



## Psychometric Properties of the Filipino Version of Harris Hip Score Among Patients with Osteoarthritis and Hip Fractures: A Cross-Cultural Validation Study

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### ABSTRACT

**Background.** The Harris Hip Score (HHS) is a widely used instrument for assessing hip function and quality of life in patients with hip conditions. However, the questionnaire has not been validated in Filipino, limiting its use in the Philippines. This study aimed to translate, culturally adapt, and validate the HHS for Filipino-speaking patients with osteoarthritis or hip fractures to enhance its clinical and research applicability.

**Methodology.** This cross-sectional, cross-cultural validation study followed established protocols, including forward and backward translation, expert panel review, pretesting, and field testing. A total of 120 bilingual Filipino patients (20 for pretesting and 100 for field testing) with osteoarthritis or hip fractures participated. Psychometric evaluations assessed content validity (S-CVI/Average  $\geq 0.90$ ), internal consistency (Cronbach's alpha), test-retest reliability (Intraclass Correlation Coefficient, ICC), and construct validity through correlations with the WOMAC and SF-36 scores.

**Results.** The Filipino version of the HHS demonstrated strong psychometric properties. Internal consistency was acceptable (Cronbach's alpha = 0.724), while test-retest reliability was excellent (ICC = 0.921,  $p < 0.001$ ). Content validity was robust, with an S-CVI of 0.963. Construct validity was confirmed through significant correlations with WOMAC and SF-36 domains, supporting both convergent and discriminant validity. Pretesting revealed that the translated questionnaire was culturally relevant, easily understood, and applicable to the target population. Field testing further validated its reliability and clinical usability.

**Conclusion.** The Filipino version of the Harris Hip Score is a valid and reliable instrument for evaluating hip function and quality of life in Filipino-speaking patients with osteoarthritis or hip fractures. It offers clinicians and researchers a more culturally accessible tool for Filipino-speaking patients to assess treatment outcomes. Future studies should explore its responsiveness over time and evaluate its applicability to a broader range of populations.

**Keywords.** Harris Hip Score, Filipino version, osteoarthritis, hip fractures, validation, reliability, quality of life, translation, cross-cultural adaptation

### INTRODUCTION

Osteoarthritis (OA), also known as degenerative joint disease, is the most prevalent chronic rheumatic condition and a leading cause of pain and disability worldwide.<sup>1</sup> It primarily affects the hips and knees.<sup>2</sup> In the Philippines, 6–11% of individuals aged 60 and above are diagnosed with OA, a figure projected to double within 25 years.<sup>1</sup>

Total hip arthroplasty (THA) is the standard surgical intervention for patients experiencing intractable pain, severe functional impairment, or failure of nonsurgical treatments. Globally, approximately one million THA procedures are performed annually for advanced hip OA.

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Various outcome measures have been developed to assess hip pathologies, including the Oxford Hip Score, Nonarthritic Hip Score, Hip and Groin Outcome Score, International Hip Outcome Tool, Hip Outcome Score, and Merle d'Aubigné and Postel score.<sup>3</sup>

Among these, the Harris Hip Score (HHS) is one of the oldest and most widely used.<sup>3</sup> According to Malchau et al., the HHS is a reliable and valid measure of hip function, with numerous studies utilizing it as a self-reported patient questionnaire.

Both the original and modified versions have been applied in recent studies on various hip pathologies, including ligamentum and labral tears, infected hip arthroplasty revisions, and hip fractures.<sup>4</sup>

However, a culturally adapted and validated Filipino version of the HHS has not yet been developed. Cross-cultural equivalence should be standardized to validate assessment tools. This study aimed to develop a reliable and valid Filipino version of the HHS, adapting it to the local culture following Guillemin et al.'s guidelines.<sup>4</sup> Given that osteoarthritis and hip fractures are the most common hip conditions at the University of Santo Tomas Hospital, these were selected for validation to ensure consistency. Expanding the scope to other hip disorders could introduce variability, potentially affecting psychometric evaluation. This focused approach provides a solid foundation for future validation in other hip pathologies.

Based on the psychometric properties of the HHS and existing validation protocols, the authors also used the Western Ontario and McMaster Osteoarthritis Index (WOMAC) and the Short Form Health Survey (SF-36) for reference.

## OBJECTIVES

### General objective

This study aimed to determine the psychometric properties of the Filipino version of the Harris Hip Score (HHS) among patients with osteoarthritis or hip fractures.

### Specific objectives

1. To translate and adapt the Harris Hip Score (HHS) into the Filipino language
2. To determine the content equivalence of the English and Filipino versions of the HHS
3. To determine the linguistic equivalence of the English and Filipino versions of the HHS
4. To determine the conceptual equivalence of the English and Filipino versions of the HHS
5. To determine convergent and discriminant validities of the Filipino versions of the HHS with WOMAC and SF-36 questionnaires
6. To determine the reliability, in terms of test-retest reliability and internal consistency, of the Filipino version of the HHS

## METHODOLOGY

### Study design

This study was a cross-sectional, cross-cultural validation study following the steps outlined by Beaton et al.,<sup>5</sup> and Polit and Yang.<sup>6</sup> The design aimed to assess the adequacy and equivalence of a translated, culturally adapted questionnaire in comparison to the original version. It consisted of five steps: forward translation, back-translation, panel reconciliation of the translated tools, pretesting of the prefinal translated tools, and field testing of the final tool.

### Subject selection criteria

The target population of the study were adult Filipino bilingual patients who had completed at least secondary education, had osteoarthritis and/or hip fractures, and were seen in the UST Hospital from September 2023 to November 2024.

#### *Inclusion criteria*

1. Adult patients with hip osteoarthritis and/or hip fractures seen in the USTH (private and clinical division) from September 2023 to November 2024
2. Fluent in both English and Filipino

#### *Exclusion criteria*

1. Patients who could not comprehend the questionnaires due to cognitive impairment

#### *Withdrawal criteria*

1. Patients who requested to withdraw from the study
2. Patients who requested to transfer to a different institution or deferred continuity of care

### Sampling technique

The study used purposive sampling and included participants who met the above-mentioned eligibility criteria. The concept of power does not apply in scale development or validation studies hence, the rule of thumb for these study designs was used. The rule of thumb is to include two to three participants per item for the pre-testing of the questionnaires and to recruit at least five to 10 participants per item for the final, field testing.<sup>6</sup> Since the HHS had 10 items, at least 20 participants were necessary for the pretesting and at least 50 to 100 participants were needed for the field testing. Hence, this study recruited a minimum of 70 participants; 20 in the pretesting phase and at least 50 in the field-testing phase.

The study utilized a known-groups approach, which doubles the sample size for field testing with a 1:1 group ratio. Hence, this study recruited a minimum of 120 participants, 20 in the pretesting phase (all with osteoarthritis and/or hip fracture) and at least 100 in the field-testing phase (50 with and 50 without osteoarthritis and/or hip fracture).

### Step 1: Forward translation

This entailed translating the items, response options, and instructions from the source language (English) to the target language (Filipino). In this study, a decentered or symmetric translation was employed, meaning that some words or phrases were adjusted to ensure contextual relevance and applicability in the Philippine setting. As suggested by Beaton et al. (2000), forward translation was carried out by two independent translators who were native Filipino speakers, professional Filipino teachers, and fluent in English. The translators worked separately, and once completed, their comments and recommendations were reviewed and discussed in close coordination with the investigators.

### Step 2: Back-translation

The reconciled Filipino version of the HHS then underwent back-translation into English to ensure that the meanings of the original were accurately retained (semantic equivalence). This step was carried out by two native English speakers who were unaware of the original English versions.

### Step 3: Panel reconciliation

A consensus meeting was held with the translators to resolve any discrepancies during the forward and back translation processes.

### Step 4: Pretesting of pre-final tool

This step ascertained the content validity of and pre-tested the pre-final Filipino HHS. The Filipino HHS was distributed to at least three content experts in Internal Medicine, Rheumatology, and Orthopaedics. These content experts assessed the content and cultural relevance of the translated items using a 4-point ordinal scale, with 1 being “not relevant” and 4 being “highly relevant.” Items with an I-CVI  $\geq 0.78$  were retained, and the S-CVI/Average was estimated by computing the average I-CVI. An S-CVI/Average  $\geq 0.90$  was considered adequate.<sup>7</sup>

In the pretesting phase, 20 separate, eligible participants answered the prefinal Filipino HSS and were briefly interviewed to identify areas which needed improvement, using the following questions:

- From your understanding, what do these questions mean? [*Sa iyong pagkakaunawa, ano ang ibig sabihin/kabulugan ng mga tanong na ito?*]
- Were these questions easy or hard to answer? [*Mahirap ba o madali lang sagutin ang mga tanong na ito?*]
- Did these questions make you uncomfortable, offended, or disturbed in any way? If yes, which ones did? [*Sa mga tanong na ito, mayroon bang nakababagabag, nakakabastos, o hindi ka kumportableng sagutan? Kung mayroon, alin ang mga ito?*]
- Were there questions that were unclear or confusing? If yes, which ones? [*May mga tanong ba na malabo o nakakalito? Kung mayroon, alin ang mga ito?*]

### Step 5: Field testing of final tool

The finalized Filipino and English versions of the HHS, arranged in varying item orders, were distributed to at least 50 bilingual participants fluent in both English and Filipino. These participants also received the validated WOMAC and SF-36 questionnaires to complete, a process that took 20 to 25 minutes. The investigators obtained the participants' consent to review their medical records and extract relevant data, such as physical exam results and laboratory findings.

During the participants' medical follow-up after one week, they were asked to complete the Filipino and English versions of the HHS again.

