systems of mental illness in European and North American societies, the interviews closely mirrored the clinical examination. After standardization in first world cultures the interviews are applied to other cultures. This approach makes a number of assumptions. Foremost is the belief that irrespective of culture, mental illness shares a common phenomenology. If one then accepts this premise of the universality of mental illness, it follows that classification systems and the instruments used to detect mental illness could be exported from their culture of origin to the developing world.[2]

The emic approach differs from the above. The universality assumption is challenged and in its place, the individuality of different cultures is stressed and considered integral to the development of the signs and symptoms of mental illness. Implicit here is a dismissal of the hegemony of phenomenology based on western cultural values. Advocates of the emic approach therefore believe that an understanding of mental illness in the third world demands an appreciation of local culture and customs.[3]

While the etic philosophy has been criticized for extrapolating too broadly at the expense of local influences, the emic adherents have been challenged on three fronts: an inability to provide data that can be compared across cultures, poor reliability

because of a lack of standardization, and studies of small sample size that can shed little light on longitudinal course of illness and response to treatment.[4] Contemporary transcultural psychiatry now acknowledges both the strengths and weaknesses of these respective methodologies.[5]

When it comes to the development of a Namibian rating scale for the detection of mental illness, researchers face formidable difficulties. The country is divided into thirteen distinct regions with their own cultures. There are 6 main languages with many divided further into different dialects. English may be the official language despite Afrikaans being more widely spoken, but there are sections of the population who do not speak either. Thus, unlike the United States or United Kingdom, where a single structured clinical interview or one self report rating scale is applicable and valid, Namibian society defies neat, reductionist approaches. Until such time as one language emerges as the means of mass communication in Namibia, and such a condition is some way off because of a largely rural population and the challenges posed by illiteracy, detecting the prevalence of psychological distress in the country will, by necessity, be piecemeal.

Developing region and language specific rating scales therefore becomes unavoidable within the Namibian context. However, it is imperative that if, in time, a national picture is to emerge, local data will need to be compared and combined. This should all be seen against the backdrop of pressing psychological needs and limited resources to address them. With an eye therefore on the gestalt, compromise is called for. Lessons can also be learned from what other countries have done, for the challenges defined here are not unique to Namibia and characterize much of post colonial Africa. Furthermore, the development of a widely applicable screening instrument is not a subject unique to developing nations. The history of one particular in-

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strument, the General Health Questionnaire (GHQ) illustrates this point. The GHQ has been translated into many languages, including Arabic[6], Indian [7], French[8], Nigerian[9], Brazilian[10], Italian[11], Chilean[12] and Singaporean.[13] This makes the GHQ amongst the most widely used screening instrument for non-psychotic symptoms.

It is important to emphasise that the GHQ cannot diagnose a specific mental illness per se, but is primarily a screening instrument for detecting psychological distress. Thus, it may be used as a valid means of rapid triage for non-specific signs of mental illness in large general population groups. In developing a Namibian version, we selected the 28 item GHQ because it contains four discrete subscales, namely those for somatic complaints, anxiety, social dysfunction and depression. We chose to develop an Oshiwambo GHQ-28 since Oshiwambo speaking Namibians make up the largest ethnic group in the country. In addition, the majority reside in the north of the country neighbouring on Angola, a region that bore the brunt of a violent 30 year liberation struggle.

Methods

The 28 item GHQ was translated from English to Oshiwambo by a member of the Linguistic department at the University of Namibia. To check for the accuracy of the translation, all questions were translated back into English, by a second translator with no prior knowledge of the GHQ. The accuracy of this two way process was then independently assessed by the study's principal investigator. The Oshiwambo translations were deemed accurate.

