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A psychometric evaluation of the Indonesian version of the Quality in Psychiatric Care-Inpatient Staff (QPC-IPS) instrument

Lars-Olov Lundqvist[a,*], Suryani[b], Dilfera Hermiati[b], Titin Sutini[b], Agneta Schröder[a,c]

[a] University Health Care Research Center, Faculty of Medicine and Health, Örebro University, Örebro, Sweden
[b] Faculty of Nursing, Padjajaran University, Jatinangor, Indonesia
[c] Department of Health Science, Faculty of Health, Care and Nursing, Norwegian University of Science and Technology (NTNU), Gjövik, Norway

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ABSTRACT

Aim: The aim of the present study was to evaluate the psychometric properties and factor structure of the Indonesian version of the Quality of Psychiatric Care - Inpatient Staff (QPC-IPS) instrument.
Methods: A sample of 192 permanently employed members of staff at two general psychiatric wards in Indonesia completed the QPC-IPS, which consists of 30 items covering six dimensions of quality.
Results: Confirmatory factor analysis revealed that the factor structure of the Indonesian version was equivalent to that proposed from the original Swedish QPC-IPS. Internal consistency for the full QPC-IPS was adequate, but poor for some of the factors. The results thus demonstrate that the concept of quality of care expressed in the QPC-IPS is to a large extent equivalent among staff in fundamentally different health care systems and cultural contexts.
Conclusion: The Indonesian QPC-IPS is a useful instrument for evaluating staff perception of psychiatric inpatient care in Indonesia, and thus contributes to health care improvement in the field of psychiatry. The QPC-IPS can be used together with the Quality of Psychiatric Care- In-Patient (QPC-IP) instrument, which is completed by the inpatients themselves, to improve the quality of psychiatric inpatient care and national as well as international benchmarking.

1. Introduction

Providing high quality services has increasingly become a major issue within health systems in developing countries. Health organizations face the challenge of providing access to health services at affordable costs while maintaining the integrity of the service quality (Nashrath et al., 2011). Psychiatric services, as a part of the health service, have the main function of promoting mental health through services that support healing, improve recovery, and prevent illness. The assessment of patients' perception of the quality of care in mental health services is often used in determining the quality of the service (Shiva et al., 2009), whereas staff judgments about service quality are seldom measured in mental health services (DeMarco et al., 2004; Valenstein et al., 2004). In fact, gaining a better understanding of the health professional's perspective on service quality can help identify strategies to improve the quality of mental health services (Nashrath et al., 2011), particularly by comparisons with the patients' perception of the care provided at the same ward (Lundqvist and Schröder, 2015). Thus, an instrument is needed that can assess patient and staff perceptions of the quality of the care provided in the same mental health services (McKenna et al., 2004). However, research and development of such instruments is limited (Sanchez-Balcells et al., 2018).

In Indonesia, there is no psychometrically evaluated instrument for assessing staff perception of the quality of mental health services. Recently, however, an instrument for assessing patients' perceptions of the quality of psychiatric inpatient care, the QPC-IP (Schröder et al., 2010), was adapted to the Indonesian cultural context (Lundqvist et al., 2018b). This instrument also has a staff version, the Quality of Psychiatric Care – Inpatient Staff (QPC-IPS), which has recently been psychometrically evaluated (Sanchez-Balcells et al., 2019b). The QPC-IPS is thus a potential instrument for measuring staff perceptions of the quality of care in mental health services in Indonesia.

Although QPC-IPS was developed in a Swedish context and demonstrated adequate reliability and validity in Spain, Indonesia is culturally very different from these two European countries. Therefore, a rigorous adaption and psychometric evaluation of the Indonesian version of the QPC-IPS is needed before using it clinically.

This study is part of a larger research project to adapt the QPC-IPS to

* Corresponding author at: University Health Care Research Center, Örebro University Hospital, 701 85 Örebro, Sweden.
E-mail address: lars-olov.lundqvist@regionorebrolan.se (L.-O. Lundqvist).

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different international settings, test the psychometric properties and equivalence of dimensionality of the different language versions, and describe and compare the quality of forensic inpatient psychiatric care across different countries. The aim of the present study was thus to adapt the QPC-IPS to the Indonesian context and to evaluate its psychometric properties and factor structure.