## Ethical considerations

The first three phases of the research process—forward translation, back translation, and panel reconciliation—were performed while waiting for ethical approval as these did not involve eligible participants. Once approval ethical approval from the UST Hospital Research Ethics Committee (USTH REC) was granted, the investigators proceeded with the fourth phase, pretesting.

## Data analysis

Quantitative variables were expressed as mean  $\pm$  standard deviation, while qualitative variables were reported as percentages (%). The minimum and maximum scores for individual items and the total HHS-F score were assessed to identify potential floor or ceiling effects. Statistical analysis was conducted using SPSS software (version 30, SPSS Inc., Chicago, IL, USA), with significance set at  $p < 0.05$ .

Internal consistency was evaluated using Cronbach's alpha ( $\alpha$ ), which estimates the reliability of a scale based on a single administration. Cronbach's  $\alpha$  was also recalculated after systematically removing one item from the 12 questions to assess its impact. Additionally, all items were analyzed for their correlation with the overall score.<sup>5,8-10</sup>

The intraclass correlation coefficient (ICC) was also used to evaluate reliability. Among the various forms of ICC, a two-way random effects model for single-measure reliability analysis was utilized in this study. ICC values, along with confidence intervals, were calculated for each item and the total score. The difference in mean scores between the test and retest was computed, and a paired t-test was used to identify any systematic differences. Reproducibility was analyzed by determining the correlation between the test and retest results using Spearman's correlation coefficient.<sup>5,8-10</sup>

In this study, validity was assessed by calculating Spearman's correlation coefficient between the HHS-F and the WOMAC, as well as the SF-36. To determine convergent validity, Spearman's correlation coefficients were calculated between the HHS-F and the WOMAC scores, along with related subscores of the SF-36. Discriminant validity was evaluated

**Table 1.** Content validity among experts (HHS-F)

Item	Relevant ratings (ratings=3)	Not relevant ratings (ratings=2)	I-CVI	Decision	S-CVI
<b>Section 1</b>					1.00
Item 1	3	0	1.00	Retain	
Item 2	3	0	1.00	Retain	
Item 3	3	0	1.00	Retain	
Item 4	3	0	1.00	Retain	
Item 5	3	0	1.00	Retain	
Item 6	3	0	1.00	Retain	
Item 7	3	0	1.00	Retain	
Item 8	3	0	1.00	Retain	
<b>Section 2</b>					0.89
Item 1	2	1	0.78	Retain	
Item 2	3	0	1.00	Retain	
Item 3	3	0	1.00	Retain	
Item 4	2	1	0.78	Retain	
<b>Overall S-CVI</b>					0.963

by calculating Spearman’s correlation coefficients between the HHS-F and the mental component summary, mental health, and general health subscores of the SF-36. Higher correlation coefficients were anticipated for convergent validity, while lower coefficients were expected for discriminant validity.<sup>5,8-10</sup>

**RESULTS**

We present here the content, convergent, and discriminant validity of the Filipino version of the Harris Hip Score (HHS-F).

**Pre-testing of pre-final tool**

The Filipino version of the Harris Hip Score (HHS-F) demonstrated strong content validity based on expert assessments. In Section 1, all eight items received perfect relevance ratings (I-CVI = 1.00; S-CVI = 1.00), requiring no revisions. In Section 2, Items 1 and 4 met the minimum I-CVI threshold (0.78), while Items 2 and 3 achieved perfect scores (I-CVI = 1.00), resulting in an S-CVI of 0.89, which was acceptable. The overall S-CVI of the instrument was 0.963, exceeding the 0.90 standard, confirming its validity and suitability for pretesting (Table 1).

*From your understanding, what do these questions mean? [Sa iyong pagkakaunawa, ano ang ibig sabihin/ kahulugan ng mga tanong na ito?]*

**Theme 1: Health experience and general well-being**

Participants responded that the questions were primarily focused on the individual’s health experience and general well-being. They said that the questions explored their overall health situation, how they perceived their condition, and its impact on their quality of life. Many felt the questions were asking about how their health influenced their daily existence and general living conditions. This theme represents how the condition affects the person’s emotional, psychological, and overall well-being, giving a broader view of their health experience (Table 2).

**Theme 2: Physical condition and mobility**

Another significant theme that emerged was the focus on the individual’s physical condition and mobility. Respondents understood the questions as inquiring about their ability to move, the difficulties they face in physical activities, and the limitations imposed by their health condition. There was an emphasis on concerns regarding mobility, joint conditions, and how physical challenges impacted their ability to perform tasks. This theme highlighted how health conditions directly affect an individual’s movement and physical functionality (Table 3).

**Table 2.** Responses relating to Theme 1: Health experience and general well-being

Respondent Number	Response
#1	These questions are about my health experience.
#3	These questions refer to my quality of life related to health.
#8	They are about my general health situation.
#10	The questions are about how I feel the condition impacts my life.
#11	The questions explore how my health affects my living.

**Table 3.** Responses relating to Theme 2: Physical condition and mobility

Respondent Number	Response
#2	The questions are asking about my physical condition.
#6	These questions are about my experience with movement and health.
#12	The questions are about how hard or easy it is for me to move.
#13	The questions refer to my mobility and quality of life.
#15	These are about my physical activity limitations.
#16	The questions examine my joint condition.
#20	The questions ask about my ability to move properly.

### Theme 3: Daily life and activities

The third theme was how their health affects daily life and activities. Many responses noted that the questions were aimed at understanding how the condition interferes with their ability to carry out routine tasks and responsibilities. This theme reflects how individuals perceive the impact of their condition on daily activities such as chores, work, and social interactions. Respondents felt the questions were assessing the functional limitations they experience due to their health condition (Table 4).

*Were these questions easy or hard to answer? [Mahirap ba o madali lang sagutin ang mga tanong na ito?]*

#### Theme 1: Easy to answer (straightforward and simple)

The questions were easy to answer, straightforward, simple, clear, and understandable. Respondents found the questions easy because they were based on personal experience or because they were simple and direct, requiring little effort to understand or answer (Table 5).

#### Theme 2: Some difficulty (requires thought or reflection)

A few respondents said that some questions required more thought or reflection, particularly those with technical terms or more complex phrasing. These respondents found certain questions tricky to understand. While most of the questions were easy, some presented challenges that required deeper consideration or clarification (Table 6).

#### Theme 3: Personal and relatable (easy due to personal experience)

Some respondents highlighted that the questions were easy because they were personal and relatable, directly connecting to their own experiences and daily life. These individuals felt that the questions were easier to answer because they were grounded in their personal health experiences, making it easier to provide relevant responses (Table 7).

*Did these questions make you uncomfortable, offended, or disturbed in any way? If yes, which ones did? [Sa mga tanong na ito, mayroon bang nakababagabag, nakakabastos, o hindi ka kumportableng sagutan? Kung mayroon, alin ang mga ito?]*

#### Theme 1: No discomfort or offense

Most respondents did not feel uncomfortable, offended, or disturbed by the questions. They felt comfortable answering all the questions and found that none of the questions were offensive or troubling. They mentioned that there was no discomfort or offense experienced during the process, indicating a positive experience with the questions (Table 8).

#### Theme 2: Slight personal or sensitive questions

A few respondents noted that some questions felt slightly personal or sensitive, but not offensive. While they felt that certain questions touched on more intimate aspects of their experience, they did not feel disturbed or offended by them. Despite mild sensitivity to certain topics, they still felt comfortable answering the questions overall (Table 9).

**Table 4.** Responses relating to Theme 3: Daily life and activities

Respondent Number	Response
#4	They ask how my condition affects my daily life.
#5	These questions are about the things I can do daily.
#7	The questions are meant to know how my condition affects me.
#9	These questions are about my ability to do everyday tasks.
#14	They ask about how my condition affects my abilities.
#17	The questions are about how I handle daily activities.
#19	These are about how my illness affects my daily tasks.

**Table 5.** Responses relating to Theme 1: Easy to answer (straightforward and simple)

Respondent Number	Response
#4	They were easy to answer because they are simple.
#9	Easy because they are based on my experience.
#3	They were straightforward to answer.
#7	Simple to answer.
#2	Easy to answer.
#12	Easy, especially with relevant experience.
#5	They were simple to answer.
#8	Easy to answer.
#15	Straightforward to answer.
#6	Simple to answer.
#19	They were easy to answer.
#10	Easy overall, but a few needed reflection.

**Table 6.** Responses relating to Theme 2: Some difficulty (requires thought or reflection)

Respondent Number	Response
#13	A bit easy, but some required a little thought.
#17	Some questions were easy, but others were hard due to technical terms.
#11	Easy, but one was a bit tricky to understand.
#16	Some were easy, and some were challenging.
#14	Some questions were a bit challenging.
#18	Easy overall, but a few needed reflection.

**Table 7.** Responses relating to Theme 3: Personal and relatable (easy due to personal experience)

Respondent Number	Response
#9	Easy to answer because they are based on my experience.
#20	Easy since they are personal.
#12	Easy to answer, especially with relevant experience.

#### Theme 3: General comfort but no specific comments

Some respondents expressed that they did not have any specific discomfort or concerns but did not elaborate further. These respondents indicated that, in general, they found the questions acceptable and easy to answer, but they did not provide detailed feedback on the nature of the questions. This theme reflects a general sense of comfort without any

specific comments on the questions' content or emotional impact (Table 10).

**Were there questions that were unclear or confusing? If yes, which ones? [May mga tanong ba na malabo o nakakalito? Kung mayroon, alin ang mga ito?]**

**Theme 1: All questions were clear and understandable**

Most respondents found the questions easy to answer, clear, simple, and straightforward. They found them easy to understand without significant challenges. This theme reflects a high level of clarity and simplicity in the questions, as the respondents felt comfortable providing answers without much thought or effort (Table 11).

