Translation and cross-cultural adaption of an instrument measuring patient's well-being under treatment for schizophrenia

by Andi Hermansyah

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Abstract

Objectives: The Subjective Well-Being under Neuroleptic (SWN) Scale is a self-rating scale measuring the well-being of patients with schizophrenia under antipsychotic drug treatment. The instrument has been globally used, with issues regarding the well-being assessment scale across different cultures, patient characteristics, and countrysetting remains a controversy. This study aimed to translate and culturally adapt the SWN scale into the Indonesian version (Indonesian Modified SWN or IM-SWN) and evaluate its validity and reliability.

Methods: The SWN instrument was translated and culturally adapted following internationally accepted procedures, including forward translation, expert panel review, backward-translation, pretesting and cognitive interviewing, and psychometric analysis for the final version of the scale. The translated instrument was tested on 108 schizophrenia patients. The instrument's validity and reliability were assessed using Pearson's correlation and Cronbach's Alpha coefficient. Additional analysis for the socio-demographic and psychometric properties of the patient was also conducted.

Results: The range of IM-SWN total score between 30 and 112. IM-SWN was found to have a high-reliability coefficient (0.897), and the internal consistency values of each question item ranged between 0.885 and 0.910. The results also showed a high correlation between five order factors (Physical functioning, mental functioning, self-control, emotional regulation, and social integration), with a total score of between 0.768 and 0.885.

Conclusions: This study highlighted that the IM-SWN is a valid and reliable instrument for measuring well-being among the Indonesian population with schizophrenia.

Keywords: antipsychotics; mental health; schizophrenia; subjective well-being; translation.

Introduction

Within the past 10 years, there has been shifting focus on measuring patients' quality of life towards evaluating a complex set of Economic, Clinical and Humanistic Outcome (ECHO) based on patients' subjective experiences [1]. The World Health Organization (WHO) described the quality of life as "individual perceptions of their position in life in the context of the culture and value system in which they live, and in relation to their goals, expectation, standards, and concerns" [3]. The definition highlights the need to maintain quality of life in the longer term, which might be an issue for patients who received long-term therapy, such as schizophrenia.

Poor patient compliance, service disengagement, and comorbid disorder are some features attributed to the low quality of life in a patient with schizophrenia [2]. Moreover, the patient's condition might even be worsened with disabilities, severe mental illness, and a plethora of disruption both socially and individually to the patient's life [4]. Therefore, it is not surprising that treatment for patients with schizophrenia may comprise understanding the patient's autonomy, right, and opinion as an adjunct to pharmacological treatment [4]. The long-term goal for patients with schizophrenia is improved initial response of therapy, decreased level of severity, and improved social

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functioning and life quality. This is why measuring the quality of life in such patients is challenging.

A number of published studies focused on evaluating the quality of life from the physician perspective; for instance, the Quality of Life Scale (QLS) [6-13]. However, this might be insufficient as patients with schizophrenia generally receive antipsychotic medication, which has not been included in such measurement. Therefore, compliance towards antipsychotic treatment is essential to be included within the full spectrum of measuring patients' quality of life [5]. Recently, there has been a change of interest in measuring the patient's well-being, such as the Subjective Well-being under neuroleptics (SWN) scale. The Subjective Well-being under neuroleptics (SWN) scale is an example of the questionnaire to assess the patient's quality of life [14, 15]. This questionnaire has been utilized in various current studies [16-19]. The SWN is translated into more than 40 languages [20-27]. However, there is no available scale developed in the Indonesian language despite the significant population of Indonesians suffering from schizophrenia. The presence of such scale may demonstrate its significance to the treatment in Indonesia. The objective of this study is to measure the validity and reliability of the Indonesian version SWN questionnaire as part of the translation and adaptation of the instrument.

Materials and methods

Study design

Ethics approval was obtained from the Research Ethics Committee of Menur Mental Hospital, Surabaya, East Java (No. 070/7556/305/2019) which was also the site for this study. From the electronic mail correspondence on 24 December 2019, the research team gained official permission and confirmation from the SWN scale developer to develop the scale into Indonesian. The study was a cross-sectional design with participants, which were purposively sampled.

