VALIDITY OF A SHORT 5 - ITEM VERSION OF THE GENERAL HEALTH QUESTIONNAIRE (G. H. Q.)

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SUMMARY

A short 5-item version of the General Health Questionnaire (GHQ - 5) was evaluated for its validity in a sample of attendants of Psychiatric Patients. In comparison to a standardized Interview Schedule, the GHQ - 5 was found to have a sensitivity of 86%, specificity of 89% and an overall misclassification rate of 13% with a cutting point of 1/2.

Introduction

The General Health Questionnaire (GHQ) designed by Goldberg (1972) is an effective first stage screening tool for the detection of non-psychotic psychiatric illnesses. It is simple, easy to administer, acceptable and has high validity. Yet, even the 12-item version, the shortest standardized version of the GHQ, takes upto 6 minutes to administer (Krishna Murthy *et al.* 1981). A shorter screening tool will be of advantage in the crowded out patient and primary care settings in India.

Shamasundar *et al.* (in press) studied 882 patients attending general practice by using the 12-item version of the GHQ as a screening tool. They found that 5 questions (Appendix I) out of the 12 items were found to be better discriminators with high 'z' values, when the proportion test was applied on each of the 12 items. The scores on these 5 questions (GHQ - 5) were compared with the psychiatric status as assessed by the section I of the Indian Psychiatric

Survey Schedule developed by Kapur *et al* (1974) for validating the GHQ - 5. The sensitivity, specificity and overall misclassification rate of 82.9%, 95.8% and 8.3% respectively for a cutting score of 1/2, indicates the potential usefulness of the GHQ - 5 as a quick and effective screening tool.

The present preliminary study was conducted to test the validity of these 5 questions against independent psychiatric assessment by full psychiatric interview.

Method

The tools used for the study were the GHQ - 5 and the Indian Psychiatric Interview Schedule (IPIS) developed by Kapur *et al.* (1974). The IPIS is a standardized semi structured interview schedule designed to elicit reliable clinical information systematically. The IPIS protocols enabled the psychiatrists to independently assess the normal ill status of the subjects and the diagnosis. .

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The sample of subjects chosen for the study were persons accompanying consecutive psychiatric patients consulting at the National Institute of Mental Health and Neuro Sciences, Bangalore, India. The subjects were mostly first degree relatives of psychiatric patients. It is well known that mental illness in a family member imposes a burden on the relatives (Hoenig and Hamilton 1966; Grad and Sainsbury 1968). Grad and Sainsbury (1968) interviewing single adult informants of a heterogenous group of patients found that more than half of them were affected by psychological symptoms. Hence, the present authors expected the psychiatrically normal and ill subjects to be represented in a more or less equal proportion in the sample chosen. Such an equal proportion of normals and cases would be most ideal for testing the validity of the GHQ – 5.

Each of the subjects was administered the GHQ – 5 by one investigator (S. G. M.), and was subjected to a full psychiatric interview by another investigator (T. G. S) using the IPIS. Both were blind to each other's protocols. Informed consent was obtained. The study was conducted over ten out patient days, covering 110 subjects. All the IPIS protocols were coded and independently evaluated by the three investigators (T. G. S., S. G. M., and C. S) to assess the normal ill status of the subjects, and the diagnosis of the psychiatrically ill.

Results

All the subjects who were approached cooperated actively. Of the 110 subjects, there were 65 males and 45 females. Their mean ages were 36.8 years (S. D ± 13.2) and 37.8 years (S. D ± 11.6) respectively. 25 were single, 78 were married, and 7 were widowed or separated. 30 subjects had no formal education, 47 had upto 10 years of schooling and 33 had University education among whom 23 had completed their

course. The occupational status of these subjects was as follows: Businessmen, 6; clerical jobs, 19; skilled workers, 15; housewives, 33; farmers and labourers, 20; students, 6; and unemployed, 11.

In 89 subjects (80.9%), there was agreement among all the three investigators on their normal ill status. In the remaining 21 subjects (19.1%), there was disagreement among the investigators. The normal ill status of these 21 subjects was reascertained by all the three investigators by jointly reviewing the interview protocols. 57 subjects (51.8%) were thus identified as psychiatrically ill and 53 subjects (48.2%) were considered normal.

Table 1 shows the sensitivity, specificity and overall misclassification rate for the different cutting scores of the GHQ – 5 using the same formula as Goldberg (1972) did.

Table 1
Indicators of validity for the different cut-off points of the 5 - item GHQ*

Cut - off Point	Sensitivity	Specificity	Overall misclassification rate
0/1	96.5 $\left(\dfrac{55}{57}\right)$	62.3 $\left(\dfrac{33}{53}\right)$	20 $\left(\dfrac{22}{110}\right)$
1/2	85.9 $\left(\dfrac{49}{57}\right)$	88.7 $\left(\dfrac{47}{53}\right)$	12.7 $\left(\dfrac{14}{110}\right)$
2/3	66.6 $\left(\dfrac{38}{57}\right)$	100 $\left(\dfrac{53}{53}\right)$	17.3 $\left(\dfrac{19}{110}\right)$

* Absolute numbers used for computing the values are shown in parentheses.

The cutting score of 1/2 (i.e considering those scoring 2 and above as psychiatrically ill) produced optimum indices of validity. The product moment correlation between the subject's scores on the GHQ – 5 and the

number of symptoms in the interview protocols was 0.86. The diagnostic break up of the 57 psychiatric cases is as follows: Depressive neuroses 38 (66.6%); Anxiety neuroses 9 (15.7%); Adjustment reaction 9 (15.7%); Alcohol dependence 1 (1.8%).

Discussion

The high degree of agreement among the three independent psychiatrists on the normal ill status of the subjects demonstrates the reliability of the IPIS. The validity of the GHQ – 5 has a sensitivity of 86%, specificity of 89%, and an overall misclassification rate of 13% with a cutting score of 1/2. Therefore the GHQ – 5 should be a valuable effective first stage screening tool for easy and quick identification of probable psychiatric cases in crowded primary care settings. This is especially so because the 5 questions can be easily integrated into routine clinical enquiry, by the doctor or an health professional.

References

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Appendix – 1
The five questions of the GHQ
(Serial number in the 60 – item version indicated on the left)

14. Have you recently lost much sleep over worry?

| 0 Not at all | 0 No more than usual | 1 Rather more than usual | 1 Much more than usual |

39. Have you recently felt constantly under strain?

| 0 Not at all | 0 No more than usual | 1 Rather more than usual | Much more than usual |

42. Have you recently been able to enjoy your normal day to day activities?

| 0 More so than normal | 0 Same as usual | 1 Less so than usual | 1 Much less than usual |

49. Have you recently been feeling unhappy and depressed?

| 0 More so than usual | 0 About the same as usual | 1 Less so than usual | 1 Much less than usual |

54. Have you recently been feeling reasonably happy, all things considered?

| 0 More so than usual | 0 About the same as usual | 1 Less so than usual | 1 Much less than usual |