FEASIBILITY OF GMHAT- PC USE IN CLINICAL SETTINGS: A SYSTEMATIC REVIEW

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Abstract

The Global Mental Health Assessment Tool for primary care (GMHAT/PC) is a computerised semi-structured interview tool to support a healthcare worker in the assessment of patients presenting with mental health symptoms. We systematically searched the literature to identify the Feasibility of GMHAT Tool in clinical settings. Papers were retrieved by systematically searching electronic databases including Medline Embase and CINAHL from 2002 onwards till 2020. MeSH words were used with Boolean operators. Pairs of raters used structured tools to analyze these articles, through critical appraisal and data extraction. 6 eligible studies were analysed. The results show that the use of GMHAT/PC is highly acceptable to patients. It uses is feasible in terms of time taken for diagnosis and to initiate treatment. This research is important because it shows how the use of a tool such as GMHAT/PC could support healthcare workers in their practice, facilitating more accurate diagnoses and hopefully reducing the burden of mental health disorders for the individual and their societal settings as prompt treatment can be accessed if found mentally ill or vulnerable. The study concluded that GMHAT have a big impact upon mental health service provision across nations as GMHAT/PC will assist primary care physicians and other frontline health workers in detecting and managing mental health disorders in the communities. There is no other comparable easy-to-use comprehensive mental health diagnostic tool available.

Key words: GMHAT, feasibility, acceptability, tool

Introduction

The Global Mental Health Assessment Tool for primary care (GMHAT/PC) is a computerised semi-structured interview tool to support a healthcare worker in the assessment of patients presenting with mental health symptoms. In recent years, the comorbidity of mental disorders with chronic health conditions has emerged as a topic of considerable clinical and policy interest. A vast majority of people with mental disorders including those with severe mental illness view primary care as the cornerstone of their health care system. (1) The low and middle-income countries therefore have few doctors and even fewer psychiatrists, because of the high cost of medical education and the problems with retention of doctors once they have qualified. There is no foreseeable answer to this problem. As a result, many thousands of

mentally ill people remain untreated. The challenges of establishing satisfactory community mental health services in developing countries have been addressed by Murthy and Kumar highlighting the need for training on mental health to health workers and utilizing community resources in providing care to the mentally ill (2). Sharma and Copeland have developed a computer-assisted semi-structured, interviewer rated package, the Global Mental Health Assessment Tool (GMHAT/PC), with primary care workers, which has already been translated into a number of languages of low- and middle-income countries. The package is an innovative way to address this problem. This method aims to improve the recognition of mental illness in primary care and initiation of appropriate treatments by skilling up primary care workers (3). Research so far has demonstrated the feasibility of using this method in primary care and general health setting. (4) Patients on the whole received the GMHAT/PC assessment well and said they found it helpful as it covered more aspects of their mental health than the usual consultation. As it covers a wide range of mental disorders including psychoses and organic disorders should prove useful in their early and accurate detection. (5)

The main difficulty in assessing mental health of this group of patients is lack of time and in most instances lack of mental health assessment training and skills amongst physicians and other health professionals. One realistic possibility is to provide brief training to practitioners in the rehabilitation units to assess patients' mental health.

Screening questionnaires like HADS do not consider a broader spectrum of psychiatric disorders such as OCD, dementia, phobias and psychosis (6). This creates a requirement for a broader screening and diagnostic tool for mental health problems, which can be used in a cardiac rehabilitation population by non-psychiatrically trained people using a minimum amount of time. The self-assessment scales and interview schedules currently available have limited value in day-to-day clinical practice. Most were developed for research purposes; many require extensive training prior to use. They predominantly cover only a limited range of clinical problems such as anxiety and depression (7). Therefore, this review aims to assess the feasibility of the GMHAT tool.