**Theme 2: A few questions were slightly confusing or unclear**

A few respondents noted that some questions were slightly challenging to answer, either because they contained technical terms or required more reflection. These respondents felt that while most questions were manageable, a few required more thought or posed mild difficulty in comprehension. This theme highlights the presence of minor challenges within an

otherwise clear set of questions, indicating that some areas could have been made clearer or simpler (Table 12).

**Theme 3: No specific comments, general clarity**

Some respondents did not provide specific comments but generally agreed that the questions were easy to answer. They acknowledged that, overall, the questions were simple, though a few may have required some thought. This theme reflects a sense of comfort with answering the questions, where most respondents found them manageable but did not elaborate on particular difficulties. It suggests that even when challenges arose, they were not significant enough to cause discomfort (Table 13).

The expert evaluations of the Filipino Harris Hip Score (HHS) highlight the strong relevance of items related to pain, stiffness, and physical function in assessing hip function (Table 14). Most (75%) experts rated the pain item as highly relevant (HR), with the remaining 25% rating it as quite relevant (QR). Morning stiffness was rated HR by 65% and QR by 35%. Physical function items, such as descending stairs, received the highest agreement, with 90% of experts rating it HR. Other functional activities, like rising from sitting and

**Table 8.** Responses relating to Theme 1: No discomfort or offense

Respondent Number	Response
#3	No, none of the questions were offensive.
#5	I felt comfortable answering them.
#6	I wasn't offended by any question.
#7	Nothing was offensive or troubling.
#9	I didn't feel uncomfortable answering.
#10	No discomfort was felt.
#11	I didn't find anything offensive or disturbing.
#13	No discomfort or offense.
#14	There was no question that offended me.
#15	I didn't feel any discomfort.
#16	Nothing caused discomfort.
#17	No discomfort in answering.
#18	I was fine with all the questions.
#19	There wasn't anything offensive.
#20	Nothing made me feel uncomfortable.
#2	No, all questions were fine for me.

**Table 9.** Responses relating to Theme 2: Slight personal or sensitive questions

Respondent Number	Response
#8	One question felt slightly personal, but not offensive.
#12	One question was slightly sensitive for me.

**Table 10.** Responses relating to Theme 3: General comfort but no specific comments

Respondent Number	Response
#1	No discomfort in answering.
#4	I wasn't offended by any question.

**Table 11.** Responses relating to Theme 1: All questions were clear and understandable

Respondent Number	Response
#1	All questions were clear.
#2	None of the questions were confusing.
#3	I understood all the questions.
#4	Everything was clear to me.
#5	None were unclear.
#6	No question was confusing.
#7	All questions were understandable.
#8	Everything was clear and understandable.
#9	I found all the questions clear.
#10	Everything was straightforward.
#11	All questions were clear to me.
#12	None of the questions were confusing.
#13	There were no unclear questions.
#14	I didn't find any question confusing.
#15	Every question was clear.

**Table 12.** Responses relating to Theme 2: A few questions were slightly confusing or unclear

Respondent Number	Response
#16	One or two questions were a bit unclear.
#17	One question was slightly confusing.
#18	One question wasn't clear at first.
#19	One question was hard to understand at first.

**Table 13.** Responses relating to Theme 3: No specific comments, general clarity

Respondent Number	Response
#20	None of the questions were unclear.

standing, also received high HR ratings. Mobility tasks, such as bending, walking, and self-care activities, were similarly deemed highly relevant. Items related to domestic duties, both light and heavy, were also seen as essential for evaluating broader functional capacity.

Pain-related items were largely rated as manageable, with only 5% of participants reporting difficulty, suggesting that pain is not a significant barrier to daily activities for most (Table 15). While tasks like walking, stair navigation, and weight-bearing were also considered manageable, stiffness, particularly morning stiffness, was identified as a concern by 45% of participants. Physical function items, including ascending stairs, bending, and daily activities such as getting in and out of cars or beds, were predominantly rated as manageable. Domestic duties, both heavy and light, were also perceived as undemanding by most.

Table 16 shows participants' ratings on the significance of various health and physical function aspects. Pain management

was prioritized by many, with items like pain, walking, and stair navigation considered essential. While nocturnal pain was noted as significant for some, stiffness, especially morning stiffness, emerged as a major concern. Physical function items, such as ascending stairs, rising from sitting, and daily tasks like bending and walking, were rated as crucial for maintaining independence. Self-care activities, such as putting on socks and rising from bed, were also highlighted as important.

The Filipino version of the Harris Hip Score (HHS-F) demonstrated strong reliability, with excellent test-retest reliability (ICC = 0.921) and a statistically significant  $p$ -value ( $<0.001$ ), ensuring stable measurements (Tables 17 and 18). The internal consistency, measured by Cronbach's alpha at 0.724, confirmed that the HHS-F reliably assessed hip function and health-related quality of life.

Table 19 further analyzed the relevance of items in the SF-36 questionnaire across various health domains. The General Health domain was rated as highly relevant (HR)

**Table 16.** Frequency and percentage of item importance according to participants (HHS-F)

Items	Frequency (%)	
	Yes	No
<b>Seksyon 1</b>		
<b>Sakit</b>	20 (100%)	0 (0%)
___ Wala, o binabalewala ito		
___ Bahagyang, paminsan-minsan, walang kompromiso sa aktibidad		
___ Ang banayad na pananakit, walang epekto sa karaniwang mga aktibidad, bihirang katamtamang pananakit na may hindi pangkaraniwang aktibidad, ay maaaring uminom ng aspirin		
___ Katamtamang sakit, matitiis ngunit nagbibigay ng konsesyon sa sakit. Ilang limitasyon ng ordinaryong aktibidad o trabaho. Maaaring mangailangan ng paminsan-minsang gamot sapananakit namas malakas kaysa sa aspirin		
___ Nararamdaman ang sakit, malubhang limitasyon ng mga aktibidad		
___ Ganap na may kapansanan, baldado, sakit sa kama, nakarabay		
<b>Suporta</b>	19 (95%)	1 (5%)
___ Wala		
___ Tungkod/tungkod para sa mahabang paglalakad		
___ Tungkod/tungkod sa karamihan ng oras		
___ Isang saklay		
___ Dalawang Tungkod/Tungkod		
___ Dalawang saklay o hindi makalakad		
<b>Layo ng nilakad</b>	18 (90%)	2 (10%)
___ Walang limitasyon		
___ Anim na bloke (30 minuto)		
___ Dalawa o tatlong bloke (10-15 minuto)		
___ Sa loob lamang ng bahay		
___ Kama at upuan lang		
<b>Limp</b>	14 (70%)	6 (30%)
___ Wala		
___ Bahagya		
___ Katamtaman		
___ Malubha o hindi makalakad		
<b>Mga aktibidad, sapatos, medyas</b>	15 (75%)	5 (25%)
___ Madali		
___ Medyo nahahirapan		
___ Hindi makatali o makakasya		
<b>Hagdan</b>	18 (90%)	2 (10%)
___ Karaniwan nang hindi gumagamit ng rehas		
___ Karaniwang gumagamit ng rehas		
___ Sa anumang paraan		
___ Hindi marunong maghagdan		
<b>Pampublikong transportasyon</b>	18 (90%)	2 (10%)
___ Makakagamit ng transportasyon (bus)		
___ Hindi makakagamit o makakasakay Ng pampublikong transportasyon (bus)		
<b>Pag-upo</b>	20 (100%)	0 (0%)
___ Oo		
___ Mas mababa sa 10 degrees ng fixed int rotation sa extension		
___ Hindi		
___ Ang pagkakaiba sa haba ng paa ay mas mababa sa 3.2 cm (1.5 pulgada)		

**Table 16.** Frequency and percentage of item importance according to participants (HHS-F) (continued)

Items	Frequency (%)	
	Yes	No
<b>Seksyon 2 – Paggalaw</b>		
<b>Kabuuang antas ng Pagbaluktot</b> ___ Wala ___ 0 > 8 ___ 8 > 16 ___ 16 > 24 ___ 24 > 32 ___ 32 > 40 ___ 40 > 45 ___ 45 > 55 ___ 55 > 65 ___ 65 > 70 ___ 70 > 75 ___ 75 > 80 ___ 80 > 90 ___ 90 > 100 ___ 100 > 110	15 (75%)	5 (25%)
<b>Kabuuang Antas ng Abduksyon</b> ___ Wala ___ 0 > 5 ___ 5 > 10 ___ 10 > 15 ___ 15 > 20	14 (70%)	6 (30%)
<b>Kabuuang Antas ng Panlabas na Pag-ikot</b> ___ Wala ___ 0 > 5 ___ 5 > 10 ___ 10 > 1	15 (75%)	5 (25%)
<b>Kabuuang Antas ng Adduction</b> ___ Wala ___ 0 > 5 ___ 5 > 10 ___ 10 > 1	15 (75%)	5 (25%)