The study participants comprised a consecutive sample of 159 patients attending rural health care clinics in the northern districts of Ohangwena, Oshikoto, Omusati and Oshana. Clinics such as these provide the foundations of medical care in the region. After obtaining the subject's consent, demographic data were collected and the GHQ-28 was completed. The majority of the subjects were literate, but when necessary, help by a trained research assistant was provided. Thereafter, subjects were interviewed with the Clinical Interview Schedule (CIS)[14] by a Psychology Masters student, who had been trained in administering the interview. The interviewer was blind to the results of the GHQ-28. The CIS is a standardised interview incorporating operational criteria for detecting psychological distress and is therefore, unlike the GHQ, not solely reliant on subjective complaints. The objectivity inherent in the CIS assessment procedure provides a marker by which the validity of responses on the GHQ can be judged.[7,12,13,15]

By convention, psychiatric caseness on the CIS was determined if subjects met both the following criteria:

(1) A weighted total score of 20 on the CIS. The weighted score is calculated by adding the ratings for each subjective complaint to twice the score recorded for each observable mental state abnormality.[16] An overall severity rating of 2 on a five point scale signifying functional impairment (0 = no psychiatric problems; 1=isolated symptoms, but no psychiatric disorder; 2 = mild psychiatric disorder; 3 = moderate psychiatric disorder; 4 = severe psychiatric disorder).

Statistical analysis

The GHQ-28 was scored 0-0-1-1 which gave a range of total scores from 0-28. A receiver operating characteristic (ROC) analysis was then applied. For every possible threshold score on the GHQ (0/1 through 27/28) a 2x2 contingency table of GHQ responses versus psychiatric caseness was drawn up. From this the sensitivity and specificity of the various threshold scores was noted and in turn the true positive (sensitivity) versus the false positive (1-specificity) rate plotted. An area under the curve greater than 0.5 is indicative of discrimination. A discriminant function analysis was undertaken to assess what percentage of the total sample were correctly classified. Finally, the reliability of the four Oshiwambo GHQ subscales and the total Oshiwambo GHQ were assessed (Cronbach alpha).

Results

The mean age (standard deviation) of the sample was 31.5(12.9) years. There were 103(64.8%) female and 56(35.2%) male participants. There were no age differences between the genders (t[df = 157] = -0.9; p=0.4). Thirty six (22.6%) subjects were rated as cases according to the specified criteria. There were no gender differences in the number of cases (x^2=0.2; p=0.6). Similarly, comparing the mean total GHQ scores between male (7.7(4.9)) and female (7.3(4.4)) subjects did not demonstrate significant differences versus (t[df = 157] = 0.5; p=0.6).

Cronbach alphas for the subscales were as follows: somatic (0.71), anxiety (0.71), social dysfunction (0.81) and depression (0.88) with a total GHQ Cronbach alpha of 0.85.

Receiver operating characteristics analysis:

The ROC analysis revealed that a GHQ threshold score of 10/11 gave the best sensitivity (82.1%) and specificity (79.4%) results. (Table 1). The area under the curve was 0.86 (95% confidence interval = 0.76 to 0.95)(Fig.1) The results of the discriminant function analysis showed that the mis-classification rate was 20.1%.

Table 1: Sensitivity and specificity for different GHQ-28 threshold scores

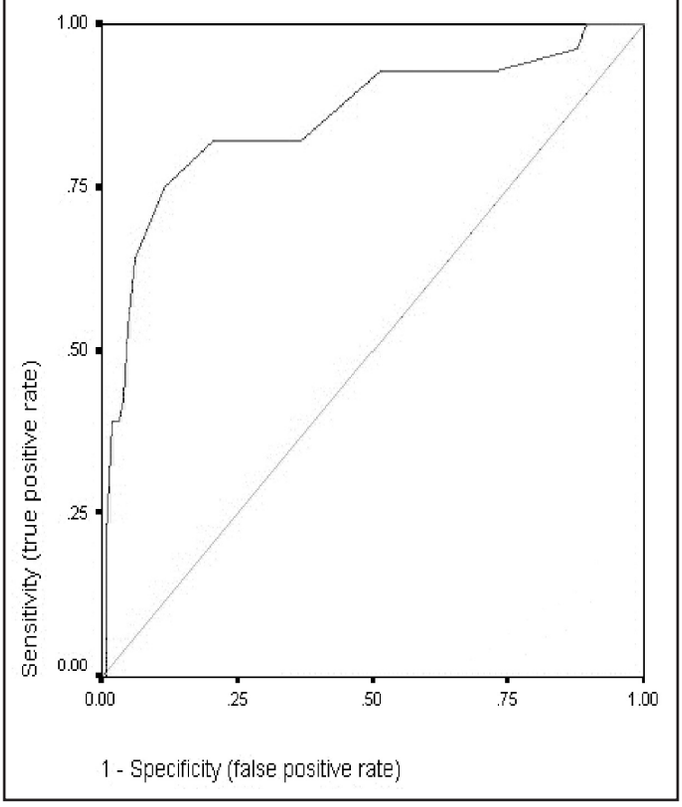
Threshold score	Sensitivity	Specificity
2/3	100	10.7
3/4	96.4	12.2
4/5	92.9	27.5
5/6	92.9	35.9
6/7	92.9	44.3
7/8	92/9	48.9
8/9	82.1	63.4
9/10	82.1	72.5
10/11	82.1	79.4
11/12	75.0	88.5
12/13	64.3	93.9
13/14	53.6	95.4
14/15	42.9	96.2
15/16	39.3	96.9
16/17	39.3	98.5
17/18	21.4	99.2