Material and Methods
The electronic databases searched included Medline Embase and CINAHL. The search terms relating to HRQoL included 'quality of life', 'health-related quality of life', 'health status measurement', 'functional status' and 'subjective health status'. These terms were each combined with a further search term relating specifically to GMHAT. These consisted of 'GMHAT', 'Tool' and 'Feasibility' 'Validity'. Following this, two reviewers independently evaluated an assigned subset of articles using previously developed data extraction forms and quality appraisal tools. Each specific item on the quality appraisal tool was openly discussed to reach consensus.

Quality Assessment
Two reviewers evaluated methodological quality independently using PEO, which provides information on observational studies such as cohort studies, case control and cross sectional

studies. After the independent evaluation, two reviewers met to discuss the article. Each specific item on the quality appraisal tool was openly discussed to reach consensus. This process identified whether disagreements were related to facts or adherence to the defined standards. Then, two investigators independently extracted the data from each selected study using a structured data extraction form.

Patient	Patient admitted with any problem
Exposure	GMHAT tool application
Outcome	Results obtained after the use of GMHAT tool application

Results

Table 1 Prisma Flow diagram depicted the inclusion of the articles. The total 6128 articles were identified from the search databases; 5192 duplicates were removed. 936 articles screened for the eligibility against the criteria. Out of the 22 eligible articles, 6 studies matched with the criteria. The characteristics of the six articles for the review are explained in the table no 2.
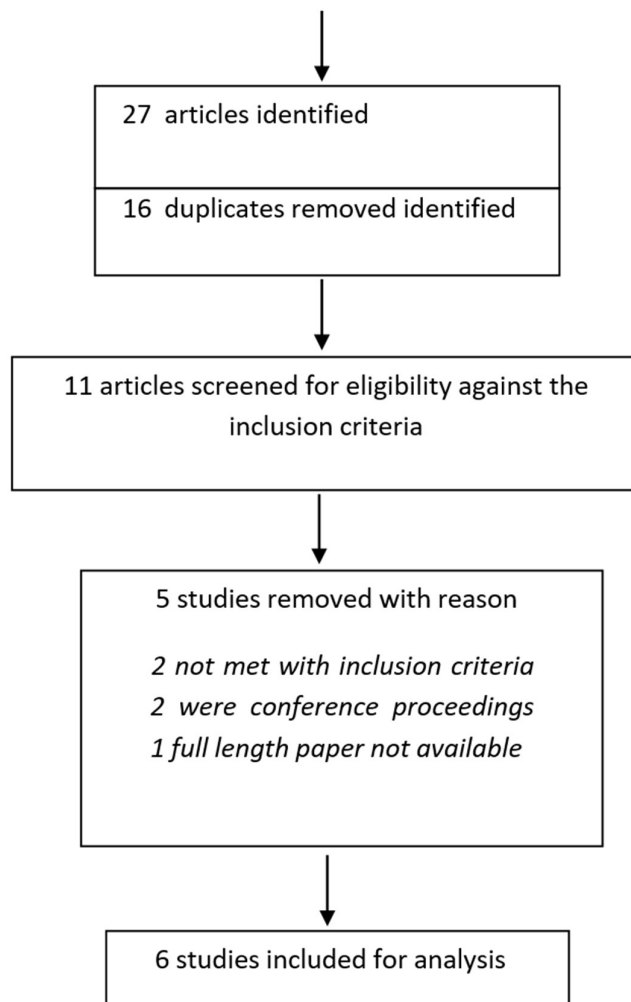
Table no 1: PRISMA Flow Chart

27 articles identified

16 duplicates removed identified

11 articles screened for eligibility against the inclusion criteria

5 studies removed with reason

2 not met with inclusion criteria
2 were conference proceedings
1 full length paper not available