Participants

Outpatient schizophrenia patients were selected for this study. The inclusion criteria are patients with schizophrenia, aged 18 or older, consented to participate in the study and a patient who has no vision problems. The exclusion criteria are patients who suffered from other psychiatric illness and patients diagnosed with brain dysfunction or cognitive impairment. Informed consent was acquired from all participants prior to beginning the study. Participants were involved only after they signed informed consent. All researchers ensured participant data confidentiality and compliance with the Declaration of Helsinki. The total participants were 108 schizophrenia patients

who completed the study; they either participated in online or offline interviews.

Instrument

The original subjective well-being under neuroleptic treatment scale (SWN) consisted of 38 statements and later modified by the author in a shorter form consisted of 20 statements, each consists 10 positive statements and 10 negative statements, respectively [14, 15]. The patients filled out this questionnaire based on their understanding of health status, symptoms of psychosis, the effect on the antipsychotic, and nonmedical aspect through the preceding 7 days [15].

This study applied 6-point Likert scale from SWN short form (1–6). The total score varies from 20 to 120 points, and the higher score indicates greater well-being. There are five domains of SWN: physical function (PF), mental function (MF), self-control (SC), emotional regulation (ER), and social integration (SI) with each domain consisted of four statements. The score ranges for each domain from 4 points (worst) to 24 points (best) [15].

Translation, cross-cultural adaption and SWN validation in Indonesian language

This study **followed the Principles of Good Practice for the Translation** and Culture Adaption **Process** to adapt **the** SWN short form into Indonesian version [28]. The original questionnaire was translated into Indonesian by a sworn translator and reversed back into English translation by a different sworn translator blindfolded to the original version.

Both versions have been analyzed and reviewed to be as accurate as possible to the original English version by three authors (JJ, UA, and AH), who are competent and fluent in Indonesian and English. The final Indonesian-language version was achieved through consensus among authors. The comprehensiveness of every part and items in this form was then examined by an expert panel involving one psychiatrist, two mental health pharmacists, and one schizophrenia caregiver from Indonesian Community Care for Schizophrenia (Figure 1).

Data analysis

We used the IBM SPSS for windows version 24.0 for data analysis, and a p<0.05 was considered statistically significant. Descriptive analysis was presented for characteristics of participants and psychometric properties of SWN Indonesian version. For reliability analysis, the coefficient of internal consistency (Cronbach's Alpha) which is calculated based on the variance of each item, was utilized. The Pearson correlation coefficient was calculated to test the construct validity. Analysis Moment of Structural (AMOS) program was used for confirmatory factor analysis (CFA).

Results

Table 1 reveals that male patients were major respondents (57%), the age ranged from 31–49 years were dominant

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Julaeha et al.: Patient's well-being under treatment for schizophrenia ---- 343

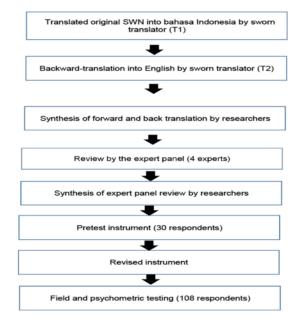


Figure 1: Flowchart of adaption of SWN into Indonesian version.

(65%) and most of the patients were single (60%), 37% have secondary education, and half of them were not a worker. The prescription frequency for antipsychotic as monotherapy was low (22%), with the majority of patients being on antipsychotics polypharmacy. Table 2 shows the lowest total score of SWN was 30, the highest total score of SWN was 112, and the mean of SWN scores were 82.88 (SD=16.745). The mean scores of self-control were highest (17.83; SD=3.266), followed by emotional-regulation (17.13; SD=4.501), social-integration (16.75; SD=4.752), mental function (15.95; SD=3.933), and physical function (15.21; SD=3.671).

