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Gastrointestinal quality of life index 10 (GIQLI-10) in Bahasa Indonesia: Translation and validation of a standardized questionnaire to assess patient symptoms

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Abstract The Gastrointestinal Quality of Life Index (GIQLI-10) is a standardized measure of quality of life for gastrointestinal symptoms. Out purpose is translating and validating the GIQLI-10 to Bahasa Indonesia for use in the Indonesian population. Cases of gastrointestinal disease is rising in Indonesia, possibly due to changes in dietary patterns and infectious diseases. Therefore, it is necessary to adequately measure the symptoms of gastrointestinal diseases quantitatively and its impact on the quality of life of the patient. A simple and valid standardized questionnaire is necessary, which can be implemented in daily practice, requiring limited implementation time. GIQLI-10 is a tool to evaluate the quality of life of patients with gastrointestinal disorders, covering both their symptoms and overall well-being. However, as a closed-ended questionnaire, it may have limitations in capturing the full spectrum of individual patient symptoms and rely on subjective responses influenced by cultural factors. Despite these limitations, GIQLI-10 has been validated in various languages and populations, demonstrating its reliability and validity across different cultural backgrounds and diseases. The successful translation and validation of the GIQLI-10 into Bahasa Indonesia will facilitate its use in assessing the quality of life of Indonesian patients with gastrointestinal disorders, aiding diagnosis, treatment planning, and research. Our objective is to translate GIQLI-10 to Bahasa Indonesia and assess it's reliability and validity. We used a standardized translation method recommended for medical questionnaires. The final version of the questionnaire was tested for its validity and reliability. Reliability was measured using Cronbach's alpha, which yielded a score of 0.714. Internal validity was assessed for each item using Pearson's correlations, which shows that the translated version is valid and reliable. This questionnaire can be implemented in a short duration, and applied to all patients with gastrointestinal symptoms.

Keywords: GIQLI-10, gastrointestinal symptoms, translation to Bahasa Indonesia

1. Introduction

Gastrointestinal symptoms may indicate underlying diseases or disorders and can vary in severity from slight discomfort to excruciating pain. By precisely evaluating these symptoms, we can evaluate the degree, frequency, and effect of gastrointestinal problems on a patient's quality of life. Targeted interventions and individualized care are possible and can help in diagnosis and treatment planning. Furthermore, gastrointestinal symptom measurement is essential for clinical research because it enables the assessment of treatment results, the creation of novel therapeutics, and the detection of patterns or trends in certain patient populations.

Standardized questionnaires offer an organized and uniform method for evaluating and measuring gastrointestinal symptoms, guaranteeing accurate and consistent data across various research projects and demographics (Smeeton et al., 2006). Standardized questionnaires also make it easier to compare the findings of various studies, making it possible to identify trends and patterns. The use of standardized questionnaires is also beneficial in clinical settings, providing consistent assessment of clinical symptoms (Jones, Price, & van der Molen, 2011).

The gastrointestinal quality of life index (GIQLI) is a standardized tool designed to assess the quality of life of patients with gastrointestinal diseases, encompassing both upper and lower GI tract conditions. It consists of 36 items across five dimensions: gastrointestinal symptoms; emotional, physical, and social dimensions; and therapeutic influences, with a maximum score of 144 indicating the highest quality of life (Barra et al., 2020; Fuchs et al., 2023). The GIQLI has been particularly valuable in evaluating the outcomes of surgical interventions for conditions such as diverticular disease, endometriosis, and gastroesophageal reflux disease (GERD) (Mehedintu et al., 2021; Santos et al., 2021; Segna et al., 2021).

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The Gastrointestinal Quality of Life Index-10 (GIQLI-10) is a shortened version of the GIQLI that has ten items and provides a thorough assessment of several factors associated with gastrointestinal symptoms and how they affect day-to-day functioning. This questionnaire has been confirmed to be valid and has been translated into several languages, including Japanese (Watadani et al., 2020). Using the GIQLI-10, we acquired a numerical score that measures a person's quality of life with regard to gastrointestinal problems. The evaluation of therapeutic efficacy and overall patient well-being was aided by this standardized approach.

