ORIGINAL ARTICLE

Cross-cultural Adaptation of the Oswestry Disability Index: From English to Ilokano Version

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ABSTRACT

Background and Objective. The Oswestry Disability Index (ODI)–English is a valid and reliable instrument for disability measurement in low back pain (LBP) patients. There is no existing ODI–Ilokano that evaluates LBP patients. This study aimed to cross-culturally adapt the ODI–English into Ilokano.

Methods. The ODI–English was cross-culturally adapted into Ilokano through a process that included forward translation, synthesis of the translations, back translation, expert committee review, and testing of the pre-final version.

Results. Forward translation focused on capturing the essence of terms related to pain intensity, personal care, and daily activities, achieving consensus on phrases that accurately mirrored the original English meanings. Subsequent synthesis refined these translations, emphasizing idiomatic and conceptual equivalence over literal interpretations, particularly in nuanced areas like sleep disturbance and social life activities. Backward translation processes aligned Ilokano and English terms, especially for pain intensity and personal care, ensuring consistency across languages. The expert committee review addressed spelling, word choice, and sentence structure, making strategic adjustments for cultural relevance. Pilot testing with participants from Ilocos Norte and Ilocos Sur, Philippines highlighted comprehension challenges with specific terms, leading to adaptations like replacing 'milya' and 'yarda' with metric units and retaining culturally sensitive terms with supplementary English explanations.

Conclusion. This study refined the ODI–English into a culturally adapted Ilokano version, focusing on semantic, idiomatic, and cultural equivalence. Incorporating pilot testing feedback, such as modifying measurement units and addressing sensitive terms, highlighted the thorough adaptation process. The collaborative translation efforts and diverse patient input ensured a culturally resonant ODI version for Ilokano speakers. This adaptation enhances physical therapy practices by improving patient assessments and advocates for adapting patient-reported outcomes to diverse cultures, advancing patient-centered care.

Keywords: low back pain, self-report, cross-cultural comparison, translations, surveys, questionnaires

INTRODUCTION

Low Back Pain (LBP) poses a significant worldwide epidemiologic burden. It is a very common condition worldwide, occurring with a relatively high frequency in the general population.[1] The prevalence and incidence of LBP in Asia exhibit variation across countries and occupations. Specifically, in China, a high prevalence of LBP among nurses has been observed, though there has been a decline over the past decade.[2,3] In Malaysia, LBP prevalence ranges from 12.4% to 84.6%, with the highest rates reported among nurses and drivers.[4] Furthermore, in India, LBP prevalence among various professional groups is reported to be between

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64% and 89%.[5] LBP has been identified as the primary cause of decreased productivity among the working population in the Philippines.[6] LBP accounted for 78.33% of musculoskeletal cases at Laoag Rehabilitation Station, 82.35% at Health and Wellness, and 87.14% at University Physical Therapy and Rehabilitation Clinic in the Philippines.[7]

The English version of Oswestry Disability Index (ODI) is a valid and reliable outcome measure for LBP with these psychometric properties: Cronbach's alpha of 0.93 for internal consistency, Area Under the Curve / Responsiveness of 0.94, Intraclass correlation coefficient for test-retest reliability of 0.94, and concurrent validity of 0.70. The ODI–English has been cross-culturally adapted in various languages and countries such as French, Finnish, Italian, Chinese, Brazilian-Portuguese, German, Danish, Japanese, Korean, Arabic, Turkish, Greek, and Polish.[8]

Using culturally adapted outcome measures promotes and improves cultural competence among physical therapists focusing on the language where the outcome measures are used. The process of cross-cultural adaptation includes initial translation, synthesis, back translation, expert committee review, pilot testing of the draft translation, and psychometric evaluation. The process achieves equivalence between the original and translated versions about language (semantic and idiomatic equivalence) and equivalent experiences of daily life and ways of thinking.[9]

No study has been conducted yet that has identified a gap in the availability of localized healthcare resources, specifically highlighting the lack of an Ilokano-translated ODI for LBP. To address this, we determined the cross-cultural validity of the ODI among an Ilokano-speaking population with LBP. The outcomes of this study are expected to enhance patient-centered assessment and management in Ilokano-language settings, offering a significant contribution to the localized healthcare approach.