**Table 17.** Test-retest reliability of translated questionnaire (HHS-F)

	ICC	Interpretation	p-value
Harris Hip Score - Filipino	0.921	Excellent	<0.001

**Table 18.** Internal Consistency (HHS-F)

	Cronbach's alpha	Interpretation
Harris Hip Score - Filipino	0.724	Acceptable

**Table 19.** Frequency and percentage of item relevance per item (SF-36)

Items	Frequency (%)			
	HR	QR	SM	NR
<b>General Health</b>				
1. In general, would you say your health.	20 (100%)	0 (0%)	0 (0%)	0 (0%)
2. Compared to one year ago, how would you rate your health in general now?	20 (100%)	0 (0%)	0 (0%)	0 (0%)
<b>Limitations of Activities</b>				
1. Vigorous activities, such as running, lifting heavy objects, participating in strenuous sports.	18 (90%)	10 (10%)	0 (0%)	0 (0%)
2. Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf	18 (90%)	10 (10%)	0 (0%)	0 (0%)
3. Lifting or carrying groceries	16 (80%)	4 (20%)	0 (0%)	0 (0%)
4. Climbing several flights of stairs	18 (90%)	10 (10%)	0 (0%)	0 (0%)
5. Climbing one flight of stairs	19 (95%)	1 (5%)	0 (0%)	0 (0%)
6. Bending, kneeling, or stooping	19 (95%)	1 (5%)	0 (0%)	0 (0%)
7. Walking more than a mile	12 (60%)	8 (40%)	0 (0%)	0 (0%)
8. Walking several blocks	18 (90%)	10 (10%)	0 (0%)	0 (0%)
9. Walking one block	19 (95%)	1 (5%)	0 (0%)	0 (0%)
10. Bathing or dressing yourself	16 (80%)	4 (20%)	0 (0%)	0 (0%)
<b>Physical Health Problems</b>				
1. Cut down the amount of time you spent on work or other activities	15 (75%)	5 (25%)	0 (0%)	0 (0%)
2. Accomplished less than you would like	14 (70%)	6 (30%)	0 (0%)	0 (0%)
3. Were limited in the kind of work or other activities	15 (75%)	5 (25%)	0 (0%)	0 (0%)
4. Had difficulty performing the work or other activities (for example, it took extra effort)	18 (90%)	10 (10%)	0 (0%)	0 (0%)

**Table 19.** Frequency and percentage of item relevance per item (SF-36) (continued)

Items	Frequency (%)			
	HR	QR	SM	NR
<b>Emotional Health Problems</b>				
1. Cut down the amount of time you spent on work or other activities	13 (65%)	7 (35%)	0 (0%)	0 (0%)
2. Accomplished less than you would like	15 (75%)	5 (25%)	0 (0%)	0 (0%)
3. Didn't do work or other activities as carefully as usual	13 (65%)	7 (35%)	0 (0%)	0 (0%)
<b>Social Activities</b>				
1. Emotional problems interfered with your normal social activities with family, friends, neighbors, or groups?	13 (65%)	7 (35%)	0 (0%)	0 (0%)
<b>Pain</b>				
1. How much bodily pain have you had during the past 4 weeks?	18 (90%)	10 (10%)	0 (0%)	0 (0%)
2. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?	18 (90%)	10 (10%)	0 (0%)	0 (0%)
<b>Energy and Emotions</b>				
1. Did you feel full of pep?	15 (75%)	5 (25%)	0 (0%)	0 (0%)
2. Have you been a very nervous person?	13 (65%)	7 (35%)	0 (0%)	0 (0%)
3. Have you felt so down in the dumps that nothing could cheer you up?	13 (65%)	7 (35%)	0 (0%)	0 (0%)
4. Have you felt calm and peaceful?	13 (65%)	7 (35%)	0 (0%)	0 (0%)
5. Did you have a lot of energy?	13 (65%)	7 (35%)	0 (0%)	0 (0%)

Legend: HR – Highly Relevant; QR – Quite Relevant; SR – Somewhat Relevant; NR – Not Relevant

by all participants, while Limitations of Activities, including walking and climbing stairs, were also rated highly relevant. While walking more than a mile had a lower HR rating of 60%, Physical Health Problems items were largely considered highly relevant (75%–90%). Emotional Health Problems and Social Activities received slightly lower HR ratings. The Pain domain was rated as highly relevant by 90% of participants, emphasizing its impact on daily life. The Energy and Emotions section had moderate HR ratings (65%–75%).

The SF-36 survey results indicated that most respondents reported good overall health and limited physical limitations, while a significant proportion experienced emotional problems and pain, impacting their social activities and energy levels (Table 20).

Table 21 provided a comprehensive overview of participants' perceptions regarding their health. While most reported good overall health, emotional problems, and pain were noted as key concerns affecting social interactions and daily functioning.

The SF-36 survey showed a Cronbach's alpha value of 0.741, which falls within the acceptable range for psychological and health-related assessments (Table 22). This value indicated that the SF-36 items were sufficiently correlated, ensuring reliability in measuring health status and quality of life.

Pain, stiffness, and physical function were critical concerns for participants (Table 23). Pain was rated as highly relevant by 75%, while stiffness was viewed as highly relevant by 65%. Physical function was the most critical concern, with 90% rating it highly relevant, reflecting the challenges in performing essential tasks.

There was a mixed landscape of difficulties related to pain, stiffness, and physical function (Table 24). While pain was

manageable for most (5% reported difficulty), stiffness and physical function emerged as more significant concerns, with 45% experiencing challenges in mobility and daily tasks such as climbing stairs and rising from a sitting position.

Walking difficulties were most pronounced, with 80% of participants reporting issues in mobility and weight-bearing activities (Table 25). Stiffness affected 45% of participants, while 60% reported difficulties with physical functions such as navigating stairs and performing routine tasks.

The WOMAC questionnaire resulted in Cronbach's alpha value of 0.704, indicating an acceptable level of reliability for assessing health-related quality of life (Table 26).

HHS-F had a Spearman rho of 0.359 when correlated with the WOMAC ( $p = 0.010$ ), indicating a moderate relationship (Table 27). A stronger correlation was found between the HHS-F and the SF-36 ( $\rho = 0.665$ ,  $p < 0.01$ ), reinforcing the validity of both measures in assessing health status and quality of life.

Table 28 evaluated discriminant validity, showing a Spearman rho of 0.880 ( $p = 0.022$ ) between the HHS-F and the General Health domain of SF-36, further confirming the reliability of the HHS-F in capturing aspects of general health.

### Field testing of final tool

Most items in the Filipino-translated Harris Hip Score (HHS) were rated as highly relevant, with ratings ranging from 83% to 92% (Table 29). The highest relevance was observed in activity limitations, walking distance, and public transportation, while pain and limp also received strong relevance ratings. Motion-related items, including flexion, abduction, external rotation and adduction, were rated above 87%.

**Table 20.** Frequency and percentage of item difficulty (SF-36)

Items	Frequency (%)	
	Yes	No
<b>General Health</b>		
1. In general, would you say your health.	0 (0%)	20 (100%)
2. Compared to one year ago, how would you rate your health in general now?	0 (0%)	20 (100%)
<b>Limitations of Activities</b>		
1. Vigorous activities, such as running, lifting heavy objects, participating in strenuous sports.	8 (40%)	12 (60%)
2. Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf	3 (15%)	17 (85%)
3. Lifting or carrying groceries	0 (100%)	20 (20%)
4. Climbing several flights of stairs	3 (15%)	17 (85%)
5. Climbing one flight of stairs	3 (15%)	17 (85%)
6. Bending, kneeling, or stooping	0 (100%)	20 (20%)
7. Walking more than a mile	2 (10%)	18 (90%)
8. Walking several blocks	0 (100%)	20 (20%)
9. Walking one block	0 (100%)	20 (20%)
10. Bathing or dressing yourself	0 (100%)	20 (20%)
<b>Physical Health Problems</b>		
1. Cut down the amount of time you spent on work or other activities	6 (30%)	14 (70%)
2. Accomplished less than you would like	2 (10%)	18 (90%)
3. Were limited in the kind of work or other activities	2 (10%)	18 (90%)
4. Had difficulty performing the work or other activities (for example, it took extra effort)	1 (5%)	19 (95%)
<b>Emotional Health Problems</b>		
1. Cut down the amount of time you spent on work or other activities	1 (5%)	19 (95%)
2. Accomplished less than you would like	1 (5%)	19 (95%)
3. Didn't do work or other activities as carefully as usual	2 (10%)	18 (90%)
<b>Social Activities</b>		
1. Emotional problems interfered with your normal social activities with family, friends, neighbors, or groups?	5 (25%)	15 (75%)
<b>Pain</b>		
1. How much bodily pain have you had during the past 4 weeks?	2 (10%)	18 (90%)
2. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?	4 (20%)	16 (80%)
<b>Energy and Emotions</b>		
1. Did you feel full of pep?	3 (15%)	17 (85%)
2. Have you been a very nervous person?	1 (5%)	19 (95%)
3. Have you felt so down in the dumps that nothing could cheer you up?	6 (30%)	14 (70%)
4. Have you felt calm and peaceful?	2 (10%)	18 (90%)
5. Did you have a lot of energy?	2 (10%)	18 (90%)

**Table 21.** Frequency and percentage of item importance (SF-36)

Items	Frequency (%)	
	Yes	No
<b>General Health</b>		
1. In general, would you say your health.	20 (100%)	20 (0%)
2. Compared to one year ago, how would you rate your health in general now?	20 (100%)	20 (0%)
<b>Limitations of Activities</b>		
1. Vigorous activities, such as running, lifting heavy objects, participating in strenuous sports.	13 (65%)	7 (35%)
2. Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf	17 (85%)	3 (15%)
3. Lifting or carrying groceries	15 (75%)	5 (25%)
4. Climbing several flights of stairs	19 (95%)	1 (5%)
5. Climbing one flight of stairs	10 (50%)	10 (50%)
6. Bending, kneeling, or stooping	20 (100%)	0 (0%)
7. Walking more than a mile	10 (50%)	10 (50%)
8. Walking several blocks	20 (20%)	0 (100%)
9. Walking one block	20 (20%)	0 (100%)
10. Bathing or dressing yourself	20 (20%)	0 (100%)

