

Correlation of Urdu Version of Hospital Anxiety Depression Scale and Hamilton Depression Rating Scale in Quantifying Depression among Post-Myocardial Infarction Patients

Raza-Ur-Rahman, Moin Ahmed Ansari, Aftab Ahmed Siddiqui, Wajid Ali Akunzada, Zafar Hayder and Mohan Lal Luhano

ABSTRACT

OBJECTIVE: To validate the use of Urdu Version of Hospital Anxiety Depression Scale as screening as well as quantifying tool for depression among non-psychiatric hospital population.

MATERIAL AND METHODS: This retrospective study was conducted at National Institute of Cardiovascular Disease (NICVD) Karachi and Civil Hospital Karachi (CHK) from 23rd October to 22nd November 1998. We searched the record of a previous study on the patients on myocardial infarction. A comparison of scores of Hospital Anxiety Depression Scale and Hamilton Depression Rating Scale, done on the patients with first myocardial infarction at an interval of about two weeks during hospitalization and after their discharge, was made.

RESULTS: Correlation co-efficient between Hospital Anxiety Depression Scale scores and Hamilton Depression Rating Scale scores was found to be statistically significant ($r = 55$; $p < 0.001$).

CONCLUSION: Results suggest that Hospital Anxiety Depression Scale can be used as an effective tool to screen and quantify depression.

KEY WORDS: Urdu Version, Hospital Anxiety Depression Scale, Hamilton Depression Rating Scale, Screening, Depression, Post-Myocardial Infarction.

INTRODUCTION

Identification and quantification of depression is important among patients suffering from medical illness for many reasons. Firstly, general medical conditions may be associated with depressive features¹⁻⁴, and illness⁵. These co-morbid psychiatric illnesses affect the prognosis and outcome of medical conditions and act as independent risk factors for morbidity and mortality; such as studied for cardiac illnesses⁶⁻⁸. In some studies, presence of depression at the time of acute attacks of myocardial infarction increases the death rate up to 6 times in cardiac patients⁹. Other studies have found depression to be a major determinant of health related quality of life in older cardiac patients¹⁰. Studies on mortality among post-myocardial infarction patients suggest a major difference of depression among survivors and non-survivors¹¹.

In view of these facts and findings, it is apparent that depression should be identified as early as possible in these patients, for which different instruments have been used. Hospital Anxiety Depression Scale¹² has been in use for the identification of caseness among hospitalized medical population¹³⁻¹⁵. This scale has been studied to effectively detect depression among cardiac patients as well¹⁶. In order to use this scale among non-English speaking people, different language versions have been reproduced and validated^{17,18}.

Due to its effectiveness in detecting caseness in hospital population, Hospital Anxiety Depression Scale (HADS) has also been translated into Urdu¹⁹. Treatment of depression among cardiac patients has been found to be advantageous with respect to the morbidity and mortality²⁰⁻²³. This requires clinical examination of these patients by a psychiatrist to diagnose depressive disorder but these depressed patients with cardiac or other physical illnesses are not attended by psychiatrist. So there is a strong need that the clinicians attending these depressed patients with physical illness must be well versed with skills of identifying and monitoring clinical depression. One of the easy and less time and resource consuming solution to this issue is the identification of the suitable, simple and easy to apply self administered questionnaire that can be used by non-psychiatric clinicians to identify and monitor depression among these cardiac or otherwise physically ill depressed population. With this idea in mind this study was designed to determine the validity of Urdu version of Hospital Anxiety Depression Scale in finding out depression and to correlate HADS scores with the scores of HAM-D among coronary cardiac patients.

PATIENTS AND METHODS

This is a retrospective study. Record of the patients,

which had been studied for an earlier research, to identify depressive features among patients with first myocardial infarction, was searched.

