Validation of a Malay Version of Disability of Arm, Shoulder and Hand Questionnaire (MVDASH)

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INTRODUCTION
Hand injuries are the most common body injuries. They constitute 28.6% of all injuries and occur more frequently in age group between 20-40 years.

(Trybus et al., 2006)

Wrist, forearm and elbow frequently coexist with hand injuries and as such it is useful to assess these injuries by using one outcome measure like Disabilities of the Arm, Shoulder and Hand (DASH) Questionnaire for upper extremities problems.

(Urso-Baiarda et al., 2008; Gummesson et al., 2003; Davis et al., 1999)

DASH is a self-administered instrument developed to evaluate upper extremity disability and symptoms by considering the upper extremity as one functional unit.

(Urso-Baiarda et al., 2008; Gummesson et al., 2003; Solway et al., 2002 Davis et al., 1999)
The main part of the DASH is a 30-item disability/symptom scale which contributed to patient’s health status.

The first 21 items ask about the degree of difficulty in performing different physical activities in the arm, shoulder, or hand.

The next 5 items ask about symptoms of pain, tingling, weakness and stiffness evaluates the severity of injury.

In addition, 4 items are on the effects of these injuries in relation to patient’s social activities, work, sleep, and self-image.

Each item has five response options using Likert-like scale. Responses are rated between 0 (no difficulty) to 5 (unable).

The overall scores for all items ranged from 0 (no disability) to 100 (most severe disability).

The score were excluded if more than 3 items (10%) of the questionnaire were missed by the respondent.

(Gummesson et al., 2003; Beaton et al., 2001)
DASH TRANSLATION AND VALIDATION

- **DASH** Questionnaire has already been *translated* into several languages, worldwide.

- **DASH** reliability and *validity* has been carried out for the English American, German, Italian, Spanish, Swedish, French and Dutch.


- A *Malay* version of **DASH** is lacking.

- This study was done to *translate* the **DASH** Questionnaire from the *English* language into a *Malay* version of **DASH** (*MVDASH*) and to evaluate its reliability and *validity*. 
MATERIALS AND METHODS
DASH Translation

- Forward and backward translation according to the Published DASH Translation Guidelines.
  (Beaton et al, 2000; Guillemin et al, 1993)
- The forward translation from English into Malay version was performed by five professionals and five other professionals for backward translation.

Test Reliability

- Cronbach's alpha was used to measure internal consistency reliability.
- The inter-rater reliability was then carried out for homogeneity.
The questionnaire was validated by administering it to 30 patients from orthopaedic ward in Serdang Hospital.

These patients were requested to give their comments about the language, level of understanding and overall format of the MVDASH.

Descriptive analysis was done for the translation methods and face validity technique.

The statistical analysis was done to determine Cronbach’s alpha value, as well as, intra-class correlation ICC.

SPSS (version 18.0) was used for the data analysis.
RESULTS
All the translators involved in the forward and backward translations were in agreement regarding terms of the content.

Modifications were made in the Malay adaptation after intensive discussions by the researchers involved in the translation process.

Finally, the researchers decided to present the entire 30 questions in this final Malay version of DASH.
Internal consistency

Cronbach’s alpha was 0.99 for the overall MVDASH, while for the physical components; it was 0.98. For the symptom and social components were 0.94 and 0.95 respectively.

Inter-rater reliability

Intra-class correlation coefficient (ICC) was 0.943.
The mean age for the 30 patients was 34.60 ± 12.56 years. All of the patients were male.

The analysis for their responses showed that MVDASH is well accepted and understandable in relation to the translated language, understanding and overall format.
Figure 1: Subject’s response regarding the language of MVDASH
Figure 2: Subject’s response regarding the understanding of MVDASH
Figure 3: Subject’s response regarding the overall format of MVDASH
DISCUSSION AND CONCLUSIONS
Increasing usage of DASH as an outcome instrument to measure disability of the upper extremity is due to its ability to measure problems of the whole upper extremity. (Offenbacher et al., 2003)

DASH Questionnaire has already been translated into several languages. This translation of DASH into Malay version is timely and of much relevance to Malaysia.

The internal consistency of the Total DASH, as well as, physical, symptom and social components fulfilled the level recommended for individual patients according to Streiner. (Streiner et al., 2003)

The validation process of the Malay DASH Questionnaire showed high internal consistency which is similar reliability to the original English version as well as to the German, Italian, Spanish, Swedish versions.

(Offenbacher et al., 2003; Padua et al., 2003; Rosales et al., 2002; Beaton et al., 2001; Atroshi et al., 2000)
A well-translated and culturally adapted MVDASH was developed to produce a reliable and validated version for clinical, research and compensation use at the end of the study.

The internal consistency and Inter-rater reliability of MVDASH was very high. The face validity showed a good understanding of the questionnaire by the respondents with regards to language and the overall format.
REFERENCES


Thank you

for your attention