**Table 21.** Frequency and percentage of item importance (SF-36) (continued)

Items	Frequency (%)	
	Yes	No
<b>Physical Health Problems</b>		
1. Cut down the amount of time you spent on work or other activities	12 (60%)	8 (40%)
2. Accomplished less than you would like	13 (65%)	7 (35%)
3. Were limited in the kind of work or other activities	14 (70%)	6 (30%)
4. Had difficulty performing the work or other activities (for example, it took extra effort)	18 (90%)	2 (10%)
<b>Emotional Health Problems</b>		
1. Cut down the amount of time you spent on work or other activities	12 (60%)	8 (40%)
2. Accomplished less than you would like	11 (55%)	9 (45%)
3. Didn't do work or other activities as carefully as usual	12 (60%)	8 (40%)
<b>Social Activities</b>		
1. Emotional problems interfered with your normal social activities with family, friends, neighbors, or groups?	15 (75%)	5 (25%)
<b>Pain</b>		
1. How much bodily pain have you had during the past 4 weeks?	18 (90%)	2 (10%)
2. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?	17 (85%)	3 (15%)
<b>Energy and Emotions</b>		
1. Did you feel full of pep?	12 (60%)	8 (40%)
2. Have you been a very nervous person?	11 (55%)	9 (45%)
3. Have you felt so down in the dumps that nothing could cheer you up?	12 (60%)	8 (40%)
4. Have you felt calm and peaceful?	12 (60%)	8 (40%)
5. Did you have a lot of energy?	11 (55%)	9 (45%)

**Table 22.** Internal Consistency (SF-36)

	Cronbach's alpha	Interpretation
SF-36	0.741	Acceptable

**Table 23.** Frequency and percentage of item relevance per item (WOMAC)

Items	Frequency (%)			
	HR	QR	SM	NR
<b>Pain</b> Walking Stair Nocturnal Rest Weight bearing	15 (75%)	5 (25%)	0 (0%)	0 (0%)
<b>Stiffness</b> Morning stiffness Stiffness occurring later in the day	13 (65%)	7 (35%)	0 (0%)	0 (0%)
<b>Physical Function</b> Descending stairs Ascending Rising from sitting Standing Bending to floor Walking on flat surface Getting in / out of car Going shopping Putting on socks Lying in bed Taking off socks Rising from bed Getting in/out of bath Sitting Getting on/off toilet Heavy domestic duties Light domestic duties	18 (90%)	2 (10%)	0 (0%)	0 (0%)

Legend: HR - Highly Relevant; QR - Quite Relevant; SR - Somewhat Relevant; NR - Not Relevant

**Table 24.** Frequency and percentage of item difficulty (WOMAC)

Items	Frequency (%)	
	Yes	No
<b>Pain</b> Walking Stair Nocturnal Rest Weight bearing	1 (5%)	19 (95%)
<b>Stiffness</b> Morning stiffness Stiffness occurring later in the day	9 (45%)	11 (55%)
<b>Physical Function</b> Descending stairs Ascending Rising from sitting Standing Bending to floor Walking on flat surface Getting in / out of car Going shopping Putting on socks Lying in bed Taking off socks Rising from bed Getting in/out of bath Sitting Getting on/off toilet Heavy domestic duties Light domestic duties	9 (45%)	11 (55%)

**Table 25.** Frequency and percentage of item importance (WOMAC)

Items	Frequency (%)	
	Yes	No
<b>Pain</b> Walking Stair Nocturnal Rest Weight bearing	16 (80%)	4 (20%)
<b>Stiffness</b> Morning stiffness Stiffness occurring later in the day	65 (45%)	7 (35%)
<b>Physical Function</b> Descending stairs Ascending Rising from sitting Standing Bending to floor Walking on flat surface Getting in / out of car Going shopping Putting on socks Lying in bed Taking off socks Rising from bed Getting in/out of bath Sitting Getting on/off toilet Heavy domestic duties Light domestic duties	12 (60%)	8 (40%)

**Table 26.** Internal Consistency (WOMAC)

	Cronbach's alpha	Interpretation
WOMAC	0.704	Acceptable

**Table 27.** Convergent Validity using Spearman correlation

		Spearman rho	p-value
HHS-F	WOMAC	0.359	0.010
	SF-36	0.665	<0.01

**Table 28.** Discriminant Validity using Spearman correlation

		SF-36	Spearman rho	p-value
HHS-F	General Health		0.880	0.022
	Physical Health Problems		0.389	0.012
	Emotional Health Problems		0.242	0.016

**Table 29.** Frequency and percentage of item relevance per item (HHS-F)

Items	Frequency (%)			
	HR	QR	SM	NR
<b>Seksyon 1</b>				
<b>Sakit</b> ___ Wala, o binabalewala ito ___ Bahagyang, paminsan-minsan, walang kompromiso sa aktibidad ___ Ang banayad na pananakit, walang epekto sa karaniwang mga aktibidad, bihirang katamtamangpananakit na may hindi pangkaraniwang aktibidad, ay maaaring uminom ng aspirin ___ Katamtamang sakit, matitiis ngunit nagbibigay ng konsesyon sa sakit. Ilang limitasyonngordinaryong aktibidad o trabaho. Maaaring mangailangan ng paminsan-minsang gamot sapananakit namas malakas kaysa sa aspirin ___ Nararamdaman ang sakit, malubhang limitasyon ng mga aktibidad ___ Ganap na may kapansanan, baldado, sakit sa kama, nakaratay	83 (83%)	13 (13%)	3 (3%)	0 (0%)
<b>Suporta</b> ___ Wala ___ Tungkod/tungkod para sa mahabang paglalakad ___ Tungkod/tungkod sa karamihan ng oras ___ Isang saklay ___ Dalawang Tungkod/Tungkod ___ Dalawang saklay o hindi makalakad	89 (89%)	8 (8%)	3 (3%)	0 (0%)
<b>Layo ng nilakad</b> ___ Walang limitasyon ___ Anim na bloke (30 minuto) ___ Dalawa o tatlong bloke (10-15 minuto) ___ Sa loob lamang ng bahay ___ Kama at upuan lang	91 (91%)	9 (9%)	0 (0%)	0 (0%)
<b>Limp</b> ___ Wala ___ Bahagya ___ Katamtaman ___ Malubha o hindi makalakad	88 (88%)	12 (12%)	0 (0%)	0 (0%)
<b>Mga aktibidad, sapatos, medyas</b> ___ Madali ___ Medyo nahahirapan ___ Hindi makatali o makakasya	92 (92%)	8 (8%)	0 (0%)	0 (0%)
<b>Hagdan</b> ___ Karaniwan nang hindi gumagamit ng rehas ___ Karaniwang gumagamit ng rehas ___ Sa anumang paraan ___ Hindi marunong maghagdan	89 (89%)	11 (11%)	0 (0%)	0 (0%)

**Table 29.** Frequency and percentage of item relevance per item (HHS-F) (continued)

<b>Pampublikong transportasyon</b> ___ Makakagamit ng transportasyon (bus) ___ Hindi makakagamit o makakasakay Ng pampublikong transportasyon (bus)	90 (90%)	10 (10%)	0 (0%)	0 (0%)
<b>Pag-upo</b> ___ Oo ___ Mas mababa sa 10 degrees ng fixed int rotation sa extension ___ Hindi ___ Ang pagkakaiba sa haba ng paa ay mas mababa sa 3.2 cm (1.5 pulgada)	89 (89%)	11 (11%)	0 (0%)	0 (0%)
<b>Seksyon 2 - Paggalaw</b>				
<b>Kabuuang antas ng flexion</b> ___ Wala ___ 0 > 8 ___ 8 > 16 ___ 16 > 24 ___ 24 > 32 ___ 32 > 40 ___ 40 > 45 ___ 45 > 55 ___ 55 > 65 ___ 65 > 70 ___ 70 > 75 ___ 75 > 80 ___ 80 > 90 ___ 90 > 100 ___ 100 > 110	87 (87%)	13 (13%)	0 (0%)	0 (0%)
<b>Kabuuang Antas ng Abduksyon</b> ___ Wala ___ 0 > 5 ___ 5 > 10 ___ 10 > 15 ___ 15 > 20	88 (88%)	12 (12%)	0 (0%)	0 (0%)
<b>Kabuuang Antas ng Ext Rotation</b> ___ None ___ 0 > 5 ___ 5 > 10 ___ 10 > 1	87 (87%)	10 (10%)	3 (3%)	0 (0%)
<b>Kabuuang Antas ng Adduction</b> ___ None ___ 0 > 5 ___ 5 > 10 ___ 10 > 1	89 (89%)	9 (9%)	2 (2%)	0 (0%)

Legend: HR - Highly Relevant; QR - Quite Relevant; SR - Somewhat Relevant; NR - Not Relevant

Most items in the Filipino-translated Harris Hip Score (HHS) were not considered difficult by 87 to 95% of respondents (Table 30). The least difficult items included walking distance, activity-related tasks such as using footwear and socks, and public transportation (90% of respondents report No difficulty). Motion-related items, including flexion, abduction, external rotation, and adduction, were slightly more challenging, with Yes responses ranging from 9% to 13%. Overall, the results suggest that the questionnaire items were generally perceived as easy to comprehend and respond to.

All respondents (100%) considered pain, activities related to footwear and socks, and stair usage as important factors. High importance was also assigned to walking distance (92%), limping (92%), public transportation access (96%), and sitting ability (98%). Supportive device use had slightly lower importance at 89%. Motion-related aspects, including flexion (90%), abduction (92%), external rotation (90%), and adduction (92%), were also regarded as significant. Overall, the findings suggest that respondents found all items relevant, with pain and functional activities being the most critical considerations.