METHODS

Ethics Approval and Research Design

The research conducted involved the cross-cultural adaptation of the ODI from English to Ilokano. The study received approval from the Ethics Review Committee of the Graduate School of the University of Santo Tomas, bearing the Ethics Approval Number GS-2018-PN050. Additionally, authorization was granted by the Mapi Research Trust, the copyright holders of the ODI, for the translation and cross-cultural adaptation of the ODI into the Ilokano language.[10] In all stages of the study, the investigators explained the mechanics of the study to the participants. Agreeing participants signed the informed consent form.

Stages of Cross-cultural Adaptation by Beaton et al. (2000)

The study adhered to the cross-cultural adaptation process outlined in the guidelines by Beaton et al., following a five-stage translation methodology.[9] The design employed was a cross-sectional study, which is typical for the cross-cultural adaptation of a questionnaire. This approach involves assessing the equivalence of the instrument in a new cultural setting at a single point in time. This design aligns with the study's purpose of adapting a questionnaire to ensure its validity and reliability in a new context. The study was conducted from January 2019 to March 2020.

Stage 1. Forward Translation

Two independent translators—one professional (T1) and one naïve (T2)—translated the English ODI into Ilokano. T1, a professional translator with Ilokano as their first language, English proficiency, and experience in similar translations, ensured clinical equivalence in the translation. T2, also a native Ilokano speaker and proficient in English, lacked a medical background, was unfamiliar with LBP concepts, and provided a translation more reflective of Ilokano language nuances without academic influence.

Stage 2. Synthesis

T1 and T2's ODI-Ilokano translations were synthesized producing a common translation (T12). A written report was produced to document the synthesis process. The synthesis provided an opportunity for the translators to discuss problems during the translation process, to correct errors in grammar and syntax, and to resolve problems of equivalence. Decisions on wording and corrections were resolved by consensus.

Stage 3. Backward Translation

Two bilinguals (BT1 and BT2) independently translated into English the T12 ODI-Ilokano version. Each English translation version was compared with the original English version of ODI. BT1 and BT2 used Ilokano as a mother language, were proficient in English, and had no medical or clinical background. Both translators were unaware of the previous translation processes. BT1 and BT2 did not have access to the original ODI-English. They did not consult T1 and T2.

In the linguistic and cultural adaptation of the questionnaire items to Ilokano, the committee implemented several modifications to ensure semantic accuracy and cultural relevance. These modifications included spelling adjustments to align with Ilokano orthography, careful selection of lexical choices to reflect the cultural context accurately, and strategic omission or addition of specific terms to maintain the items' relevance to the Ilokano-speaking audience. Additionally, paraphrasing was employed to ensure that the essence of each item was preserved while being understandable and accessible to participants. This comprehensive approach to adaptation was critical in developing a final version of the questionnaire that was both culturally resonant and linguistically precise, facilitating meaningful engagement with the target population.[9]

Stage 4. Expert Committee Review

The review committee, comprising two forward translators (T1 and T2), two backward translators (BT1 and BT2), two physical therapists with Ilokano as their mother tongue, English proficiency, and five years of experience in managing LBP patients, along with an Ilokano expert, evaluated the questionnaire (including instructions, items, and response options) and all translations (Translation 1, Translation 2, Back Translation 1, and Back Translation 2). Throughout the translation process, the researcher documented any discrepancies, problems, or difficulties in writing. The committee reached consensus on any disagreements through discussion.

Stage 5. Pilot Testing of Pre-final Version

During this stage, the focus was on evaluating the semantic equivalence and practical applicability of the questionnaire items and response options. The pilot test of the pre-final version included a field test with participants from Ilocos Norte, Philippines, where each participant completed the questionnaire and then underwent an interview to delve into their understanding of each item and the reasoning behind their responses.