Patients had been rated for depressive states using Urdu version of Hospital Anxiety Depression Scale¹⁹, during hospitalization in National Institute of Cardio-Vascular Diseases (NICVD) and the Cardiology Department of Civil Hospital Karachi during one-month period (23rd October to 22nd November 1998), for myocardial infarction. Patients with first myocardial infarction were included in the study. After a period of two weeks, patients with higher scores on Hospital Anxiety and Depression Scale (cut-off value 11¹²) were again followed. They were visited at their residence and a standard diagnostic interview, based on Present State Examination²⁴, was conducted. Their diagnoses were made using WHO's International Classification of Diseases 10th version²⁵ (ICD-10). They were also rated for the severity of depression using Hamilton Depression Rating Scale by a trained psychiatrist.

With this background, we compared the scores of Urdu Version of Hospital Anxiety Depression Scale¹⁹ and Hamilton Depression Rating Scale²³, of each patient included in this study.

RESULTS

During the period of study 1460 patients were admitted in these two facilities. Out of these admitted patients 28.9% were provisionally suspected as case of first myocardial infarction. Thorough clinical assessment and pertinent laboratory investigations conformed, first myocardial infarction in 36.97% of suspected cases. Finally 156 patients of diagnosed first myocardial infarction fulfilled the inclusion criteria of study. Similar pattern of presentation was observed at both places of study (Table I). After application of HAD scale 34% of the 156 patients fulfilling the inclusion criteria were suspected to have depressive symptom (Table II).

Fifty-three patients who scored high on HAD scale were re-interviewed after 2 weeks of discharge from hospital. Their depressive symptoms were evaluated during interview and quantified through Hamilton Depression Rating Scale. Eventually depressive disorder was confirmed in only 22% of patients scoring high on HAD scale. The depressed patients in this sample consisted of 26.5% females and 73.5% males. (Table III).

Correlation coefficient calculated for HAD scale and Hamilton depression scale showing severity of

depression. The direct inter-relation was found between HAD scale and Hamilton depression scale as shown by linear regression line between the scores of two scales which intercept (Figure I). The increase in one unit in HAD will increase 0.93 unit of Hamilton with confidence interval .33 < R < 0.72. There is linear regression line between Hospital Anxiety and Depression Scale scores and Hamilton Depression Scale scores, which intercept.

Confidence interval 0.33 < R < 0.72 HAD has direct relation with HAM-D the increase in one unit in HAD will increase 0.93 unit of HAM-D. (Figure I).

**TABLE I:
CASES REGISTERED AND SCREENED FROM
23-10-98 TO 22-11-98**

Place of Admission	Patients Registered Study	Patients Suspected for 1st Myocardial Infarction	Patients of 1st Myocardial Infarction included in study
NICVD*	1327	392 (29.5%)	146 (11.0%)
CHK**	133	30 (22.6%)	10 (7.5%)
Total	1460	422 (28.9%)	156 (10.7%)

* National Institute of Cardiovascular Diseases

** Civil Hospital Karachi

**TABLE II:
PATIENTS SELECTED ON HOSPITAL ANXIETY
AND DEPRESSION (HAD) SCALE SCORE**

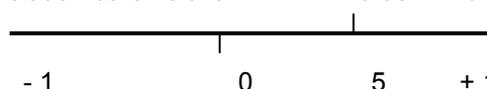
Place of Examination	Patients with High HAD Score	Patients with Low HAD Score
NICVD * (n = 146)	50(34.2%)	96 (65.8%)
CHK ** (n = 10)	03(30%)	07 (70%)
Total (n = 156)	53 (34.0%)	103 (66.0%)

* National Institute of Cardiovascular Diseases

** Civil Hospital Karachi

FIGURE I:

Hamilton score = 0.39 + 0.93 HAD score.
Correlation co-efficient $r = 0.55$ P < 0.001