2. Methods

2.1. Participants and procedures

Psychometric evaluation of an instrument requires a representative place of research with a large number of respondents. Therefore, the West Java Psychiatric Hospital, West Java Indonesia was chosen as the place of study. West Java Psychiatric Hospital is one of the main psychiatric hospital referral centers for mental health in West Java Province. Based on personnel data in the hospital in 2016, there were 294 members of staff, mainly nurses and doctors but also other health workers, including psychologist, dentist, nutritionist, physiotherapist, and sanitarian. The hospital also had its own pharmacy and laboratory.

All staff at two wards (one for men and one for women) of the West Java Psychiatric Hospital were asked to participate in the study. Data collection took place during four weeks in April 2016. The staff were informed orally and in writing that participation was voluntary and that the answers were to be analyzed anonymously. The data collection began after getting oral consent from the staff. The study was approved by the Medical Ethics Committee at Padjajaran University and conducted after obtaining permission from the Director of West Java Psychiatric Hospital.

2.2. The QPC-IPS

QPC is a family of instruments with a common core and additional context-dependent items. The QPC has been adapted to different mental health service contexts, such as inpatient care (Sanchez-Balcells et al., 2019a; Schröder et al., 2010), outpatient care, (Gaio Silva et al., 2019; Lundqvist et al., 2012; Schröder et al., 2011), forensic inpatient care (Lundqvist et al., 2014a; Schröder et al., 2013, 2016), community-based day services for people with psychiatric disabilities (Lundqvist et al., 2016a, a), and housing support for people with psychiatric disabilities (Brunt et al., 2019; Lundqvist et al., 2016b; Rask et al., 2017). Each QPC instrument also has a staff version. Thus far, the instrument for inpatient care (QPC-IPS; Sanchez-Balcells et al., 2019a) and that for forensic inpatient care (QPC-FIPS; Lundqvist et al., 2014b; Schröder and Lundqvist, 2013) have been psychometrically evaluated.

QPC-IPS is a self-administered questionnaire and consists of 30 items covering six dimensions of quality of care: *encounter* (eight items), *participation* (eight items), *discharge* (four items), *support* (four items), *secluded environment* (three items), and *secure environment* (three items). An overview of the items is given in Table 1. All items are related to the statement: 'I experience that ….', and responses are made on a four-point Likert type scale, ranging from 1 (totally disagree) to 4 (totally agree). For all items, it is possible to respond 'not applicable'. The questionnaire also includes a number of background questions concerning demographic characteristics and general clinically relevant information. At the end, there is an open-ended question to allow further comments on quality of care.

2.3. The translation process

The original Swedish QPC-IPS was translated into Indonesian using a forward and back translation process (Wild et al., 2005). First, the Swedish version was translated into Indonesian by an authorized translator. Then, the Indonesian version was back-translated into Swedish. This was performed independently by another authorized translator. Next, the Swedish project group (LOL and AS) discussed the back translation and compared it with the Swedish original version to identify any discrepancies between the two versions. Some divergences were found. The divergences were discussed with both translators, which resulted in a preliminary Indonesian QPC-IPS version. This version was then revised by the Indonesian research group (S, DH, and TS) and discussed with the Swedish research group in order to retain the conceptual meaning of the original version yet conform to the specific health care and sociocultural context of Indonesia. The discussions resulted in the rewording of some items to fit the psychiatric inpatient context in Indonesia and to make statements clearer and easier to understand.

Table 1
Summary statistics of the final confirmatory factor analysis model of the Indonesian QPC-IPS.

