

**CROSS-CULTURAL ADAPTATION AND VALIDATION OF THE FILIPINO TRANSLATION OF THE KNEE INJURY AND OSTEOARTHRITIS OUTCOME SCORE (KOOS) IN FILIPINOS WITH KNEE OSTEOARTHRITIS AT THE UNIVERSITY OF THE PHILIPPINES- PHILIPPINE GENERAL HOSPITAL (UP-PGH)**

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**ABSTRACT**

**Objective:**

To cross-culturally adapt and validate the Filipino translation of the Knee injury and Osteoarthritis Outcome Score (KOOS) in patients with knee osteoarthritis (OA) at the UP PGH.

**Methods:**

The original version of the KOOS by Ewa Roos was obtained on-line. Filipino version of the KOOS was culturally adapted from the English version following cross-cultural translation and adaptation guidelines recommended by Beaton et al. Briefly, 2 independent translators translated the source English version into Filipino; one is a qualified translator of the Sentro ng Wikang Filipino at the University of the Philippines and the other one is aware of the concepts being examined in the questionnaire being translated. A reconciled version was developed, which was back translated into English by two independent translators, with further refinements based on the feedback from back translation resulting in the consensus Filipino version. This version was used in cognitive debriefing interview with five Filipino-speaking subjects with knee OA. The version was finalized after taking into account the suggestions from subjects and the expert committee, and was pilot-tested among 30 Filipino patients who have signed informed consent form for validation.

Patients were asked to complete identical questionnaires containing the Filipino KOOS and Filipino SF 36, re-test on the same patients was done after a median of 14 days. Reliability was assessed using Cronbach's alpha and intraclass correlation coefficients (ICC), dimensionality using item-to-domain correlations and convergent and divergent construct validity.

**Results:**

Cross-cultural adaptation

The Filipino KOOS is similar to the English KOOS with the exception of the seventh item under activities of daily living. "Getting in/out of car" was revised to "Riding in and getting off a vehicle." The Filipino KOOS was well understood by subjects participating in the cognitive debriefing and no further changes were deemed necessary. It was well accepted and was used in the subsequent validation study.

Validation

Thirty Filipino patients with knee osteoarthritis completed re-test interviews after a median of 14 days. The mean age of the subjects is 65 years. Majority are females and the mean BMI is 25.9. They have

long standing osteoarthritis with a mean duration of symptoms of 9.03 years. Majority have Kellgren-Lawrence score of 2 (56.7%). Missing data for the KOOS items are mainly in the sports and recreation function domain (SP2-SP4) and a few under the activities of daily living (A16-17). There is a floor and ceiling effect on the Sports and Recreation domain scores with 23% of responses achieving the lowest possible score.

Cronbach's  $\alpha$  across the Filipino KOOS domains are  $>0.7$  suggesting internal consistency within each domain. ICC are also high at  $>0.9$  which indicates good reproducibility and reliability of the Filipino version of KOOS in each subscale.

Physical functioning is strongly correlated with the sport and recreation function and moderately correlated with symptom, activity of daily life and knee related QoL function. General health is moderately correlated with symptom and knee related QoL function. Vitality is moderately correlated with activity of daily life and sport and recreation domain. Mental health is moderately correlated with pain, symptom, activity of daily life, and knee related QoL function. Weak correlations are shown between all KOOS domains with SF-36 social functioning, physical role, bodily pain and emotional role.

This study showed that there is a strong correlation between KOOS sports and recreation domain with SF Physical functioning. More correlations were seen between the Filipino version of KOOS and Filipino SF 36 than what was hypothesized.

#### **Conclusion:**

The Filipino translation of the KOOS was well accepted and demonstrated acceptable psychometric properties in Filipino patients with knee OA. This study provides a basis for the use of this version of the KOOS in the Philippines which captures the different aspects of functional disability affecting quality of life of knee OA patients.

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**Sarbey sa TUHOD**

Petsa Ngayon: \_\_\_\_/\_\_\_\_/\_\_\_\_      Petsa ng Kapanganakan: \_\_\_\_/\_\_\_\_/\_\_\_\_

Pangalan: \_\_\_\_\_

**PANUTO:** May kinalaman ang sarbey na ito sa inyong tuhod. Makakatulong ang impormasyong inyong ibabahagi para malaman ang inyong saloobin at kung paano ninyo nagagampanan ang mga karaniwan ninyong mga gawain.