The internal consistency among the Indonesian version items, as shown by Cronbach's coefficient alpha was high (0.897). This result also showed high internal consistency values of the items, which varied between 0.885 and 0.910 (Table 3). The construct validity of the scale was measured using Pearson correlations analysis. The construct validity for each domain and its total score between 0.768 and 0.885 (Table 4). A confirmatory factor analysis was conducted demonstrated comparative fit analysis index (CFI), the goodness of fit analysis index (GFI), root mean square of approximation (RMSEA) were 0.872 and 0.787, also root mean square error of approximation (RMSEA) were 0.79, respectively (Figure 2).

| Characteristics | n | % |
|-----------------------------|----|----|
| Gender | | |
| Male | 62 | 57 |
| Female | 46 | 43 |
| Age, year | | |
| 18-30 | 25 | 23 |
| 31-49 | 70 | 65 |
| 50-65 | 11 | 10 |
| >65 | 2 | 2 |
| Marital status | | |
| Single | 65 | 60 |
| Married | 32 | 30 |
| Divorced | 11 | 10 |
| Regional | | |
| East Java and Bali | 57 | 53 |
| Yogyakarta | 7 | 6 |
| Central Java | 22 | 20 |
| West Java and Banten | 11 | 10 |
| Jakarta | 6 | 6 |
| Sumatra and Borneo | 5 | 5 |
| Educational level | | |
| Elementary school | 6 | 6 |
| Junior high school | 12 | 11 |
| Senior high school | 40 | 37 |
| Diploma | 15 | 14 |
| Undergraduate or higher | 35 | 32 |
| Occupation | | |
| Full time | 31 | 29 |
| Part time | 30 | 28 |
| Not worker | 47 | 43 |
| Duration of treatment, year | | |
| <1 | 11 | 10 |
| 1-5 | 39 | 36 |
| 6-10 | 24 | 22 |
| >10 | 34 | 32 |
| Number of antipsychotics | | |
| Monotherapy | 24 | 22 |
| 2 antipsychotics | 46 | 43 |
| ≥3 antipsychotics | 38 | 35 |

Table 2: Psychometric properties of the Indonesian version scale (n=108).

| | Minimum | Maximum | Mean | SD |
|----------------------|---------|---------|-------|--------|
| Total score | 30 | 112 | 82.88 | 16.745 |
| Physical function | 4 | 24 | 15.21 | 3.671 |
| Mental function | 4 | 24 | 15.95 | 3.933 |
| Self-control | 8 | 24 | 17.83 | 3.266 |
| Emotional regulation | 4 | 24 | 17.13 | 4.501 |
| Social integration | 4 | 24 | 16.75 | 4.752 |

Table 1: Characteristic of respondent (n=108).

Table 3: Cronbach's alpha values of reliability tests (n=108).

| ltem | Minimum | Maximum | Mean | SD | Cronbach's α if item deleted |
|------|---------|---------|------|-------|---------------------------------|
| Q1 | 1 | 6 | 4.18 | 1.420 | 0.893 |
| Q2 | 1 | 6 | 4.47 | 1.300 | 0.889 |
| Q3 | 1 | 6 | 4.48 | 1.308 | 0.889 |
| Q4 | 1 | 6 | 4.06 | 1.693 | 0.885 |
| Q5 | 1 | 6 | 3.63 | 1.754 | 0.910 |
| Q6 | 1 | 6 | 3.82 | 1.668 | 0.885 |
| Q7 | 1 | 6 | 4.25 | 1.340 | 0.902 |
| Q8 | 1 | 6 | 4.53 | 1.329 | 0.889 |
| Q9 | 1 | 6 | 3.31 | 1.412 | 0.891 |
| Q10 | 1 | 6 | 4.21 | 1.565 | 0.887 |
| Q11 | 1 | 6 | 3.56 | 1.474 | 0.890 |
| Q12 | 1 | 6 | 3.99 | 1.556 | 0.890 |
| Q13 | 1 | 6 | 4.07 | 1.477 | 0.889 |
| Q14 | 1 | 6 | 4.32 | 1.509 | 0.889 |
| Q15 | 1 | 6 | 4.94 | 1.035 | 0.895 |
| Q16 | 1 | 6 | 3.80 | 1.605 | 0.889 |
| Q17 | 1 | 6 | 3.66 | 1.542 | 0.889 |
| Q18 | 1 | 6 | 4.28 | 1.310 | 0.897 |
| Q19 | 1 | 6 | 4.73 | 0.943 | 0.898 |
| Q20 | 1 | 6 | 4.57 | 1.320 | 0.886 |

 Table 4: Pearson correlation for each domain of the Indonesian version scale (n=108).

| | Pearson correlations | Sig. (2-tailed) |
|----------------------|----------------------|-----------------|
| Physical function | 0.798** | 0.000 |
| Mental function | 0.794** | 0.000 |
| Self-control | 0.768** | 0.000 |
| Emotional regulation | 0.885** | 0.000 |
| Social integration | 0.884** | 0.000 |

Pearson product moment correlation coefficients: small (0.10-0.29), medium (0.30-0.49), and large (>0.50); **p<0.01.