	QPC-IPS items	Loadings	Mean	SD
	1. Encounter (8 items)			
7	Patients have opportunity to talk when needed	0.67	3.81	0.53
10	Staff are involved	0.85	3.84	0.43
11	Staff treat the patients with warmth and consideration	0.90	3.81	0.47
12	Staff care if the patients get angry	0.88	3.80	0.47
15	Staff respect the patients	0.88	3.84	0.41
18#	Staff show they understand the patients' feelings	0.86	3.77	0.49
20	Staff have time to listen to the patients	0.84	3.77	0.50
25	Staff are concerned about the patients' care	0.85	3.84	0.48
	2. Participation (8 items)			
1#	Patients can influence their own care and treatment	0.34	2.59	1.12
5	Patients' opinion of the right care is respected	0.57	3.63	0.65
6	Patients are involved in decisions about their care	0.30	3.14	1.00
13	Benefit drawn from earlier experience of treatment	0.78	3.73	0.51
14#	Patients get to recognize signs of deterioration	0.77	3.78	0.52
27	Patients receive information in a way that they can understand	0.75	3.74	0.54
29	Patients are informed about their mental health problems	0.83	3.72	0.57
30	Patients receive information about treatment alternatives	0.64	3.52	0.78
	3. Discharge (4 items)			
8	Patients are offered planning of their continued treatment	0.46	3.56	0.83
16#	Patients are offered a follow-up after discharge	0.70	3.80	0.48
17	Patients are given help in finding an occupation	0.37	2.78	1.02
21	Patients know where to turn after discharge	0.78	3.78	0.53
	4. Support (4 items)			
19#	Staff prevent the patients from hurting each other	0.84	3.86	0.46
22	Staff prevent the patients from hurting themselves	0.87	3.87	0.42
23#	Nothing shameful about having mental problems	0.84	3.85	0.46
24	Staff explain that shame must not interfere with seeking treatment	0.68	3.72	0.62
	5. Secluded environment (3 items)			
3#	Patients have access to a place that is private	0.23	2.84	1.07
26#	Patients have their own room	0.38	3.03	0.97
28#	Private place where patients can receive visits from family	0.62	3.70	0.67
	6. Secure environment (3 items)			
2	Security is high at the ward	0.35	3.29	0.87
4	Patients feel secure with fellow patients	0.75	3.50	0.69
9	Patients are not disturbed by fellow patients	0.81	3.22	0.89

N = 192. All loadings are statistically significant ($p < 0.05$). # items that did not met the criterion for inclusion in the Indonesian adaptation of the patient version, QPC-IP (Lundqvist, Suryani, et al., 2018). (QPC-IPS = Quality of Psychiatric Care - Inpatient Staff instrument.).

2.4. Data analysis

The statistical software package SPSS version 22 (IBM Corp.,

Armonk, NY, USA) was used to compute descriptive statistics. Cronbach's alpha (Cronbach, 1951) was used to assess the scales. The 0.70 criterion for adequate homogeneity (Nunnally and Bernstein, 1994) was used. Confirmatory factor analysis (CFA) was performed using LISREL 8.8 (Jöreskog & Sörbom, 1996), with generally weighted least-squares estimation on the asymptotic covariance matrices. The PRELIS program (Jöreskog & Sörbom, 1988) was used to obtain polychoric and polyserial correlation matrices. The parameters were estimated with the weighted least-squares method using the asymptotic covariance matrix. Since the data were ordinal (on a four-point Likert scale), the Satorra-Bentler scaled chi-square (S-Bχ2) test was used.

We used CFA to test the tenability of the a priori proposed factor structure model based on the Swedish QPC-IP. It was assumed that items 7, 10, 11, 12, 15, 18, 20, and 25 represent *encounter*; items 1, 5, 6, 13, 14, 27, 29, and 30 represent *participation*; items 8, 16, 17, and 21 represent *discharge*; items 19, 22, 23, and 24 represent *support*; items 3, 26, and 28 represent *secluded environment*; and items 2, 4, and 9 represent *secure environment*.

The adequacy of the a priori model was evaluated using the Satorra-Bentler scaled chi-square (*S-B*χ^2) supplemented with the comparative fit index (CFI), the standardized root-mean-square residual (SRMR), and the root-mean-square error of approximation (RMSEA). RMSEA and CFI are the indices least affected by estimation technique (Cangur & Ercan, 2015). Values equal to or greater than 0.90 and 0.95 for the CFI, equal to or lower than 0.10 and 0.08 for the SRMR, and lower than 0.08 and 0.05 for the RMSEA were considered to constitute, respectively, an adequate and excellent level of goodness of fit (Vandenberg & Lance, 2000).