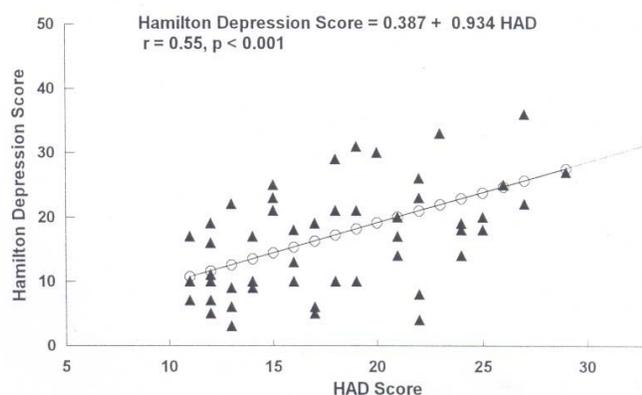
**TABLE III:
SEX DISTRIBUTION ACCORDING TO PSYCHIATRIC MORBIDITY 2 WEEK AFTER DISCHARGE FROM HOSPITAL**

Psychiatric Morbidity	Male (n = 128)	Female (n = 28)	Total (n = 156)
Present	25(19.5%)	9(32.2%)	34(21.8%)
Absent *	103(80.5%)	19(67.8%)	122(78.2%)

* Absent psychiatric morbidity case include low HAD score cases and patient who become negative on 2nd interview.

GRAPH I:

Relationship between HAD and Hamilton Depression Score



DISCUSSION

In this study, correlation between self-administered HAD scale score and severity of depression revealed by Hamilton depression scale, have been presented. The data for this study was derived from the record of study to find out prevalence of depression after first myocardial infarction. The study shows that Hospital Anxiety Depression is an effective screening instrument in detection of depression among patients suffering from medical illness. The H.A.D Scale is simple self-administered test that uses “Yes/No” response which has been found to be easier to comprehend by our patient in public hospital. The Hospital Anxiety and Depression Scale would be preferred in screening for and measuring depression in medical setting, since it needs lesser time to administer²⁶. Although the observer-based Hamilton Depression Rating Scale has similar predictive validity, it requires trained staff to be administered and may, therefore, be less desirable for measuring Depression in day-to-day practice. The relatively high accuracy and specificity of the Hamilton depression scale make this instrument more suitable

for diagnostic and dichotomization purposes. Since the correlation coefficient between the two scales is significantly high in this study like other studies²⁷, it may be suggested that Hospital Anxiety Depression Scale can be used to quantify severity of depression among non-psychiatric hospital population and at primary care level²⁸, specially in our part of the world, where it seems less likely that a Depressed patient with physical comorbid keeps regular follow-ups at psychiatric clinics.

CONCLUSION

Identification and quantification of depression is important among patients suffering from medical illness and is relatively easy through the use of self-administered HAD scale. Urdu Version of HAD scale is valid device not only to screen but also to quantify depression among hospitalized non-psychiatric population in Pakistan, as it has direct correlation with Hamilton depression scale. However, for such a conclusion to be made sample size is low; which is a limitation of the study.

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AUTHOR AFFILIATION:

Dr. Raza-ur-Rahman (*Corresponding Author*)

Professor, Department of Psychiatry
Dow University of Health Sciences/Civil Hospital
Karachi, Sindh-Pakistan.
Email: razaur@yahoo.com

Dr. Moin Ahmed Ansari

Assistant Professor
CJIP/Liaquat University of Medical and Health Sciences
(LUMHS), Jamshoro, Sindh-Pakistan.

Dr. Aftab Ahmed Siddiqui

Professor, Head of the Department of Medicine
Liaquat College of Medicine and Dentistry/
Darul-Sehat Hospital, Karachi, Sindh-Pakistan.

Dr. Wajid Ali Akunzada

Assistant Professor Psychiatry
Khyber Girls Medical College
Hayat Medical Complex, Peshawar-Pakistan.

Dr. Zafar Hayder

Registrar, Department of Psychiatry
Jinnah Postgraduate Medical Centre
Karachi, Sindh-Pakistan

Dr. Mohan Lal Luhano

Senior Lecturer, Department of Pharmacology
LUMHS, Jamshoro, Sindh-Pakistan..