The translated questionnaire demonstrated excellent reliability in field testing, with an intraclass correlation coefficient (ICC) of 0.967 ( $p < 0.001$ ), indicating strong consistency in responses. Additionally, the internal consistency was within the acceptable range (Cronbach's alpha = 0.802), confirming the questionnaire's reliability in assessing the intended constructs.

Using the Filipino-translated Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC), all pain-related items were rated as highly relevant by 100% of respondents (Table 34). Stiffness-related items were mostly rated as highly relevant, with morning stiffness and stiffness occurring later in the day receiving 92% HR and 8% quite relevant (QR) ratings. Physical function-related items were predominantly rated as highly relevant, with 97% of respondents marking them as highly relevant and 3% as quite relevant. No items were rated as somewhat relevant (SR) or not relevant (NR), suggesting strong perceived relevance across all categories.

Pain-related items were generally not considered difficult, with 95% of respondents selecting No and only 5% selecting Yes (Table 35). Stiffness-related items were also rated as not difficult by 97%, and difficult by 3%. Physical function-related items showed slightly higher difficulty, with 88% of respondents

**Table 30.** Frequency and percentage of item difficulty (HHS-F)

Items	Frequency (%)	
	Yes	No
<b>Seksyon 1</b>		
<b>Sakit</b> ___ Wala, o binabalewala ito ___ Bahagyang, paminsan-minsan, walang kompromiso sa aktibidad ___ Ang banayad na pananakit, walang epekto sa karaniwang mga aktibidad, bihirang katamtamangpananakit na may hindi pangkaraniwang aktibidad, ay maaaring uminom ng aspirin ___ Katamtamang sakit, matitiis ngunit nagbibigay ng konsesyon sa sakit. Ilang limitasyongordinaryong aktibidad o trabaho. Maaaring mangailangan ng paminsan-minsang gamot sapananakit namas malakas kaysa sa aspirin ___ Nararamdaman ang sakit, malubhang limitasyon ng mga aktibidad ___ Ganap na may kapansanan, baldado, sakit sa kama, nakaratay	11 (11%)	89 (89%)
<b>Suporta</b> ___ Wala ___ Tungkod/tungkod para sa mahabang paglalakad ___ Tungkod/tungkod sa karamihan ng oras ___ Isang saklay ___ Dalawang Tungkod/Tungkod ___ Dalawang saklay o hindi makalakad	9 (9%)	91 (91%)
<b>Layo ng nilakad</b> ___ Walang limitasyon ___ Anim na bloke (30 minuto) ___ Dalawa o tatlong bloke (10-15 minuto) ___ Sa loob lamang ng bahay ___ Kama at upuan lang	5 (5%)	95 (95%)
<b>Limp</b> ___ Wala ___ Bahagya ___ Katamtaman ___ Malubha o hindi makalakad	8 (8%)	92 (92%)
<b>Mga aktibidad, sapatos, medyas</b> ___ Madali ___ Medyo nahahirapan ___ Hindi makatali o makakasya	5 (5%)	95 (95%)
<b>Hagdan</b> ___ Karaniwan nang hindi gumagamit ng rehas ___ Karaniwang gumagamit ng rehas ___ Sa anumang paraan ___ Hindi marunong maghagdan	9 (9%)	91 (91%)
<b>Pampublikong transportasyon</b> ___ Makakagamit ng transportasyon (bus) ___ Hindi makakagamit o makakasakay Ng pampublikong transportasyon (bus)	6 (6%)	94 (94%)
<b>Pag-upo</b> ___ Oo ___ Mas mababa sa 10 degrees ng fixed int rotation sa extension ___ Hindi ___ Ang pagkakaiba sa haba ng paa ay mas mababa sa 3.2 cm (1.5 pulgada)	7 (7%)	93 (93%)
<b>Seksyon 2 - Paggalaw</b>		
<b>Kabuuang antas ng flexion</b> ___ Wala ___ 0 > 8 ___ 8 > 16 ___ 16 > 24 ___ 24 > 32 ___ 32 > 40 ___ 40 > 45 ___ 45 > 55 ___ 55 > 65 ___ 65 > 70 ___ 70 > 75 ___ 75 > 80 ___ 80 > 90 ___ 90 > 100 ___ 100 > 110	13 (13%)	87 (87%)
<b>2.Kabuuang Antas ng Abduksyon</b> ___ Wala ___ 0 > 5 ___ 5 > 10 ___ 10 > 15 ___ 15 > 20	10 (10%)	90 (90%)

**Table 30.** Frequency and percentage of item difficulty (HHS-F) (*continued*)

<b>Kabuuang Antas ng Ext Rotation</b> ___ None ___ 0 > 5 ___ 5 > 10 ___ 10 > 1	9 (9%)	89 (89%)
<b>Kabuuang Antas ng Adduction</b> ___ None ___ 0 > 5 ___ 5 > 10 ___ 10 > 1	10 (10%)	90 (90%)

**Table 31.** Frequency and percentage of item importance (HHS-F)

Items	Frequency (%)	
	Yes	No
<b>Seksyon 1</b>		
<b>Sakit</b> ___ Wala, o binabalewala ito ___ Bahagyang, paminsan-minsan, walang kompromiso sa aktibidad ___ Ang banayad na pananakit, walang epekto sa karaniwang mga aktibidad, bihirang katamtamangpananakit na may hindi pangkaraniwang aktibidad, ay maaaring uminom ng aspirin ___ Katamtamang sakit, matitiis ngunit nagbibigay ng konsesyon sa sakit. Ilang limitasyong ordinaryong aktibidad o trabaho. Maaaring mangailangan ng paminsan-minsang gamot sapananakit namas malakas kaysa sa aspirin ___ Nararamdaman ang sakit, malubhang limitasyon ng mga aktibidad ___ Ganap na may kapansanan, baldado, sakit sa kama, nakaratay	100 (100%)	0 (0%)
<b>Suporta</b> ___ Wala ___ Tungkod/tungkod para sa mahabang paglalakad ___ Tungkod/tungkod sa karamihan ng oras ___ Isang saklay ___ Dalawang Tungkod/Tungkod ___ Dalawang saklay o hindi makalakad	89 (89%)	11 (11%)
<b>Layo ng nilakad</b> ___ Walang limitasyon ___ Anim na bloke (30 minuto) ___ Dalawa o tatlong bloke (10-15 minuto) ___ Sa loob lamang ng bahay ___ Kama at upuan lang	92 (92%)	8 (8%)
<b>Limp</b> ___ Wala ___ Bahagya ___ Katamtaman ___ Malubha o hindi makalakad	92 (92%)	8 (8%)
<b>Mga aktibidad, sapatos, medyas</b> ___ Madali ___ Medyo nahihirapan ___ Hindi makatali o makakasya	100 (100%)	0 (0%)
<b>Hagdan</b> ___ Karaniwan nang hindi gumagamit ng rehas ___ Karaniwang gumagamit ng rehas ___ Sa anumang paraan ___ Hindi marunong maghagdan	100 (100%)	0 (0%)
<b>Pampublikong transportasyon</b> ___ Makakagamit ng transportasyon (bus) ___ Hindi makakagamit o makakasakay Ng pampublikong transportasyon (bus)	96 (96%)	4 (4%)
<b>Pag-upo</b> ___ Oo ___ Mas mababa sa 10 degrees ng fixed int rotation sa extension ___ Hindi ___ Ang pagkakaiba sa haba ng paa ay mas mababa sa 3.2 cm (1.5 pulgada)	98 (98%)	98 (0%)

**Table 31.** Frequency and percentage of item importance (HHS-F) (continued)

Seksyon 2 – Paggalaw		
<b>Kabuuang antas ng flexion</b> ___ Wala ___ 0 > 8 ___ 8 > 16 ___ 16 > 24 ___ 24 > 32 ___ 32 > 40 ___ 40 > 45 ___ 45 > 55 ___ 55 > 65 ___ 65 > 70 ___ 70 > 75 ___ 75 > 80 ___ 80 > 90 ___ 90 > 100 ___ 100 > 110	90 (90%)	10 (10%)
<b>Kabuuang Antas ng Abduksyon</b> ___ Wala ___ 0 > 5 ___ 5 > 10 ___ 10 > 15 ___ 15 > 20	92 (92%)	8 (8%)
<b>Kabuuang Antas ng Ext Rotation</b> ___ None ___ 0 > 5 ___ 5 > 10 ___ 10 > 1	90 (90%)	10 (10%)
<b>Kabuuang Antas ng Adduction</b> ___ None ___ 0 > 5 ___ 5 > 10 ___ 10 > 1	92 (92%)	8 (8%)

**Table 32.** Test-retest reliability of translated questionnaire (HHS-F)

	ICC	Interpretation	p-value
Harris Hip Score - Filipino	0.967	Excellent	<0.001

**Table 33.** Internal Consistency (HHS-F)

	Cronbach's alpha	Interpretation
Harris Hip Score - Filipino	0.802	Acceptable

indicating No and 12% selecting Yes. Overall, the majority of respondents did not find the WOMAC items difficult to answer.

The Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) indicate that pain-related items were highly regarded as important, with 95% of respondents selecting Yes and only 5% selecting No (Table 36). Stiffness-related items were also considered important, with Yes responses at 93% and No at 7%. Physical function-related items were similarly rated as important, with 92% selecting Yes and 8% selecting No.

The WOMAC questionnaire had a Cronbach's alpha of 0.789, indicating an acceptable level of reliability (Table 37).