Sagutin ang bawat tanong sa pamamagitan ng pagtsek sa iisa lamang na kahong katapat nito. Kung di naman kayo sigurado kung paano ito sasagutin, pakiusap na ibigay ninyo pa rin ang pinakamalapit ninyong kasagutan.

**Sintomas**

Sagutan ang mga tanong batay sa naramdaman ninyong mga sintomas sa inyong tuhod nitong **NAKALIPAS NA LINGGO**.

S1. Namaga ba ang inyong tuhod?

Hindi kahit kailan	Bihira	Minsan	Madalas	Palagi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

S2. Nakakaramdam ba kayo ng parang nagkikiskisan, o nakakarinig ba kayo ng “Klik” o iba pang uri ng tunog kapag iginagalaw ninyo ang inyong tuhod?

Hindi kahit kailan	Bihira	Minsan	Madalas	Palagi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

S3. Napapahinto ka ba sa paglalakad dahil pakiramdam mo lumilihis ang inyong tuhod?

Hindi kahit kailan	Bihira	Minsan	Madalas	Palagi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

S4. Kaya ninyo bang ituwid o iunat ng lubusan ang inyong tuhod?

Palagi	Madalas	Minsan	Madalang	Hindi kailanman
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

S5. Kaya ninyo bang ibaluktot ng lubusan ang inyong tuhod?

Palagi	Madalas	Minsan	Madalang	Hindi kailanman
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Paninigas**

May kinalaman ang susunod na mga katanungan sa tindi ng paninigas na naranasan ninyo sa inyong tuhod nitong **NAKALIPAS NA LINGGO**. Ang paninigas ay isang uri ng pakiramdam kung saan limitado o mabagal ang paggalaw ng inyong tuhod.

S6. Gaano katindi ang paninigas ng inyong tuhod sa paggising ninyo sa umaga?

Wala	Bahagya	Katamtaman	Matindi	Napakatindi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

S7. Gaano katindi ang paninigas ng inyong tuhod pagkatapos ninyong maupo, mahiga o mamahinga sa hapon?

Wala	Bahagya	Katamtaman	Matindi	Napakatindi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Pagkirot**

PI. Gaano mo kadalas maranasan ang pagkirot ng inyong tuhod?

Hindi kahit kailan	Buwanan	Lingguhan	Araw-araw	Palagian
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Gaano katindi ang pagkirot ng tuhod na inyong naranasan habang ginagampanan ninyo ang mga sumusunod na gawain nitong **NAKALIPAS LINGGO**?

P2. Pagpihit ng inyong tuhod

Wala	Bahagya	Katamtaman	Matindi	Napatatindi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

P3. Pagtuwid nang lubusan ng tuhod

Wala	Bahagya	Katamtaman	Matindi	Napatatindi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

P4. Pagtiklop-tuhod

Wala	Bahagya	Katamtaman	Matindi	Napatatindi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

P5. Paglakad sa patag na daan

Wala	Bahagya	Katamtaman	Matindi	Napatatindi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

P6. Pag-akyat at pagbaba sa hagdan

Wala	Bahagya	Katamtaman	Matindi	Napatatindi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

P7. Sa gabi habang nakahiga sa kama

Wala	Bahagya	Katamtaman	Matindi	Napatatindi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

P8. Nakaupo o nakahiga

Wala	Bahagya	Katamtaman	Matindi	Napatatindi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

P9. Nakatayo nang tuwid

Wala	Bahagya	Katamtaman	Matindi	Napatatindi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Pang-araw-araw na gawain**

May kinalaman sa pisikal na gawain ang susunod na mga katanungan tulad ng kakayahang gumalaw at pag-aayos ng sarili. Para sa iba pang mga gawain, pakisulat kung gaano katindi ang hirap na inyong naranasan nitong **NAKALIPAS NA LINGGO** dahil sa inyong tuhod.