Participants in the study were required to be 18 years or older, suffering from subacute LBP, which is pain persisting for more than four weeks, or chronic LBP, lasting more than 12 weeks. Additionally, they needed to be outpatients and residents of Ilocos Norte who were fluent in both reading and speaking Ilocano. Exclusion criteria included individuals with acute LBP due to specific etiologies such as spondylolisthesis, spinal stenosis, radiculopathy, or other distinct spinal conditions like vertebral compression fractures or ankylosing spondylitis, those with high functional capabilities, psychiatric or mental deficits, or a history of cerebrovascular accidents or myocardial infarction.

Cognitive interviews were individually conducted by five research assistants, all of whom were physical therapists, aiming to collect insights on the clarity, ease of comprehension of instructions, and the significance of each item and response option. These interviews further explored the questionnaire's effectiveness in capturing back pain complaints and the pertinence of each item within the Ilokano cultural context, guided by specific questions provided to the therapists. Following the pre-testing of the questionnaire, the findings were reviewed in a meeting with the expert review committee to discuss the outcomes of the pilot testing. The cognitive interview included the following questions in the Ilokano language:

a. Were you able to understand every detail of the questionnaire? (Naawatam kadi met laeng a nalaing dagiti amin a naglaon iti kuestionario?)
b. Are there any items in the questionnaire which are not clear to you? If yes, what are these? (Adda kadi dagiti bambanag iti kuestionario a saan a klaro kenka? No adda, ania dagitoy?)
c. Were the contents of the questionnaire designed to give us information as to how your back (or leg) trouble affects your ability to manage in everyday life? (Makaited kadi iti informasion maipanggep iti panangafektar ti sakit iti likod wenno gurong iti inaldaw aldaw a panagbiagmo dagiti linaon a saludsud iti kuestionario?) and
d. Does each item of the questionnaire signify relevance to the Ilokano language and culture as regards reporting pain in the back? (Makita kadi kadagiti nilaon ti kuestionario ti pannakailadawan ti pagsasao ken kultura dagiti Ilokano panggep iti panakaibaga iti sakit iti likod?)

Using PASS 2024, a pilot study sample size of 21.9 has a probability of at least 0.9 that a problem will occur in at least one of the participants. This assumes that each participant has a probability of 0.1 of exhibiting the problem. Anticipating a 20% dropout rate, 28 participants should be enrolled to obtain a final sample size of 22 participants.[11]

RESULTS

Stage 1. Forward Translation

The forward translation of the ODI into Ilokano showcases meticulous attention to linguistic and cultural sensitivities, resulting in agreed translations that accurately mirror the original English meanings. Pain intensity, initially diverging in translations, converges on "rikna ti ut-ot" for a nuanced understanding of pain levels. Personal care and activities like lifting, walking, standing, and sleeping undergo thoughtful translation adjustments to reflect the precise impact on daily living, with terms such as "Kabaelak a tamingen ti bagik" and "lapeddan/lapdan" emphasizing self-care and the physicality of lifting, respectively. The translation process further addresses the additional pain from sex life with a standardized term and maintains a focus on the quality of social life, culminating in a translation effort that prioritizes clarity and cultural relevance across all sections. Table 1 reports the synthesis of the forward translation of ODI–English by T1 and T2.

Stage 2. Synthesis

In Section 7, the Ilokano terms 'isturbo' from T1 and 'matukay' from T2 were both used to translate the English term 'disturbance.' However, when directly addressing the disturbance of sleep, 'matukay' was deemed the most fitting Ilokano translation. This selection was made through a consensus between the two translators, underscoring 'matukay' as the preferred term to accurately convey the specific nature of sleep disturbance.

In Section 8, the word, mangbuangay (the act of putting up or doing things on one's own) was used by T1 to describe something that provokes a particular symptom highlighting this action. T2, on one hand, directly described the felt pain.

