

VALUE OF THE GENERAL HEALTH QUESTIONNAIRE IN DETECTING PSYCHIATRIC MORBIDITY IN A GENERAL HOSPITAL OUT-PATIENT POPULATION

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SUMMARY

On administering the General Health Questionnaire (GHQ) in English, Gujarati and Marathi, to 500 non-acutely ill adult patients selected randomly from a General Hospital Out-patient Department, it was found that 57% scored high (12 and above), indicating the possibility of psychiatric morbidity in this group. On subjecting 50 of these patients to blind psychiatric evaluation a misclassification rate of 30% was observed with respect to the G. H. Q. 96% of the psychiatrically ill scored high on GHQ, 37% of those scoring high on G. H. Q. were psychiatrically normal. If this misclassification rate is lowered by suitable modifications such as reducing items pertaining to Group A of the G. H. Q., then this test will be very useful as a simple tool to detect psychiatric morbidity.

Introduction

There is a widespread feeling among mental health professionals that a large proportion of patients seeking medical help have in fact psychiatric illness. However, case detection has been difficult in psychiatry because of the lack of trained personnel. Statistical data are important for administrative purposes and it is therefore imperative to develop efficient techniques of case detection if psychiatry is to get its due share during budgeting and planning.

General Health Questionnaire (GHQ) is a standardized, self-rating questionnaire constructed by David Goldberg (1972). It has been found to be a reliable screening instrument of acceptable reliability for the identification of patients with psychiatric illness. It consists of 60 questions, pertaining to (1) Group A - general health, physical complaints, sleep disturbances, (2) Group B - behavioural changes and (3) Group C - disturbances of emotions. The individual answering these statements per-

taining to his health has to compare the present status with the past and answer each item as follows -

- A) Better than before or the symptom is absent.
- B) As before.
- C) Worse than before.
- D) Much worse than before.

C and D responses can be considered as positive scores. The optimal threshold for psychiatric case detection in a general practice setting was found to be a total score of 12 or above (Goldberg 1972).

Material and Methods

The patients guide at the entrance of the hospital referred every 20th patient, irrespective of the speciality department the patient was seeking. Emergencies and severe acute illnesses were excluded. Translations of the GHQ were made available in 4 languages - English, Hindi, Gujarati and Marathi and illiterate patients were helped

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by the clinical psychologist in answering the questions. 500 cases were analysed and the results tabulated. The translated version of the GHQ had already been used in an international multicentered project after being tested and found valid.

For the second part of the study, 50 of these 500 patients were randomly referred to a psychiatrist who was blind to the GHQ scores. He noted his clinical conclusion, and also broadly divided the patients into 2 groups (a) psychiatrically normal (b) psychiatrically ill.

Results and Discussion

As shown in table 1, 57% of 500 patients showed high GHQ scores indicating the possibility of psychiatric illnesses being present in the group.

Table 1

	GHQ Scores		Total
	0-11	12 and above	
No. of patients	214	286	500
Percentage	43	57	100

Out of the 50 cases who were evaluated by the psychiatrist, half of them were found to be suffering from mental illnesses.

As shown by table 2 there was a significant relationship at 5% level between GHQ scores (low and high) and psychiatric diagnosis (normal and ill).

Table 2
Correlation between GHQ Scores and Psychiatric diagnosis (50 patients)

Psychiatrists' Blind Clinical Evaluation	Psych. normal	Psych. ill.	Total
GHQ Scores			
0 - 11	11	1	12
12 and above	14	24	38
Total	25	25	50

X^2 test; $P < .05$.