6 studies included for analysis

Table No 2 Characteristics of the studies

Author	Study Type	Setting	Sample Size	Outcome
Paola Tejada et al (8)	Cross Sectional Observational study	Columbia	299	GMHAT/PC shows good agreement with psychiatrist diagnosis for any mental disorder
Vimal k Sharma et al (3)	Cross Sectional study	India	82	The agreement between psychologists' GMHAT/PC interview diagnoses and psychiatrists' clinical diagnoses was excellent
Murali Krishna et al (9)	Cross sectional study	UK	118	The agreement between GMHAT/PC interview-based diagnoses and consultant psychiatrists' ICD-10 criteria-based clinical diagnosis was good
Laxman Datt Bhatt et al (10)	Cross Sectional Study	Nepal	134	The tool had good sensitivity
Vimal K Sharma et al (11)	Cross Sectional Study	UK	181	GMHAT/PC is a valid and reliable computerised tool for diagnosis of mental disorders in the elderly.
Quinn et al(12)	Mixed Method	UK	198	Ninety-nine per cent (99%)of the patient participantsfound the use ofGMHAT/PC in their clinical assessment either "somewhatacceptable" or "very acceptable

Paola Tejada et al (2016) assessed the feasibility and the level of agreement between the Spanish version GMHAT/PC diagnosis and psychiatrists'; ICD-10 based clinical diagnosis. Participants in the study ranged from those who were in remission to others who had different mental illnesses. They were recruited from inpatient and outpatient mental health settings. There is good level of sensitivity (81%) and specificity (92%), with GPs correctly identifying 242 out of the 250 participants diagnosed with mental illness and 27 out of 35 of those without. The finding of the study suggest that GMHAT/PC Spanish version used by GPs detected mental disorders accurately and it was feasible to use GMHAT/PC (Spanish version) in Latin America settings. (8)

Vimal k Sharma et al (2010) assessed the feasibility of using a computer assisted diagnostic interview by health professionals and to examine the level of agreement between the Hindi version GMHAT/PC diagnosis and psychiatrists' ICD-10 based clinical diagnosis. : All consecutive patients attending the psychiatric outpatient clinic were interviewed using GMHAT/PC and psychiatrists made a diagnosis applying ICD-10 criteria for a period of six weeks. Most patients were pleased that they were asked about every aspect of their mental health. The agreement between

psychologists' GMHAT/PC interview diagnoses and psychiatrists' clinical diagnoses was excellent (Kappa 0.96, sensitivity 1.00, and specificity 0.94) (3)

Murali Krishna et al (2009) assessed the feasibility of using a computer assisted diagnostic interview by nurses for patients attending Cardiac Rehabilitation Clinics and to examine the level of agreement between the GMHAT/PC diagnosis and a Psychiatrist clinical diagnosis. A total of 118 patients were assessed by nurses and consultant psychiatrist in cardiac rehabilitation centres. The kappa coefficient (κ), sensitivity, and specificity of the GMHAT/PC diagnosis were analysed as measures of validity. The agreement between GMHAT/PC interview-based diagnoses and consultant psychiatrists' ICD-10 criteria-based clinical diagnosis was good or excellent (κ = 0.76, sensitivity = 0.73, specificity = 0.90). The prevalence of mental disorders in this group was 22%, predominantly depression. Very few cases were on treatment. (9)

Laxman D Bhatt et al (2020) Validated and examined Feasibility of Global Mental Health Assessment Tool Primary Care Version in Primary Healthcare Setting of Nepal. Average time taken for the interview, patient satisfaction and completion of interview by the patient was taken as an indicator of feasibility. The tool had good sensitivity 0.79 (95% CI: 0.73-0.85) and excellent specificity

0.94 (95% CI: 0.83 –1). Overall there was a good level of agreement between psychiatrist and GMHAT/PC tool 0.76 (95% CI: 0.67 –0.84) (10)

Vimal K Sharma et al (2010) conducted one another study to assess the validity and feasibility of the GMHAT/PC in the population over the age of 60. They measured the sensitivity and specificity of GMHAT/PC by comparing the agreement between a consultant psychiatrist's ICD-10 criteria-based clinical diagnosis and the GMHAT/PC computer-derived diagnosis in this population. The study was carried out in three settings in the UK: a psychiatric day hospital for older people in London. GMHAT/PC is a valid and reliable computerized tool for diagnosis of mental disorders in the elderly. GMHAT/PC can be administered by non-mental health trained professionals to derive accurate mental health diagnoses (11)