Table 1. Forward Translation Synthesis

Section, Item	ODI-English	ODI-Ilokano (T1)	ODI-Ilokano (T2)	Agreed ODI-Ilokano
1. ***Pain intensity***	pain	ut-ot	rikna ti ut-ot	rikna ti ut-ot
2. ***Personal care***	I can look after myself normally without causing extra pain	'matamingko a gagangay ti bagik nga awan mariknak nga ut-ot	matamingko ti bagik nga awan mariknak nga ut-ot	Kabaelak a tamingen ti bagik
3. ***Lifting***	hinder	to diak makabagkat	Lapeddan/lapdan	lapeddan/lapdan
4. ***Walking***	most of the time	kanayon	masansan	kanayon
6. ***Standing***	it gives	maadaanak	makariknaak	makariknaak
7. ***Sleeping***	disturbance	isturbo	matukay	matukay
8. ***Sex life***	causes some extra pain	mangbuangay sumagmamano nga ut-ot	makariknaak ti ut-ot	makariknaak ti ut-ot
9. ***Social life***	social life	panagbiagko	pannakipulapulko	pannakipulapulko

Table 2. Backward Translation Synthesis

Section, Item	ODI-Ilokano (T12)	English (BT1)	English (BT2)	ODI-English	Agreement between ODI-Ilokano (T12) and ODI-English
Pain intensity	bassit	mild	slight	mild	mild
Pain intensity	kalkalainganna	tolerable	just enough	moderate	moderate
Pain intensity	nakaru bassit	moderate	quite severe	moderate	moderate
Personal care	sangkabassit a tulong	minimal help	little help	some help	some help

Last, two terms, panagbiagko and pannakipulapulko to describe social life were in Section 9. Panagbiagko, used by T1, was interpreted as the state of living while pannakipulapulko, used by T2, means socialization.

In finalizing the Ilokano version of the questionnaire, several considerations were made to ensure idiomatic and conceptual equivalence, surpassing mere literal translation. These included the omission and substitution of specific words, careful lexical selection, and lexical substitutions. This approach aimed to achieve a more nuanced understanding that aligns closely with the cultural and linguistic context of the participants.

Stage 3. Backward Translation

Table 2 compares the Ilokano and English versions of the ODI across different sections and items. It displays the wording used for each item in both languages, along with response options and corresponding agreement levels between the translated versions. For example, the "Pain intensity" section includes three Ilokano terms ("bassit," "kalkalainganna," "nakaru bassit") and their English equivalents ("mild," "tolerable," "moderate"), with all three levels showing "moderate" agreement with the ODI-English version. Table 2 reports the synthesis of the backward translation of ODI–English by BT1 and BT2.

Differences in English words/ terms were noted during the backward translation process, namely; “mild” compared to “slight,” “tolerable” versus “just enough,” “moderate” compared to “quite severe,” “minimal” versus “little.” Despite the differences, the essence of the items in the Ilokano version was preserved. Some changes noted during the committee review comparing the synthesized Ilokano version (T12) and the final Ilokano version were spelling, word choice/lexical choice, omission/addition of Ilokano terms, and paraphrasing.

Stage 4. Expert Committee Review

During the expert committee review of the ODI translation into Ilokano, significant emphasis was placed on spelling/word choice, omission/addition, and sentence/ word order to ensure the translation's accuracy and cultural relevance.

Spelling/ Word Choice

In both the original and pre-final translations of the ODI–English, three items exhibited the use of two distinct terms to describe the same concept. The first was the use of the words, *masansan* and *kanayon* to refer to *most of the time*. While *masansan* means most often in English, it was changed to *kanayon* (always) in the final version. The committee chose *kanayon* because it was more commonly used and understood by Ilokanos.