3. Results

3.1. Sample description

The sample consisted of 192 members of staff (73 men and 119 women) aged between 23 and 70 years (M = 39.9, SD = 8.3). The majority, 152 (79%), were nurses; of the remainder, 19 (10%) were physicians, 13 (7%) were physiotherapists or occupational therapists, and 8 (4%) were psychologists or counselors. Most of them, 116 (60%), worked daytime only and the other 76 (40%) worked nights only or nights in combination with daytime shifts. The staff in the study had worked at the ward for between 1 year and 33 years (M = 5.62 years, SD = 5.06).

3.2. Factor structure of the Indonesian QPC-IPS

First, the CFA was performed on the model that represented the Swedish QPC-IP factor structure (Model 1). It returned a significant chi square (S-Bχ^2 = 661.35, df = 390, p < 0.001), CFI = 0.93, RMSEA = 0.060 (CI = 0.052–0.068), and SRMR = 0.049, indicating an adequate to excellent fit, and was deemed a reasonable representation of the proposed factor structure of the QPC-IPS.

Second, a CFA was performed on the 21-item model found for the Indonesian patients (Lundqvist et al., 2018b). This model (Model 2) resulted in a significant chi square (S-Bχ^2 = 335.64, df = 199, p < 0.001), CFI = 0.94, RMSEA = 0.060 (CI = 0.049–0.071), and SRMR = 0.048, thus showing marginally better fit compared with Model 1.

3.3. Internal consistency

The internal consistency of the Indonesian adaptation of the QPC-IPS was adequate, with a Cronbach's alpha of 0.88 for the full questionnaire as well as for the individual factors *Encounter* (α = 0.89), *Participation* (α = 0.72), and *Support* (α = 0.72). Less than adequate consistency was, however, found for *Secure environment* (α = 0.59), *Discharge* (α = 0.57), and *Secluded environment* (α = 0.33).

Table 2
Correlation coefficients of the QPC-IPS dimensions among staff in inpatient psychiatric care.

	QPC-IPS dimension	1	2	3	4	5	6
1	Encounter	1.00					
2	Participation	0.64***	1.00				
3	Discharge	0.50***	0.40***	1.00			
4	Support	0.70***	0.47***	0.34***	1.00		
5	Secluded Environment	0.29***	0.30***	0.39***	0.17*	1.00	
6	Secure Environment	0.42***	0.43***	0.21**	0.20**	0.31***	1.00

N = 192. * p < 0.05. ** p < 0.01. *** p < 0.001. (QPC-IPS = Quality of Psychiatric Care - Inpatient Staff.).

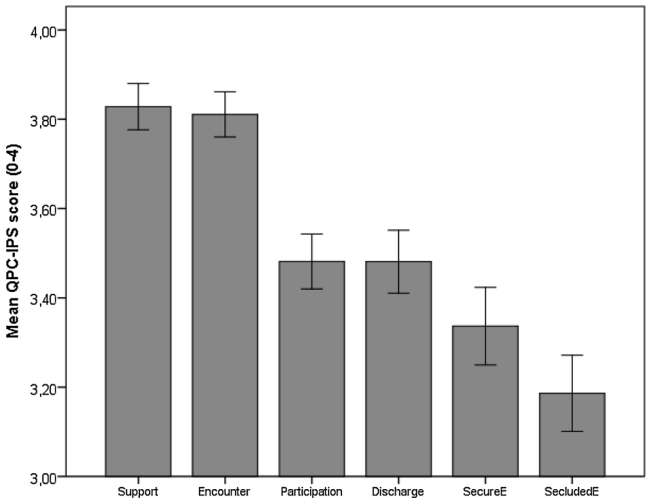

Fig. 1. Mean ratings of the Indonesian QPC-IPS dimensions. Error bars represent the 95% confidence interval. (QPC-IPS = Quality of Psychiatric Care - Inpatient Staff instrument.).