A1. Pagbaba sa hagdan

Wala	Bahagya	Katamtaman	Matindi	Napatatindi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

A2. Pag-akyat sa hagdan

Wala	Bahagya	Katamtaman	Matindi	Napatatindi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Para sa sumusunod na gawain, pakilagay kung gaano katindi ang hirap na inyong naranasan noong isang linggo dahil sa inyong tuhod.

A3. Pagtayo mula sa pagkakaupo

Wala	Bahagya	Katamtaman	Matindi	Napakatindi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

A4. Pagtayo

Wala	Bahagya	Katamtaman	Matindi	Napakatindi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

A5. Pagyuko sa sahig/pagpulot ng bagay

Wala	Bahagya	Katamtaman	Matindi	Napakatindi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

A6. Paglakad sa patag na lugar

Wala	Bahagya	Katamtaman	Matindi	Napakatindi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

A7. Pagsakay o pagbaba ng sasakyan

Wala	Bahagya	Katamtaman	Matindi	Napakatindi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

A8. Pamimili/pamamalengke

Wala	Bahagya	Katamtaman	Matindi	Napakatindi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

A9. Pagsusuot ng medyas/stockings

Wala	Bahagya	Katamtaman	Matindi	Napakatindi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

A10. Pagbangon mula sa higaan

Wala	Bahagya	Katamtaman	Matindi	Napakatindi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

A11. Pagtatanggal ng medyas/stockings

Wala	Bahagya	Katamtaman	Matindi	Napakatindi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

A12. Nakahiga sa kama (pagpihit ng katawan)

Wala	Bahagya	Katamtaman	Matindi	Napakatindi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

A13. Pagpasok at paglabas mula sa banyo

Wala	Bahagya	Katamtaman	Matindi	Napakatindi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

A14. Naka-upo

Wala	Bahagya	Katamtaman	Matindi	Napakatindi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

A15. Pag-upo at pagtayo mula sa inidoro

Wala	Bahagya	Katamtaman	Matindi	Napakatindi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Sa bawat sumusunod na gawain, pakilagay kung gaano katindi ang hirap na inyong naranasan noong **NAKALIPAS NA LINGGO** dahil sa inyong tuhod.

A16. Mabibigat na gawaing bahay (paglipat ng mga kahon, pagbunot ng sahig)

Wala	Bahagya	Katamtaman	Matindi	Napakatindi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

A17. Magagaang gawaing-bahay (pagluluto, pagpupunas o pagpalis ng alikabok at iba pa)

Wala	Bahagya	Katamtaman	Matindi	Napakatindi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### **Gampanin, Isports at Libangan**

May kinalaman ang mga sumusunod na katanungan sa inyong mas aktibong pisikal na gawain. Ibatay ninyo ang mga sagot sa tindi ng naranasan ninyong hirap sa inyong tuhod sa **NAKALIPAS NA LINGGO**.

SP1. Pagtalungko o Pag-squat

Wala	Bahagya	Katamtaman	Matindi	Napakatindi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SP2. Pagtakbo

Wala	Bahagya	Katamtaman	Matindi	Napakatindi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SP3. Pagtalon

Wala	Bahagya	Katamtaman	Matindi	Napakatindi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SP4. Pag-ikot gamit ang may diprensiyang tuhod

Wala	Bahagya	Katamtaman	Matindi	Napakatindi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SP5. Pagluhod

Wala	Bahagya	Katamtaman	Matindi	Napakatindi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### **Kalidad ng Buhay**

Q1. Gaano kadalas ninyo napapansin ang problema sa tuhod?

Hindi kahit kailan	Buwanan	Lingguhan	Araw-araw	Palagian
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q2. Iniba mo na ba ang iyong pamumuhay upang maiwasan ang mga gawaing maaring makapinsala sa iyong tuhod?

Hindi Iniba	Bahagyang Iniba	Katamtamang Pag-iiba	Sobrang Iniba	Iniba lahat
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q3. Gaano ka nag-aalala sa paghina ng inyong tuhod?

Wala	Bahagya	Katamtaman	Matindi	Napakatindi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q4. Sa pangkalahatan, gaano katindi ang hirap na inyong nararanasan dahil sa inyong tuhod?

Wala	Bahagya	Katamtaman	Matindi	Napakatindi
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

***Maraming salamat sa kompletong pagsagot sa talatanungang ito.***