The second instance of word selection occurred in Section 5, where 'pagugustok' from the synthesized Ilokano version was updated to 'paboritok' in the final version, more accurately reflecting the semantic meaning of 'favorite.' Likewise, in Section 9, the term 'panakipulapul' was revised to 'biag iti kagimongan,' enhancing lexical precision and meaning.

In Section 8 of the synthesized version, 'lapdan' (to hinder) was updated to 'lapdannak' to emphasize the concept of pain ('-ak' suffix indicating 'I' or 'me') interfering with someone's ability to perform a specific action, rather than just the act of hindrance. Moreover, 'nganngani' in Section 9 was revised to 'dandani' to simplify the term's pronunciation and readability.

Omission/Addition

Adjustments in wording and phrasing were made between the versions for clarity and conciseness. For example, "Dinak malapdan" in Section 1 was streamlined to "lapdannak" to enhance lexical efficiency and facilitate easier writing and speaking. Similarly, "maadaanak iti nakurang nga uppat nga oras" was condensed to "Nakurang nga uppat nga oras." Additionally, "saan a matukay" was expanded to "saan a pulos matukay" to underscore a specific aspect of the nuanced understanding of discomfort or inconvenience, emphasizing the degree or extent to which it is not experienced. This modification was made to ensure the translation accurately conveyed the subtle distinctions in experience or perception intended in the original content.

Word/Sentence Order

In Section 1, Item 5, the phrase "Kakaruan daytoy nga ammok nga ut-ot iti agdama" from the T12 version was revised to "Daytoyen ti kakaruan nga ut-ot a mariknak iti agdama" in the pre-final version. This adjustment shifted the emphasis from the severity of pain, described as 'kakaruan' (most severe), to the current experience of pain, indicated by 'Daytoyen' (this). Such changes in word order highlight how sentence focus can alter, illustrating a well-documented translation challenge.

In Section 2 (Items 0 & 1), the phrase "Matamingko a gagangay ti bagik" was revised to "Kabaelak a tamingen ti bagik," shifting the emphasis from the act of self-care to the capability for self-care. Similarly, in Item 3, "Makariknaak iti ut-ot isu a masapul a naanayad ken naanadak a mangtaming iti bagik" was changed to "Naut-ot no tamingek ti bagik isu a nainayad ken naannadak nga aggaraw," transitioning the focus from experiencing pain to the effects of pain on self-care activities. Furthermore, in Item 5, "Kasapulak iti inaldaw a tulong iti kaaduan a panangtamingko iti bagik" became "Inaldaw a kasapulak ti tulong tapno maasikasok ti bagik" in the pre-final version. This alteration highlighted the consistency or frequency of assistance required ("Inaldaw") over simply the need for help ("Kasapulak"), reflecting a deliberate change in word order to more accurately convey the focus of the statement.

The word order in Section 3 (Item 4) also reflected a shift in sentence focus: "Mabagkatko laeng dagitoy nalag-an a banbanag" was changed to "Dagiti laeng nalag-an a bambanag ti mabagkatko." This revision shifted the emphasis from the act or ability to lift ("Mabagkatko") to focusing on the light weights that could be lifted. These modifications were implemented to enhance syntactic and semantic accuracy in the target language of the translated version, specifically Ilokano.

Following a scholarly discussion among the group—comprising translators, researchers, linguists, and physical therapy (PT) experts—on the outputs and their intended meanings, the final translation has been deemed acceptable. The emphasis was placed on conceptual rather than literal translation for the final version, avoiding verbatim translations that could potentially be incomprehensible to patients.