Discussion

Disease-specific quality of life and well-being instruments are more sensitive to treatment effects measure than generic instruments [29–31]. Patient report measurements may provide the most direct access to the individual's perceptions domain. The Indonesian version of SWN scale was created as an instrument for research and clinical practice to assess the subjective well-being in different dimensions of patients suffering from schizophrenia disorder medicated with antipsychotics.

The findings of this study showed acceptable internal consistency evidence, as well as construct validity for the modified scale. The modified scale's internal consistency was found not significantly differ from the original version (Cronbach's alpha=0.92), and the subscale reliabilities ranged from 0.818–0.852 [15]. It could, therefore, be concluded that the Indonesian version of SWN scale is internally consistent. Additionally, the principal component analysis results indicated that the Indonesian version is relatively similar to the original version [15]. In addition, the finding shows the correlation score is higher than SWN Turkish version (0.52–0.63) and Estonian version (0.55–0.68) [23, 24].

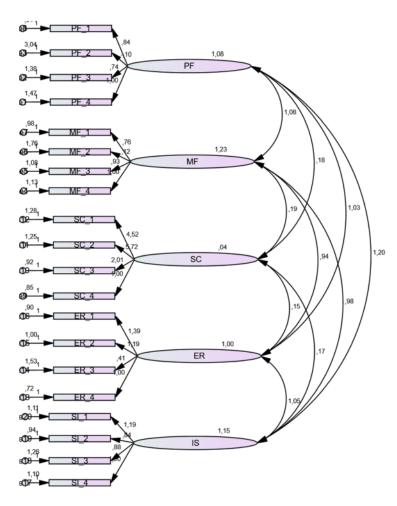
Recovery condition or functional remission in schizophrenia was determined as the attainment of three criteria: i) the ability to gain a job or voluntary work or to be an active student or head of a family with an engaged partner; (ii) independent life, single or with groups or spouse; and (iii) social connection with more than two contacts in the last 4 weeks or possessing a partner or spouse [32, 33]. Adequate subjective well-being can be used for an early outcome prediction and treatment planning [34]. The criterion of adequate subjective wellbeing was shown by SWN total score ≥80 points [32]. This study's results indicated more than half of patients with schizophrenia in functional remission condition based on these criteria.

This study shows no difference in the SWN score among participants based on different types and number of antipsychotics. Despite the controversy related to the impact of antipsychotics treatment on subjective wellbeing [14], this study offers the potential use of the Indonesian version as a scale to measure the subjective wellbeing of schizophrenia patients.

A cautious interpretation of the result of this study is required due to several methodological limitations. Firstly, this study sample size might not reflect and represent patients' overall condition with schizophrenia in Indonesia, particularly when the respondents in this study were recruited from outpatient settings. This is why further research in the inpatient setting is required, with larger-scale testing is necessary for the future. Secondly, this study did not examine a longterm period of the patient's condition, which this way may ignore any changes during the therapy. Therefore, a longitudinal study is recommended to observe the instrument's effectiveness when dealing with changes over time, including changes in age, social characteristics, and cognitive development. Thirdly, further study is needed to evaluate the Indonesian version's criterion validity, which was not part of this study analysis.

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Conclusions

This study highlighted that the IM-SWN is a valid and reliable instrument for measuring well-being among the Indonesian population with schizophrenia under neuroleptic treatment.

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Figure 2: Confirmatory factor analysis of IM-SWN (n = 108). *PF=physical function; MF=mental function; SC=self-control; ER=emotion regulation; IS=integration social. CFI=0.871; GFI=0.787; RMSEA=0.79

Author contributions: All authors have accepted responsibility for the entire content of this manuscript and approved its submission.

Competing interests: Authors stated no conflict of interest. **Informed consent:** Informed consent was obtained from all individuals included in this study.

Ethical approval: Ethical approval was obtained from the Research Ethics Committee of Menur Mental Hospital Surabaya, East Java, Indonesia with number 070/7556/305/2019.

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