## Project Title

Validation of the 12-item World Health Organization Disability Assessment Schedule (WHODAS) 2.0 for Measuring Functional Disability in Patients with Schizophrenia

## Project Lead and Members

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## Organisation(s) Involved

Institute of Mental Health

## Healthcare Family Group(s) Involved in this Project

Allied Health, Healthcare Administration, Medical

## Applicable Specialty or Discipline

Research

## Aims

The aim of the current analysis was to validate the 12-item World Health Organization Disability Assessment Schedule 2.0 (WHODAS 2.0) as a generic instrument for measuring functioning and disability in patients with schizophrenia in Singapore.

## Background

Please refer to the poster attached for details

*Curated by CHI Faculty: Prof Loo Shi, Senior Consultant, Surgery, TTSH*

## Methods

Please refer to the poster attached for details

## Results

Please refer to the poster attached for details

## Lessons Learnt

Please refer to the poster attached for details

## Conclusion

Please refer to the poster attached for details

## Additional Information

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## Project Category

Applied/Translational Research, Quantitative Research

## Keywords

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# Validation of the 12-item World Health Organization Disability Assessment Schedule (WHODAS) 2.0 for measuring functional disability in patients with schizophrenia

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## Introduction

Schizophrenia is a severe mental disorder characterized by an array of symptoms including delusions, hallucinations, disorganized speech or behaviour, and impaired cognitive ability (Patel et al, 2014). Disability has increasingly become an important indicator of disease burden and for evaluating the effectiveness of health interventions among patients with schizophrenia. A growing number of studies across all diseases have used the World Health Organization Disability Assessment Schedule 2.0 (WHODAS 2.0) to measure disability (WHO,2010). The WHODAS 2.0 is a generic assessment instrument developed by World Health Organization (WHO) to provide a standardized method for measuring functional disability across diseases and cultures. The WHODAS 2.0 is free to use, short, simple, easy to administer (5 to 20 minutes) and applicable in both clinical and general population settings (WHO, 2010).

In the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), the Global Assessment of Functioning Scale (GAF) has been removed and the WHODAS 2.0 has been recommended as a replacement (Sjonnesen et al., 2016). With the recent major change in the DSM-5 and introduction of functioning measures in the 11th edition of the International Classification of Diseases (ICD-11), it is expected that the ICD-11 and DSM-5 will likely encourage the use of the WHODAS 2.0 in patients with schizophrenia.

Despite this new direction, the use and the validity of the WHODAS 2.0 in Singapore are still limited.

## Objective

The aim of the current study was to validate the 12-item World Health Organization Disability Assessment Schedule 2.0 (12-item WHODAS 2.0) as a generic instrument for measuring functional disability in patients with schizophrenia in Singapore.

**WHODAS 2.0**
WORLD HEALTH ORGANIZATION
DISABILITY ASSESSMENT SCHEDULE 2.0

## Methods

This cross-sectional study recruited patients seeking treatment at outpatient clinics of the Institute of Mental Health.

*Inclusion criteria:*
- Singapore citizens or permanent residents aged 21 years and above
- Can speak and read in English
- Having a clinical primary diagnosis of schizophrenia spectrum disorder
- Stable patient as assessed by the clinician and capable to provide consent to the study.

*Measures:*
- 12-item WHODAS 2.0
- Social and Occupational Functioning Assessment Scale (SOFAS)
- Montreal Cognitive Assessment (MoCA)
- Positive and Negative Syndrome Scale.

Sociodemographic information of the participants were also captured.

*Statistical analysis:*
A series of confirmatory factor analyses (CFA) were conducted to examine the structural validity of the 12-item WHODAS 2.0. Root mean square error of approximation (RMSEA, cut-off of $\leq 0.08$) , comparative fit index (CFI, cut-off of $\geq 0.95$) and Tucker-Lewis index (TLI, cut-off of $\geq 0.95$) were used to evaluate the overall fit of each structural model.

The internal consistency reliability, convergent validity, and test-retest validity were tested using Cronbach's alpha, Pearson correlation, and intraclass correlation coefficients.



Figure 1. Demographic profile of the sample

Participant profile (N=189)
Mean age : 36.9 years (SD=10.5)

■ Male (49.7%)  ■ Female (50.3%)

| Ethnicity | Male | Female |
|---|---|---|
| Chinese | 67 | 71 |
| Malay | 12 | 11 |
| Indian | 8 | 12 |
| Others | 7 | 1 |

## Results

A total of 189 outpatients with schizophrenia were recruited (Fig. 1). CFA confirmed one-factor model structure of the 12-item WHODAS 2.0 (RMSEA=0.80, CFI=0.983, TLI=0.977) (Fig. 2). The instrument demonstrated high internal consistency (Cronbach's alpha =0.91) and adequate construct validity. The correlation between the 12-item WHODAS 2.0, SOFAS and the MoCA were inversely significant and ranged from -0.15 (MoCA) to -0.41 (SOFAS). While the correlation coefficient between the 12-item WHODAS 2.0 and PANSS subscales were positively significant and ranged from 0.18 (PANSS negative) to 0.41 (PANSS general psychopathology), respectively. The agreement between self-administered and interviewer administered mode, estimated based on an intraclass correlation coefficient seems to be good (0.80, 95% CI: 0.63-0.90).



Figure 1. One-factor model structure of the 12-item WHODAS 2.0

## Conclusion

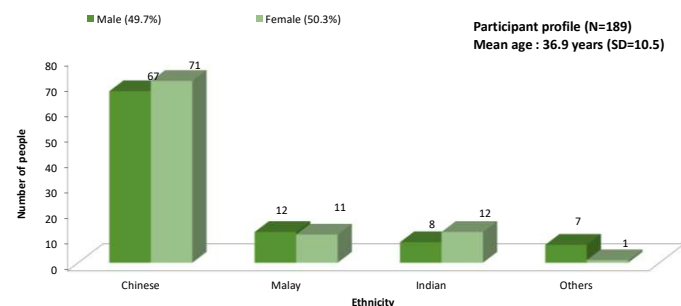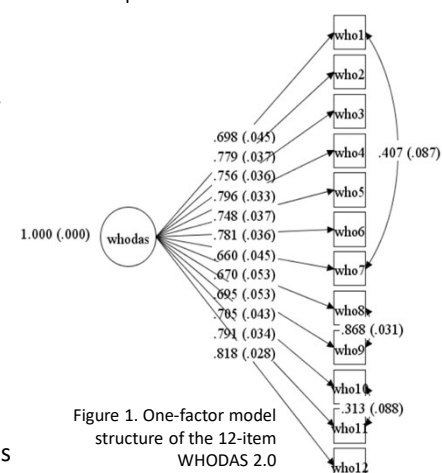12-item WHODAS 2.0 was found to be a valid generic measure of functional disability among patients with schizophrenia in Singapore.