Using the Filipino-translated SF-36 questionnaire, all items were rated as highly relevant (HR) or quite relevant (QR) by respondents (Table 38). General health items received 100% HR ratings, while limitations in activities had HR ratings ranging from 91% to 98%. Physical and emotional health problems were also deemed highly relevant, with HR ratings between 90% and 97%. Social activities and pain-related items were rated as HR by 92% to 93% of respondents. Lastly, energy and emotional well-being items had HR ratings between 87% and 90%, confirming their relevance in assessing health-related quality of life.

**Table 34.** Frequency and percentage of item relevance per item (WOMAC)

Items	Frequency (%)			
	HR	QR	SM	NR
<b>Pain</b>	100 (100%)	0 (0%)	0 (0%)	0 (0%)
Walking				
Stair				
Nocturnal				
Rest				
Weight bearing				
<b>Stiffness</b>	92 (92%)	8 (8%)	0 (0%)	0 (0%)
Morning stiffness				
Stiffness occurring later in the day				
<b>Physical Function</b>	97 (97%)	3 (3%)	0 (0%)	0 (0%)
Descending stairs				
Ascending				
Rising from sitting				
Standing				
Bending to floor				
Walking on flat surface				
Getting in / out of car				
Going shopping				
Putting on socks				
Lying in bed				
Taking off socks				
Rising from bed				
Getting in/out of bath				
Sitting				
Getting on/off toilet				
Heavy domestic duties				
Light domestic duties				

Legend: HR - Highly Relevant; QR - Quite Relevant; SR - Somewhat Relevant; NR - Not Relevant

**Table 35.** Frequency and percentage of item difficulty (WOMAC)

Items	Frequency (%)	
	Yes	No
<b>Pain</b> Walking Stair Nocturnal Rest Weight bearing	5 (5%)	95 (95%)
<b>Stiffness</b> Morning stiffness Stiffness occurring later in the day	3 (3%)	97 (97%)
<b>Physical Function</b> Descending stairs Ascending Rising from sitting Standing Bending to floor Walking on flat surface Getting in / out of car Going shopping Putting on socks Lying in bed Taking off socks Rising from bed Getting in/out of bath Sitting Getting on/off toilet Heavy domestic duties Light domestic duties	12 (12%)	88 (88%)

Most respondents did not experience difficulty with general health (100%), mobility-related activities (ranging from 91% to 100%), or daily tasks (100%) (Table 39). However, a small proportion reported challenges with vigorous (8%) and moderate (9%) activities, as well as certain physical (3–7%) and emotional (5–8%) health problems, social activities (9%), and pain-related aspects (6–9%). Energy and emotional well-being also showed minor difficulties, with 3–9% of respondents.

All respondents (100%) considered general health, vigorous and moderate activities, most mobility-related tasks, physical health problems, and pain as important (Table 40). A majority (87–95%) also valued activities such as climbing stairs, walking longer distances, and emotional well-being. Notably, slightly lower importance was given to aspects such as climbing one flight of stairs (89%), walking more than a mile (87%), and feeling energetic (87%). Emotional health concerns, including nervousness (93%) and feelings of sadness (90%), were also deemed significant.

The internal consistency of the SF-36 questionnaire falls within the acceptable range (Cronbach’s alpha = 0.791) (Table 41).

The HHS-F demonstrated convergent validity, showing a weak but significant correlation with WOMAC ( $\rho = 0.212, p < 0.001$ ) and a moderate correlation with SF-36 ( $\rho = 0.669, p = 0.035$ ). This suggests that while HHS-F aligns with established measures of hip function and quality of life, it remains distinct.

For discriminant validity, HHS-F showed low correlations with General Health ( $\rho = 0.185, p < 0.001$ ), Physical Health Problems ( $\rho = 0.156, p = 0.012$ ), and Emotional Health

**Table 36.** Frequency and percentage of item importance (WOMAC)

Items	Frequency (%)	
	Yes	No
<b>Pain</b> Walking Stair Nocturnal Rest Weight bearing	95 (95%)	5 (5%)
<b>Stiffness</b> Morning stiffness Stiffness occurring later in the day	93 (93%)	7 (7%)
<b>Physical Function</b> Descending stairs Ascending Rising from sitting Standing Bending to floor Walking on flat surface Getting in / out of car Going shopping Putting on socks Lying in bed Taking off socks Rising from bed Getting in/out of bath Sitting Getting on/off toilet Heavy domestic duties Light domestic duties	92 (92%)	8 (8%)

**Table 37.** Internal Consistency (WOMAC)

	Cronbach’s alpha	Interpretation
WOMAC	0.789v	Acceptable

Problems ( $\rho = 0.212, p < 0.001$ ), indicating that it primarily measures hip function rather than overall health.

## DISCUSSION

Expert evaluations of the Filipino Harris Hip Score (HHS-F) highlighted the strong relevance of pain, stiffness, and physical function in assessing hip function.

The HHS-F demonstrated strong content validity, with Section 1 achieving perfect agreement (I-CVI = 1.00) and Section 2 maintaining an acceptable validity level (S-CVI = 0.89) despite minor discrepancies. The overall S-CVI of 0.963 further supports the robustness of the instrument’s content validity.

Additionally, the translated questionnaire exhibited excellent test-retest reliability, as indicated by an Intraclass Correlation Coefficient (ICC) of 0.921 ( $p < 0.001$ ), suggesting strong measurement stability over time. The internal consistency of the HHS-F, assessed with a Cronbach’s alpha of 0.724, falls within the acceptable range, indicating sufficient correlation among items to measure a cohesive construct. While minor improvements could enhance internal consistency, the current level is adequate for clinical and research applications.

**Table 38.** Frequency and percentage of item relevance per item (SF-36)

Items	Frequency (%)			
	HR	QR	SM	NR
<b>General Health</b>				
1. In general, would you say your health.	100 (100%)	0 (0%)	0 (0%)	0 (0%)
2. Compared to one year ago, how would you rate your health in general now?	100 (100%)	0 (0%)	0 (0%)	0 (0%)
<b>Limitations of Activities</b>				
1. Vigorous activities, such as running, lifting heavy objects, participating in strenuous sports.	96 (96%)	4 (4%)	0 (0%)	0 (0%)
2. Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf	91 (91%)	9 (9%)	0 (0%)	0 (0%)
3. Lifting or carrying groceries	95 (95%)	5 (5%)	0 (0%)	0 (0%)
4. Climbing several flights of stairs	95 (95%)	5 (5%)	0 (0%)	0 (0%)
5. Climbing one flight of stairs	98 (98%)	2 (2%)	0 (0%)	0 (0%)
6. Bending, kneeling, or stooping	97 (97%)	3 (3%)	0 (0%)	0 (0%)
7. Walking more than a mile	97 (97%)	3 (3%)	0 (0%)	0 (0%)
8. Walking several blocks	95 (95%)	5 (5%)	0 (0%)	0 (0%)
9. Walking one block	95 (95%)	5 (5%)	0 (0%)	0 (0%)
10. Bathing or dressing yourself	98 (98%)	2 (2%)	0 (0%)	0 (0%)
<b>Physical Health Problems</b>				
1. Cut down the amount of time you spent on work or other activities	90 (90%)	10 (10%)	0 (0%)	0 (0%)
2. Accomplished less than you would like	95 (95%)	5 (5%)	0 (0%)	0 (0%)
3. Were limited in the kind of work or other activities	95 (95%)	5 (5%)	0 (0%)	0 (0%)
4. Had difficulty performing the work or other activities (for example, it took extra effort)	97 (97%)	3 (3%)	0 (0%)	0 (0%)
<b>Emotional Health Problems</b>				
1. Cut down the amount of time you spent on work or other activities	90 (90%)	10 (10%)	0 (0%)	0 (0%)
2. Accomplished less than you would like	93 (93%)	7 (7%)	0 (0%)	0 (0%)
3. Didn't do work or other activities as carefully as usual	94 (94%)	6 (6%)	0 (0%)	0 (0%)
<b>Social Activities</b>				
1. Emotional problems interfered with your normal social activities with family, friends, neighbors, or groups?	92 (92%)	8 (8%)	0 (0%)	0 (0%)
<b>Pain</b>				
1. How much bodily pain have you had during the past 4 weeks?	93 (90%)	10 (10%)	0 (0%)	0 (0%)
2. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?	93 (90%)	10 (10%)	0 (0%)	0 (0%)
<b>Energy and Emotions</b>				
1. Did you feel full of pep?	89 (89%)	11 (11%)	0 (0%)	0 (0%)
2. Have you been a very nervous person?	87 (87%)	13 (13%)	0 (0%)	0 (0%)
3. Have you felt so down in the dumps that nothing could cheer you up?	90 (90%)	10 (10%)	0 (0%)	0 (0%)
4. Have you felt calm and peaceful?	90 (90%)	10 (10%)	0 (0%)	0 (0%)
5. Did you have a lot of energy?	90 (90%)	10 (10%)	0 (0%)	0 (0%)

Legend: HR - Highly Relevant; QR - Quite Relevant; SR - Somewhat Relevant; NR - Not Relevant

**Table 39.** Frequency and percentage of item difficulty (SF-36)

Items	Frequency (%)	
	Yes	No
<b>General Health</b>		
1. In general, would you say your health.	0 (0%)	100 (100%)
2. Compared to one year ago, how would you rate your health in general now?	0 (0%)	100 (100%)
<b>Limitations of Activities</b>		
1. Vigorous activities, such as running, lifting heavy objects, participating in strenuous sports.	8 (8%)	92 (92%)
2. Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf	9 (9%)	91 (91%)
3. Lifting or carrying groceries	0 (0%)	100 (100%)
4. Climbing several flights of stairs	0 (0%)	100 (100%)
5. Climbing one flight of stairs	0 (0%)	100 (100%)
6. Bending, kneeling, or stooping	0 (0%)	100 (100%)
7. Walking more than a mile	0 (0%)	100 (100%)
8. Walking several blocks	0 (0%)	100 (100%)
9. Walking one block	0 (0%)	100 (100%)
10. Bathing or dressing yourself	0 (0%)	100 (100%)