To our knowledge, the GIQLI-10 has not been translated or used as a clinical evaluation system for patients with gastrointestinal symptoms in Indonesia. We aimed to translate and validate the GIQLI-10 into the Indonesian language (Bahasa Indonesia) for use in our population.

2. Materials and methods

GIQLI 10 was procured through eProvide by MAPI Research Trust. Permission to translate and use the questionnaire was obtained. Translation was performed via the following steps: forward translation, backward translation, review by clinicians, cognitive interviews, and proofreading. The translation was provided by two English language experts, and a review by clinicians was performed by a team of three surgical specialists. The final version of the questionnaire was administered to surgical patients who presented with gastrointestinal symptoms shown in Figure 1.

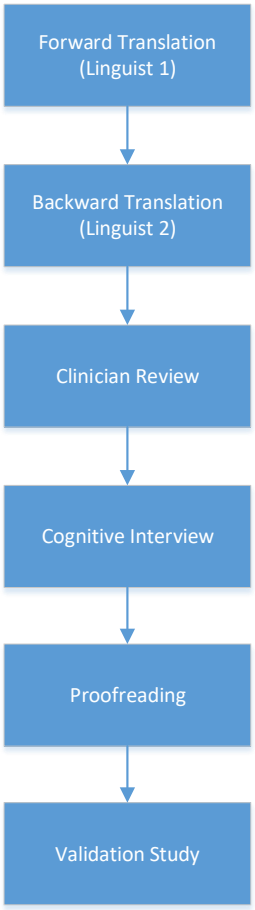

Figure 1 Methods of translation and validation.

3. Results

The original version of the GIQLI-10 questionnaire was translated by Language Expert 1. After that, English language expert 2 performed the backward translation. We then compared the backward translation with the original questionnaire. A meeting of the two experts was conducted, and a consensus was reached for the most appropriate translation (Table 1).

After the correction of the forward and backward translation stages, we submitted the questionnaire to three surgical specialists, who routinely performed interviews with patients with gastrointestinal symptoms (Table 2).

Cognitive interviews were conducted with 20 randomly recruited patients with gastrointestinal complaints who had visited our surgical clinic. We observed several variables, including comprehension of the questions and answer options,

ability to recall necessary information in the duration expected from the questions, and ability to respond to the questions. We employed a verbal probing technique to obtain the necessary information.

Table 1 Recapitulates the differences in the backward translation of the questionnaire items compared with the original questionnaire.

Item no	Backward Translation vs Original (English)	Word/Group of Words of Interest	Consensus
1	Matched	-	-
2	Not matched	sensation of too much gas in the abdomen (o) stomach feels full of gas (bw)	Use “too much gas”
3	Not matched	Excessive passage of gas(o) Excessive gas coming out (bw)	Use simpler term “farting”
4	Matched		
5	Matched		
6	Not matched	Troubled by diarrhea (o) Have diarrhea (bw)	Use “troubled by diarrhea”
7	Matched	-	-
8	Matched	-	-
9	Matched	-	-
10	Not matched	The kind of food you eat (o) Your diet(bw)	Use “the kind of food”

Table 2 summarizes the correction and adjustment of the questionnaire after expert review.

Item No	Expert 1	Expert 2	Expert 3
1	-	-	-
2	-	-	-
3	-	-	-
4	-	-	-
5	Suggest changing “diarrhea” to local dialect (*mencret* in Bahasa Indonesia)	-	-
6	-	-	-
7	-	-	-
8	-	-	-
9	-	-	-
10	Additional word “specific”	-	-

Several responses to the cognitive interviews include the following:

- Item 3: “…excessive passage of gas through the anus” should be clarified or translated to “flatus” (“Kentut” in Bahasa Indonesia)
- Item 7: “constipation” should be translated to “sembelit” in Bahasa Indonesia because it is easier to understand than “konstipasi.”

The final version of the translated questionnaire is attached.

Following the cognitive interviews, we adapted the questionnaire. The final version of the questionnaire was then validated in 50 patients with gastrointestinal complaints who visited our surgical clinic. We measured Cronbach’s alpha, and for the final scale, it was 0.714. The results of the validity test for each item are shown in Table 3.