Clinically 50% (25 out of 50) of a group of randomly selected outpatients were found to be psychiatrically ill. Of these 25, 24 had high scores on GHQ also. Thus 96% of the psychiatrically ill patients scored high on GHQ indicating the sensitivity of the GHQ in detecting psychiatric morbidity. 14 out of 25 psychiatrically normal patients also scored high on GHQ. Of the 38 who had high GHQ scores 14 were not psychiatrically ill i.e. high scores on GHQ are specific to psychiatric illnesses only to the extent of 63%, 37% of high scores being in normals. As far as the total misclassification rate is concerned

$$\frac{\text{false positive} + \text{false negative}}{\text{total no. of patients undergoing the test}} \times 100$$

We had a misclassification rate of 30% (2% false negative + 28% false positive).

Table 3

Comparison of total and groupwise GHQ scores of psychiatrically normal and psychiatrically ill patients (50 patients)

	Group A	Group B	Group C	Total
Maximum Score	20	14	26	60
Psychiatrically normal	7.28 ±4.06	2.44 ±3.03	5.12 ±5.88	14.84 ±11.01
Psychiatrically ill	10.04 ±3.49	4.56 ±3.99	11.52 ±7.01	26.12 12.65
t' values	.9174	2.078	3.429	3.30
p values	N.S.	<.05	<.01	<.01

As shown by table 3, psychiatrically normal and psychiatrically ill patients showed no differences in their score in the items of group A pertaining to general health, the Gastrointestinal, respiratory, Central nervous system etc. and sleep disturbances i.e. somatic complaints. At the same time they showed significant difference in the total scores as well as in group B items (behavioural disturbances) and in group C items (emotional disturbances).

As shown in table 4, the mean score of 286 high scorers of 11 on group A items

Table 4
Groupwise scores of 286 patients who scored
12 and above.

	Group A	Group B	Group C	Total no.
Maximum Score	20	14	26	60
Mean Score	11	5	10	26

compares well with the 10.4 ± 3.494 score of those proved to be psychiatrically ill. Also the group B mean score of 5 is similar to the score of 4.56 ± 3.97 of the psychiatrically ill group and the group C mean of 10 is comparable to the 11.52 ± 7.006 of the psychiatrically ill group. Thus we may surmise that the psychiatrically ill group in the 50 blindly evaluated patients is representative of the 286 high scores from the initial population of 500 patients.

We found that the GHQ can be easily administered to all patients who found the questions easy to understand and score. It took about 10-15 minutes for each patient to complete the test.

Our figures of 57% high scores on GHQ and also 50% psychiatrically ill among those evaluated clinically is high as compared to other studies. Our higher figures could be attributed to 1) exclusion of acute medical conditions requiring urgent attention and 2) inclusion of cases with both psychiatric and organic illnesses in the psychiatrically ill group. This was necessary because our main aim was to assess the value of the GHQ. In comparison, in another study of ours we found the psychiatric morbidity in a sample of 258 medical outpatients, when clinically evaluated to be 36%. Kessel (1970) found 14% conspicuous psychiatric morbidity. Goldberg (1972) using the GHQ found a morbidity of 44% and Krishnamurthy et al (1981) using a short version of the GHQ found 36% psychiatric morbidity in a general practice. Shiv Gautam (1980) found only 10% psychiatrically ill, in a sample of patients seen by general practi-

tioners. Epidemiological studies in the general population, as those of Nandi et al (1980) reporting smaller numbers are not comparable. Nikapata (1981) reports 21 % psychiatric morbidity in a general hospital population from Sri Lanka. Our figures are thus close to those of Krishnamurthy et al (1981) and Goldberg et al (1976).

Both psychiatrically ill and psychiatrically normal patients scored high on group A of the GHQ pertaining to somatic complaints. Psychiatric patients presenting with somatic complaints are quite common (Shiv Gautam 1977) and culturally somatization during mental stress is prevalent among out patients. The utility of the GHQ can be increased and the misclassification rate reduced by modifying items in group A of the GHQ. Misclassification rates with the GHQ have tended to vary (Goldberg 1976) and it has been found to be a good screening test in comparison to other tests, but we feel that without modification the GHQ will result in a large false positive assessment in our patient population.

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