Stage 5. Pilot Testing of Pre-final Version

Thirty potential participants with LBP who met the eligibility criteria were enrolled in the study through referrals from rehabilitation clinics and hospitals in Ilocos Norte and Ilocos Sur, achieving a 100% response and completion rate. The participants were sourced from various facilities: 11 from Laoag Rehabilitation Station, three from Laoag City General Hospital, 11 from the Health and Wellness and Physical Therapy Center, and five from Northside Doctors Hospital. The mean (95% I) age of the participants was 45 (43 to 47) years, with a gender distribution of 17 males and 13 females. Most participants were married (22), while eight were single. In terms of educational attainment, 18 held a college degree, and 12 had completed high school. Language use varied, with three participants speaking only Ilokano, 12 using Ilokano and Tagalog, and 15 using Ilokano, Tagalog, and English. Clinically, 20 participants reported experiencing LBP for 12 weeks or more, while 10 reported a duration of four weeks. Pain frequency was reported as "often" by 18 participants and "sometimes" by 12. Analgesic use was reported by 16 participants, while 14 did not use any medication. Additionally, 13 participants had hypertension as a comorbidity, while 17 reported no comorbidities.

All participants demonstrated a clear understanding of the questionnaire during the cognitive interviews, which were designed to assess how their back or leg trouble affects their daily lives. They acknowledged the questionnaire's relevance to capturing the impact of their condition on everyday activities. Additionally, the participants emphasized that each item in the questionnaire was meaningful and culturally appropriate for the Ilokano language and context, particularly in reporting back pain. However, 16 out of 30 participants indicated that certain terms such as 'milya' (mile), 'yarda' (yards), and 'pannakinaig' posed comprehension challenges and were deemed culturally irrelevant to the Ilokano context. Specifically, 'milya' and 'yarda' were identified as non-native units of measurement unfamiliar to Ilokanos, who typically use kilometers and meters. Consequently, these terms were adapted to 'kilometro' and 'metro', respectively, following the pilot testing feedback. Furthermore, the term 'pannakinaig', a nuanced Ilokano word for sexual intercourse, presented unique cultural considerations. While an alternative Ilokano term for 'sex' exists, its use was considered inappropriate within the Ilokano cultural framework. Therefore, the expert committee resolved to retain 'pannakinaig', supplemented by the English term 'sex' to aid comprehension when necessary.

DISCUSSION

The process of translating and adapting the ODI into Ilokano, as evidenced by the synthesis of forward and backward translations, showcases a meticulous approach to achieving

semantic, idiomatic, and conceptual equivalence between the English and Ilokano versions of the questionnaire. This effort underscores the complexity of cross-cultural adaptation of health-related quality of life measures, particularly when it involves capturing the nuances of language and culture. The results underscore the importance of a comprehensive adaptation process, which goes beyond mere translation to encompass semantic equivalence, cultural relevance, and practical applicability. Particularly noteworthy is the pilot testing phase, which revealed specific terms and concepts that posed comprehension challenges or were deemed culturally irrelevant. The adaptations made in response to these insights—such as the substitution of non-native units of measurement and the sensitive handling of terms related to sex life—exemplify the study's commitment to cultural sensitivity and relevance.

The forward translation synthesis reflects a collaborative effort between translators to reconcile differences, ensuring that the final Ilokano version accurately captures the intended meanings of the original ODI items. Terms like "rikna ti ut-ot" for "pain intensity" and "kabaelak a tamingen ti bagik" for "personal care" were carefully selected, considering linguistic nuances to preserve the questionnaire's essence and readability for Ilokano speakers. This process is crucial for ensuring that the adapted tool is both accessible and meaningful to the target population. Similarly, the backward translation synthesis adds a layer of validation, confirming the fidelity of the translated version to the original English text while allowing adjustments for cultural context and linguistic appropriateness. The high agreement levels between the Ilokano translations and the ODI-English version indicate strong semantic equivalence, reinforcing the validity of the adaptation process.

The adaptation process extended beyond simple translation to address cultural relevancy and appropriateness. For example, the decision to use "kanayon" (always) instead of "masansan" (most often) for "most of the time" in the walking item, or the nuanced handling of terms related to sex life, illustrates the depth of cultural sensitivity involved. Such adjustments ensure that the questionnaire is not only linguistically accurate but also culturally resonant, enhancing its utility and relevance for Ilokano-speaking patients. The effort to maintain conceptual equivalence while making lexical adjustments or changes in word order further emphasizes the goal of creating an instrument that is both faithful to the original and optimally suited for the target cultural context.