Discussion

Our results indicate that the Oshiwambo GHQ-28 is a valid method of screening for psychological distress in rural clinic attenders in northern Namibia. To place these results in context, however, some comment on the sample composition is needed. First, approximately two thirds of our subjects were women, probably reflecting a greater willingness on their part to attend medical clinics. Nevertheless, there were no gender differences in age, the number of subjects deemed to be psychiatric cases or in total GHQ-28 scores. As such the threshold score of 10/11 for the GHQ-28 caseness appears equally applicable to male and female Oshiwambo speaking subjects.

Second, the burden of medical care in Namibia falls largely on health care clinics in predominantly rural areas. These clinics frequently treat very sick patients, which could explain why our GHQ-28 threshold score based on a 0-0-1-1 scoring system is higher than the 4/5 score derived from subjects attending their general practi-

Figure 1: ROC for the Oshiwambo GHQ-28



tioners.[17] Given the degree of medical morbidity in our sample, a more appropriate group with which to compare data would therefore be in-patients on a medical ward. Here, our cut-off score of 10/11 is closer to those obtained in these settings [16,18] and is in keeping with recommendations that thresholds be adjusted upwards in the presence of physical illness.[14]

Our sensitivity and specificity rates of 82.1% and 79.4% respectively are similar[6] or superior[9] to those obtained in other developing countries. Although there are some studies that have reported higher sensitivity and specificity rates, they have generally used the Present State Examination[19] instead of the CIS as a marker of psychiatric caseness. Furthermore our mis-classification rate of 20.1% and an area under the ROC curve of 0.86 overlap with data reported from primary care[10] and neurological in-patient[15] settings. Reasons for mis-classification are likely to be numerous including subtle nuances in language lost in translation, responders who exaggerate or minimise symptoms, interviewer error and potential weaknesses inherent in the GHQ and CIS when applied to this population group.

In translating the GHQ from English into Oshiwambo, we have maintained the internal consistency of the GHQ. Although the depression and social dysfunction subscales fared better in this process, all Cronbach alphas exceeded 0.7 and the overall figure of 0.85 for the full GHQ scale is good enough to suggest the full Oshiwambo version with it's index of caseness reliably captures similar data to the original English version.

In our sample 22.6% of subjects were deemed psychiatric cases based on the threshold score. This percentage is similar to the 19% reported in an Arab primary care setting[6], but lower than the 38.9% reported in neurological patients in the United Kingdom.[15] The fact that the latter were all in-patients may help explain this discrepancy.

Having developed the General Health Questionnaire as a screening tool, Goldberg was undoubtedly correct in asserting that it should not be viewed as a substitute for clinical assessment.[20] His disclaimer, however, is more easily applied to a first world medical setting. The situation in the north of Namibia could not be more different. A population of 700,000 is served by a single psychiatrist. There are no psychologists. Nurses and social workers with some training in mental health also carry a heavy medical case load, which is often seen as more important. With HIV-AIDS cutting a swathe through the population and with substance abuse, domestic violence and sexual assault major social problems, the need to rapidly detect those in psychological distress is pressing. The development of an Oshiwambo version of the General Health Questionnaire offers one quick and valid way of doing this.

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