3.4. Judgments by the staff on the quality of inpatient care

The mean and standard deviations of the QPC-IPS items are given in Table 1. Correlations among QPC-IPS factors are given in Table 2. As shown in Fig. 1 and supported by dependent t-tests among the dimensions that emerged from the staff judgments of the quality of inpatient care, both *Support* and *Encounter* were significantly greater (p´s < 0.05) than all other dimensions, but not significantly different from each other. Similarly, both *Participation* and *Discharge* were significantly greater (p´s < 0.05) than the remaining dimensions, *Secure environment* and *Secluded environment* but not significantly different from each other. Of the lowest-ranked dimensions, *Secure environment* was significantly greater than *Secluded environment* (p < 0.05).

4. Discussion

The aim of the present study was to evaluate the psychometric properties and factor structure of the Indonesian QPC-IPS. The results showed that the factor structure was to a large extent equivalent to that proposed and to the structure found in the study on staff perceptions of quality of care at inpatient psychiatric services in Spain using the Spanish version of the QPC-IPS (Sanchez-Balcells et al., 2019a, 2019b). The factor structure was also highly similar to the one emerging from the perceptions of Indonesian psychiatric inpatients themselves using the Indonesian version of the QPC-IP (Lundqvist et al., 2018b).

4.1. Discrepancy between Indonesian staff and patients

The psychometric evaluation of the patient version of the QPC

among Indonesian psychiatric inpatients (Lundqvist et al., 2018b) showed that nine items did not fit the proposed factor structure. In the present study the result showed that, among Indonesian staff, all items fitted the proposed factor structure. Thus, the concept of quality of psychiatric inpatient care from a Swedish perspective is more similar to that among Indonesian staff than that among Indonesian patients. However, as indicated by the CFA results of Model 2, the concept of quality among Indonesian staff in the present study and among the patients in the Lundqvist et al. (2018b) study were highly similar, if we disregard the *Secluded environment* dimension.

The main reasons for the staff–patient discrepancy can be perceptual or conceptual. From a perceptual perspective, many items in QPC relate to the quality of the care given, that is, what the staff do. Among Indonesian patients, item 18 in *Encounter*, item 16 in *Discharge*, items 19 and 23 in *Support*, and items 3, 26 and 28 in *Secluded environment* did not fit the proposed factor structure (Lundqvist et al., 2018b). However, among the Indonesian staff these items fitted the proposed dimensions well, as demonstrated by the high loadings. This result indicates that these dimensions are more coherent among the staff than among the patients. One reason for the discrepancy can be that staff members are more observant about activities performed by themselves or other staff members, compared with the patients, who may not fully observe what staff actually do (vonEssen and Sjöden, 1995; Ekström, 1999). From a conceptual perspective, differences between patients and staff may relate to discrepancies in what defines a specific concept, which has been recognized in previous research on somatic and psychiatric care (Papastavrou et al., 2011). Among the Indonesian inpatients in the Lundqvist et al. (2018b) study, two items (1 and 14) in the *Participation* dimension and three items (3, 26, and 28) in the *Secluded environment* dimension did not fit the predicted dimensions, whereas these items fitted the predicted dimensions among the Indonesian staff in the present study. This discrepancy suggests that patients and staff may define the two concepts somewhat differently. Nonetheless, it should be noted that the staff in the present study and the patients in the Lundqvist, Suryani, et al. study (2018) are from different hospitals. Thus, a more thorough investigation of factor invariance based on patients and staff from the same ward is needed to clarify the source of the potential discrepancy between staff and patients.

4.2. Limitations

It should be noted that the number of participants was 6.4 people per item. This is at the lower end of the recommended range (5–10 participants per item; Hair et al., 1995), but since the results of the CFA was adequate, the number of participants would appear to be sufficient. However, a study including a larger sample of staff is needed to confirm the observed psychometric properties of the Indonesian version of the QPC-IPS.

4.3. Conclusion

The Indonesian QPC-IPS is a useful instrument for evaluating staff perceptions of psychiatric inpatient care in Indonesia, which contributes to health care improvement in the field of psychiatry. The QPC-IPS can be used together with the patient version of the instrument, QPC-IP, to improve the quality of psychiatric inpatient care and for national as well as international benchmarking.

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Declaration of Competing Interest

None.

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