Understanding cultural nuances is not only crucial for ensuring sensitivity but also forms the foundation for effective collaboration. By embracing cultural insights, collaborative efforts become more inclusive, allowing all stakeholders to contribute meaningfully, resulting in outcomes that are both respectful and resonant with diverse communities. This process involved detailed discussions among translators, researchers, linguists, and PT experts, highlighting the collaborative nature of successful cross-cultural adaptation endeavors. This adaptation of the ODI into Ilokano sets a precedent for future efforts in translating health assessment tools, illustrating the importance of rigorous methodology, collaborative review, and cultural sensitivity. It underscores the potential of such adapted instruments to improve patient-centered care by facilitating accurate and meaningful assessment of health outcomes in diverse linguistic and cultural settings. The success of this project in creating a culturally adapted version of the ODI for Ilokano speakers offers valuable insights into the broader field of cross-cultural health research, suggesting pathways for enhancing the accessibility and relevance of health measurement tools across different cultural contexts.

The adaptation of the ODI into Ilokano has significant implications for clinical practice, particularly in regions with a high population of Ilokano speakers. By offering a culturally and linguistically adapted version, it enables more accurate and sensitive assessments of LBP, allowing patients to better understand the questions and provide precise responses. This enhances the reliability of patient data, enabling clinicians to tailor treatment plans effectively. Moreover, the Ilokano ODI promotes patient-centered care by respecting patients' cultural backgrounds, improving communication, and fostering comfort during assessments. This inclusivity enhances adherence to treatment plans and improves health outcomes. Additionally, it reinforces cultural competence among healthcare providers, demonstrating a commitment to understanding and addressing the unique needs of Ilokano-speaking patients. The adaptation also contributes to research and practice development, guiding the creation of more culturally relevant assessment tools for diverse populations, thereby ensuring equitable access to quality care.

This study acknowledges several limitations that should be considered when interpreting its findings. First, the study population might not fully represent the broader Ilokano-speaking community due to specific characteristics. This limits the generalizability of the findings to individuals with varying demographics or cultural backgrounds within the Ilokano population. Additionally, the ODI–Ilokano (Appendix) might not be applicable to all Ilokano dialects or regional variations of the language. Further research is needed to assess its generalizability across different Ilokano communities. Furthermore, achieving complete semantic, idiomatic, and conceptual equivalence during translation is challenging. Nuances and cultural interpretations could influence the meaning and understanding of the ODI items, potentially impacting the accuracy of the assessment. No psychometric testing was performed. Despite these limitations, the successful adaptation and validation of the ODI into Ilokano represents a significant advancement in assessing LBP within this specific cultural and linguistic context. Future research can address these limitations by considering psychometric testing of ODI–Ilokano, broader sampling strategies, and exploring dialect-specific adaptations.

This research successfully developed a culturally adapted Ilokano version of the ODI through a detailed adaptation process, highlighting the significance of achieving semantic, idiomatic, and conceptual equivalence. The adaptation reflected careful attention to linguistic nuances and cultural specificities, incorporating feedback from pilot testing to make necessary adjustments, including the replacement of non-native measurement units and nuanced handling of sensitive terms. This approach underlines the comprehensive nature of cross-cultural adaptation, extending beyond simple translation to ensure cultural relevance and applicability. The collaboration among translators, meticulous backward translation, and feedback from pilot testing were key in creating an Ilokano ODI that was both culturally appropriate and resonant with the target audience. By adhering to established cross-cultural adaptation guidelines and engaging a diverse participant pool, the study ensures the reliability and relevance of the adapted instrument. The availability of this culturally sensitive assessment tool is poised to improve PT practices in the region, facilitating accurate patient assessments. Additionally, the methodologies and findings of this study advocate for the cross-cultural adaptation of patient-reported outcome measures, aiming to enhance patient-centered care across various linguistic and cultural settings.