**Table 39.** Frequency and percentage of item difficulty (SF-36) (continued)

Items	Frequency (%)	
	Yes	No
<b>Physical Health Problems</b>		
1. Cut down the amount of time you spent on work or other activities	7 (7%)	93 (93%)
2. Accomplished less than you would like	3 (3%)	97 (97%)
3. Were limited in the kind of work or other activities	3 (3%)	97 (97%)
4. Had difficulty performing the work or other activities (for example, it took extra effort)	7 (7%)	93 (93%)
<b>Emotional Health Problems</b>		
1. Cut down the amount of time you spent on work or other activities	8 (5%)	19 (95%)
2. Accomplished less than you would like	6 (6%)	94 (94%)
3. Didn't do work or other activities as carefully as usual	6 (6%)	94 (94%)
<b>Social Activities</b>		
1. Emotional problems interfered with your normal social activities with family, friends, neighbors, or groups?	9 (9%)	91 (91%)
<b>Pain</b>		
1. How much bodily pain have you had during the past 4 weeks?	6 (6%)	94 (94%)
2. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?	9 (9%)	91 (91%)
<b>Energy and Emotions</b>		
1. Did you feel full of pep?	9 (9%)	91 (91%)
2. Have you been a very nervous person?	3 (3%)	97 (97%)
3. Have you felt so down in the dumps that nothing could cheer you up?	6 (6%)	94 (94%)
4. Have you felt calm and peaceful?	5 (5%)	95 (95%)
5. Did you have a lot of energy?	5 (5%)	95 (95%)

**Table 40.** Frequency and percentage of item importance (SF-36)

Items	Frequency (%)	
	Yes	No
<b>General Health</b>		
1. In general, would you say your health.	100 (100%)	0 (0%)
2. Compared to one year ago, how would you rate your health in general now?	100 (100%)	0 (0%)
<b>Limitations of Activities</b>		
1. Vigorous activities, such as running, lifting heavy objects, participating in strenuous sports.	100 (100%)	0 (0%)
2. Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf	100 (100%)	0 (0%)
3. Lifting or carrying groceries	100 (100%)	0 (0%)
4. Climbing several flights of stairs	95 (95%)	5 (5%)
5. Climbing one flight of stairs	89 (89%)	11 (11%)
6. Bending, kneeling, or stooping	100 (100%)	0 (0%)
7. Walking more than a mile	87 (87%)	13 (13%)
8. Walking several blocks	100 (100%)	0 (0%)
9. Walking one block	100 (100%)	0 (0%)
10. Bathing or dressing yourself	100 (100%)	0 (0%)
<b>Physical Health Problems</b>		
1. Cut down the amount of time you spent on work or other activities	100 (100%)	0 (0%)
2. Accomplished less than you would like	91 (91%)	9 (9%)
3. Were limited in the kind of work or other activities	93 (93%)	7 (7%)
4. Had difficulty performing the work or other activities (for example, it took extra effort)	95 (95%)	5 (5%)
<b>Emotional Health Problems</b>		
1. Cut down the amount of time you spent on work or other activities	100 (100%)	0 (0%)
2. Accomplished less than you would like	88 (88%)	12 (12%)
3. Didn't do work or other activities as carefully as usual	92 (92%)	8 (8%)
<b>Social Activities</b>		
1. Emotional problems interfered with your normal social activities with family, friends, neighbors, or groups?	95 (95%)	5 (5%)

**Table 40.** Frequency and percentage of item importance (SF-36) (continued)

Items	Frequency (%)	
	Yes	No
<b>Pain</b>		
1. How much bodily pain have you had during the past 4 weeks?	100 (100%)	0 (0%)
2. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?	100 (100%)	0 (0%)
<b>Energy and Emotions</b>		
1. Did you feel full of pep?	87 (87%)	13 (13%)
2. Have you been a very nervous person?	93 (93%)	7 (7%)
3. Have you felt so down in the dumps that nothing could cheer you up?	90 (90%)	10 (10%)
4. Have you felt calm and peaceful?	95 (95%)	5 (5%)
5. Did you have a lot of energy?	92 (92%)	8 (8%)

**Table 41.** Internal consistency (SF-36)

	Cronbach's alpha	Interpretation
SF36	0.791	Acceptable

**Table 42.** Convergent validity using Spearman correlation

		Spearman rho	p-value
HHS-F	WOMAC	0.212	<0.001
	SF-36	0.669	0.035

**Table 43.** Discriminant validity using Spearman correlation

		Spearman rho	p-value
HHS-F	General health	0.185	<0.001
	Physical health problems	0.156	0.012
	Emotional health problems	0.212	<0.001

Regarding convergent validity, the HHS-F correlated weakly but significantly with WOMAC ( $\rho = 0.212, p < 0.001$ ) and moderately with SF-36 ( $\rho = 0.669, p = 0.035$ ). These results suggest that the HHS-F aligns with established measures of hip function and quality of life while maintaining its distinctiveness.

For discriminant validity, weak but significant correlations were observed between HHS-F and SF-36 domains, including General Health ( $\rho = 0.185, p < 0.001$ ), Physical Health Problems ( $\rho = 0.156, p = 0.012$ ), and Emotional Health Problems ( $\rho = 0.212, p < 0.001$ ). These findings indicate that while the HHS-F is related to overall health perceptions, it remains distinct from broader health measures, reinforcing its discriminant validity.

Stiffness, particularly in the morning, is emphasized as a key limitation affecting mobility. This underscores the need for rehabilitation strategies focusing on flexibility and mobility enhancement through targeted exercises, physical therapy, and lifestyle modifications. Addressing stiffness early may prevent long-term mobility limitations and enhance daily functioning.

Although most participants could perform physical tasks such as walking and stair climbing, some reported difficulty, highlighting the need for mobility-supportive interventions,

including assistive devices and rehabilitation programs, to maintain independence and prevent further physical decline. Healthcare providers should tailor interventions to individual needs, ensuring adequate support for daily movement.

The strong relationship between physical function, pain levels, and overall well-being underscores the importance of a holistic approach to patient care. Beyond physical rehabilitation, addressing emotional and social factors is crucial, as these significantly influence recovery and daily interactions. The study also highlights the interconnectedness of physical health, pain management, and psychological well-being. While pain may not be the primary limitation for some individuals, stiffness and mobility challenges can still impact quality of life. Interventions should not focus solely on pain relief but also incorporate strategies that promote functional independence, such as strength training, flexibility exercises, and mental health support.

Care should be patient-centered. By identifying key concerns, healthcare professionals can develop targeted interventions to address specific patient needs. Encouraging self-management techniques, promoting an active lifestyle, and integrating psychological support can further improve patient outcomes.

The Filipino-translated WOMAC and SF-36 questionnaires were relevant, clear, and reliable in assessing osteoarthritis-related symptoms and overall health-related quality of life. WOMAC results confirm that pain, stiffness, and physical function are highly relevant concerns for respondents. While pain and stiffness-related items were generally easy to comprehend, some physical function-related items were slightly more challenging but still within an acceptable range. Importantly, respondents consistently recognized these aspects as crucial for evaluating their condition.

Similarly, the SF-36 questionnaire demonstrated strong relevance across all domains, particularly in general health, physical limitations, and pain-related aspects. While most respondents had no difficulty with the items, some variation was observed in responses related to vigorous activities, emotional health, and energy levels. Nevertheless, respondents acknowledged the significance of both physical and emotional well-being in their overall health assessment.

These results validate the Filipino-translated WOMAC and SF-36 as reliable tools for clinical and research applications, providing valuable insights into patients' physical and emotional health status.

## CONCLUSION

This study validated the Filipino version of the Harris Hip Score (HHS-F) through cross-cultural adaptation, confirming its reliability and validity for assessing hip-related health outcomes in Filipino patients with osteoarthritis and hip fractures.

Convergent validity analysis showed strong correlations between the HHS-F and the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) and the Short Form-36 (SF-36). Discriminant validity further supported the tool's ability to differentiate health aspects. Most items, particularly those on mobility, pain, and daily activities, were rated as highly relevant and comprehensible, with minor challenges in motion-related items. The HHS-F demonstrated excellent reliability, with a high intraclass correlation coefficient (ICC) and strong internal consistency, aligning with the validated performance of WOMAC and SF-36.

A key limitation is the reliance on self-reported data, which may introduce recall bias and subjective variability. Additionally, the findings are based on a specific population, limiting broader applicability. Future research should incorporate objective clinical assessments to enhance validity.

In conclusion, the HHS-F is a robust, culturally adapted tool for evaluating hip function and quality of life in Filipino patients, supporting both clinical decision-making and research advancements.

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## STATEMENT OF AUTHORSHIP

All authors certified fulfillment of ICMJE authorship criteria.

## CREDIT AUTHOR STATEMENT

**DST:** Conceptualization, Methodology, Software, Validation, Formal analysis, Investigation, Resources, Data Curation, Writing – original draft preparation, Writing – review and editing, Visualization, Supervision, Project administration, Funding acquisition; **BSA:** Investigation, Funding acquisition; **CLB:** Investigation, Funding acquisition; **CFF:** Investigation, Funding acquisition

## AUTHOR DISCLOSURE

The authors declared no conflict of interest.

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The datasets generated and analyzed in this study are included in the published article.

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