Table 3 Pearson’s correlations for each item.

Item No	Pearson’s Correlation	p
1	,585**	0,000
2	,634**	0,000
3	,554**	0,000
4	,321*	0,023
5	,391**	0,005
6	,553**	0,000
7	,509**	0,000
8	,423**	0,002
9	,618**	0,000
10	,421**	0,002

4. Discussion

The GIQLI-10 is employed to evaluate how gastrointestinal conditions affect an individual's quality of life. This questionnaire focuses on gastrointestinal symptoms while still covering quality of life. The shortened 10-question version was validated as the longer version, making it easier to administer. It has also been validated in various languages and populations

to ensure its reliability and validity in different cultural backgrounds for various diseases (Koishibayeva et al., 2022; Quintana et al., 2001; Watadani et al., 2020).

On the other hand, as a closed-ended questionnaire, it may be limited in its ability to capture the whole spectrum of symptoms of individual patients. It also relies on subjective responses that can be influenced by individual interpretations and perceptions, which in turn are influenced by culture (Yang et al., 2022). To overcome these limitations, a validity test is performed, preferably for specific diseases or populations.

Yu et al. studied the use of GIQLI in patients undergoing cholecystectomy (Yu et al., 2018). They concluded that laparoscopic cholecystectomy restores the signs and symptoms of patients with acute cholecystitis, as measured via the GIQLI questionnaire.

Compared with the original GIQLI, the GIQLI-10 is shorter and easier to administer. Each question targeted a specific symptom, providing a general overview of the main complaints in the gastrointestinal system. Although the GIQLI-10 has been translated and validated in many languages, it has not been translated into Bahasa Indonesia.

However, the GIQLI-10 has limitations, including its limited scope, reliance on subjective responses, and potential inability to capture the nuances of specific gastrointestinal diseases. Additionally, we found that some symptoms were culturally specific and may have multiple possible interpretations in specific languages. Even formalized translations may not always be easily understandable. This questionnaire was not specifically developed to assess cancer patients' quality of life; therefore, it is primarily used for benign gastrointestinal disorders.

Several other scales have been established, such as the Gastrointestinal Symptom Rating Scale (GSRS), the Irritable Bowel Syndrome Symptom Severity Score (IBS-SSS), the Patient Assessment of Constipation Symptoms (PAC-SYM) and the Patient Assessment of Constipation Quality of Life (PAC-QOL) (Kulich et al., 2008; Kulich et al., 2003; Schäfer et al., 2017; Svedlund et al., 1988). These scales may be disease specific, such as the IBS-SSS and PAC-QOL, or general, such as the GSRS. Similar symptoms, such as diarrhea, constipation, and bloating, were assessed via these scales. The GIQLI-10 uses 10 questions to assess most of these symptoms. Because it is short, it is easier to apply in a clinical setting.

All the experts agreed that the questions in the translated questionnaire were relevant for assessing gastrointestinal symptoms in patients. On the basis of our findings, we concluded that the translated questionnaire is valid for measuring gastrointestinal complaints in patients.

It is crucial to contextualize GIQLI scores within the general population to fully comprehend the impact of surgery on quality of life (Wanjura et al., 2014; Wanjura & Sandblom, 2016). Moreover, the response shift effect, which involves changes in internal standards, values, and conceptualization of quality of life, can influence GIQLI scores after interventions such as laparoscopic cholecystectomy (Shi et al., 2008).

5. Conclusions

In summary, the GIQLI-10 offers a focused and relatively easy-to-administer tool for assessing the impact of gastrointestinal disorders on quality of life. However, its limitations include a potentially narrow scope, subjective responses, lack of condition specificity, and limited cultural adaptation. The translated questionnaire is valid, reliable and valid for assessing the quality of use in patients with gastrointestinal issues.

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Ethical considerations

The study was approved and approved ethically by the RS Soewandhie Research Ethics Committee no 27/KE/KEPK/2024.

Conflict of interest

The authors declare that they have no conflicts of interest to disclose.

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