Quinn et al (2021) assessed the acceptability, feasibility, and utility of the Global Mental Health Assessment Tool for Primary Care (GMHAT/PC) in a UK primary healthcare setting. study deploys mixed methods research strategies in a UK general medical practice setting.: Ninety-nine per cent (99%) of the patient participants found the use of GMHAT/PC ⬜in their clinical assessment either "somewhat acceptable" or "very acceptable" (2 (1) = 6.636, N = 198, p = .010). Most healthcare workers identified time as a barrier to GMHAT/PC's feasibility but viewed its use as feasible, provided that additional time was available for the assessment, such as extra appointment time, arranging an appointment at the end of a consulting session, or delegating the assessment to another healthcare worker with less time pressures (12)

Discussion

In this systematic review, we comprehensively evaluated the feasibility of GMHAT tool. Paola Tejada et al reported that the GMHAT/PC shows good agreement with psychiatrist diagnosis for any mental disorder. The tool has better agreements for the diagnosis of psychosis, depression, bipolar (mania) and alcohol and drug abuse. The agreement was excellent for the diagnosis of organic disorders. It's important to clarify that Kappa values are affected by the prevalence of the diagnosis (13). That could explain the low agreement for anxiety disorders because those are the diagnosis with the lowest number of cases. The GMHAT shows a very good capacity to exclude any diagnosis correctly. This applies also with the diagnosis with low sensitivity. High levels of specificity are important because demonstrate that the GMHAT/PC is more a diagnostic instrument than a screening instrument. The results from Vimal K Sharma (2010) are encouraging and appear to support the view that other health professionals such as psychologists, and possibly others with some training can use the computer-assisted program GMHAT/PC in different cultures in making a valid assessment and diagnosis of mental disorders(3) High mental health morbidity has a particular adverse effect on general health and social wellbeing in the population of developing countries. Patel et al. highlighted that common mental health conditions such as depression, schizophrenia, alcohol misuse, etc, can be treated effectively in low- and middle income countries. (14) However, the lack of adequate mental health resources to deal with such a vast problem in India remains a challenge which may partially improve with the help of the voluntary sector (15) Until recently cardiac rehabilitation services did not routinely offer screening and assessment for psychiatric illnesses. Murali Krishna et al emphasised on the requirement for a broader screening and diagnostic tool for mental health problems like the GMHAT/PC, which can be used in cardiac rehabilitation populations by non-psychiatrically trained health professionals taking a minimum amount of time to administer(9) Mid-level health workers and possibly others health workers having some training, can use the computer assisted programme GMHAT/PC to make a valid assessment and diagnosis for early detection and management of mental health related problem.(10) With the advanced role of health care professionals, nurses both in primary care and general health settings could use GMHAT/PC across all age groups for diagnosing most mental disorders(16)

Bias Assessment

A systematic review of published studies is limited by the fact that it excludes unpublished data and this may result in publication bias.

Limitation of The Study

Social desirability bias may be a limitation of this type of study although some observations suggest that this was not substantial. Subjective measurements by an individual of their own confidence cannot be standardised by any yardstick other than the individual themselves

Conclusion

The results of this systematic review indicate that it shows how the use of a tool such as GMHAT/PC could support healthcare workers in their practice, facilitating more accurate diagnoses and hopefully reducing the burden of mental health disorders for the individual.

Future research should assess the value of semi-structured interview tools, such as GMHAT/PC, in developing trainee healthcare workers' skills in mental health assessments, most particularly for common mental health disorders which cause significant disability for a large proportion of Society. It is helpful tool in correct diagnosis and prompt treatment towards mental illness.

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