CONCLUSIONS

The cross-cultural adaptation of the ODI–English to ODI–Ilokano has significant implications for physiotherapy practice, notably in improving patient assessments, enhancing patient-centered care, fostering cultural competence, facilitating better communication, and contributing to research and practice development. The availability of a culturally sensitive assessment tool in the Ilokano language is pivotal in enhancing the accuracy of patient assessments, enabling physiotherapists to better understand the impact of LBP on individuals from the Ilokano-speaking population. Adapting patient-reported outcome measures to different linguistic and cultural contexts allows for more patient-centered care that accounts for the diverse backgrounds and needs of patients. Moreover, utilizing culturally adapted outcome measures bolsters cultural competence among physiotherapists, equipping them with the skills needed to effectively communicate with and treat patients from varied cultural backgrounds. Additionally, the methodologies and findings from such cross-cultural adaptations contribute to the broader field of physiotherapy, emphasizing the importance of incorporating cultural considerations into patient care.

Statement of Authorship

Both authors certified fulfillment of ICMJE authorship criteria.

Author Disclosure

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APPENDIX

Oswestry Disability Index – Ilokano Version

ODI- Ilokano (final version)

Nadisenio daytoy a kuestionario tapno mangted iti informasion maigapu iti panangafektar ti sakit iti likod wenno gurong iti panangmanehar mo iti inaldaw aldaw a panagbiagmo. Pakisungbat ti kada paset. Markaan laeng ti maysa a kahon a mangiladawan iti kasasaad mo iti agdama.

Umuna a Paset: Kinaut-ot

- Awan ti mariknak nga ut-ot iti agdama.
- Saan unay a nakaro ti marikriknak nga ut-ot iti agdama.
- Kalkalainganna laeng ti marikriknak nga ut-ot iti agdama.
- Nakaro bassit ti mariknak nga ut-ot iti agdama.
- Nakakarkaro ti mariknak nga ut-ot iti agdama.
- Daytoyen ti kakaruan nga ut-ot a mariknak iti agdama.

Maikadua a Paset: Panangtaming iti bukod a bagi (panagbuggo, panagbado, kdpy.)

- Kabaelak a tamingen ti bagik nga awan mariknak nga ut-ot.
- Kabaelak a tamingen ti bagik ngem makariknaak iti nakaro nga ut-ot.
- Naut-ot nu tamingek ti bagik isu a nainayad ken naannadak nga aggaraw.
- Kasapulak ti adu a tulong tapno maasikasok ti bagik.
- Inaldaw a kasapulak ti tulong tapno maasikasok ti bagik.
- Haanak makapagbado, marigatanak nga agbuggo, ken kanayon a nakaiddaak.

Maikatlo a Paset: Panagbagkat

- Makabagkatak iti nadagsen nga awan mariknak nga ut-ot.
- Makabagkatak iti nadagsen ngem makariknaak iti ut-ot.
- Lapdannak ti ut-ot nga agbagkat iti nadagsen a nakadisso iti datar ngem kabaelak no la ketdi naiparabawda iti lamisaan.
- Lapdannak ti ut-ot nga agbagkat iti nadagsen ngem kabaelak no la ketdi saanda unay a nadagsen ken naiparabawda iti lamisaan.
- Dagiti laeng nalag-an a bambanag ti mabagkatko.
- Haanak makabagkat iti ania man a banag.

Maikapat a Paset: Pannagna

- Haan a lapdan ti ut-ot iti pannagnak.
- Lapdannak ti ut-ot a magna iti nasurok a maysa ket gudwa a kilometro.
- Lapdannak ti ut-ot a magna iti nakurang a kagudwa ti maysa a kilometro.
- Lapdannak ti ut-ot a magna iti nakurang a 100 a metro.
- Makapagnaak laeng no agaramatak iti sarukod.
- Kanayon a nakaiddaak ken nasken nga agkaradapak a mapan iti kasilias.