

**VALIDITY AND RELIABILITY OF THE MALAY VERSION
MODIFIED VERTIGO SYMPTOM SCALE (MVMVSS)**

FLORENCE, ITALI

19-22 JUN 2012

**DR. ZURAIDA ZAINUN
PPSK**

IJAS Conference Florence 2012

JUNE 19 • TUESDAY

B Business **E** Education **P** Poster **S** Science **C** Soc Sc & Humanities

9:15AM – 9:30AM	B A MODEL FOR THE ADOPTION OF SOCIAL NETWORKING APPLICATIONS IN ORGANIZATIONS <i>Speakers: KENNETH GRIGGS & ROSEMARY WILD</i>	Michelangelo
9:15AM – 9:30AM	E SNARLED UP IN SCHOOL - THE SPATIAL CONSTRUCTION OF SCHOOLING FOR GYPSY/TRAVELLER CHILDREN IN THE UK <i>Speakers: DAVID CUDWORTH</i>	Mistrangelo
9:15AM – 9:30AM	S STUDY OF EARTHQUAKE DAMAGES CAUSED IN PREFABRICATED INDUSTRIAL BUILDINGS <i>Speakers: HATICE TOPAK, SERRA ZERRIN KORKMAZ & SAIM KORUR</i>	Bargello
9:15AM – 9:30AM	C HOUSE OF [PERMANENT] EXILE: BEING IN AFRICA AND IN EUROPE AND THE CONSEQUENCES ON THE SELF AS FOREIGNER <i>Speakers: ABIOSEH MICHAEL PORTER</i>	Pitti
9:15AM – 9:30AM	C MOMENT OF TRANSFER OF PROPERTY FOR SOME SALES IN THE ROMANIAN CIVIL LAW <i>Speakers: MANUELA LAVINIA ISTRATOAIE</i>	Santa Croce
9:30AM – 9:45AM	B MICRO-LOANS AND THEIR IMPACT ON GHANAIAI MICRO-ENTERPRISES <i>Speakers: PAUL KOFI OPPONG-BOAKYE & MICHAEL ADUSEI</i>	Michelangelo
9:30AM – 9:45AM	E USING 'IDENTITY' AS A TOOL FOR INVESTIGATION: A METHODOLOGICAL OPTION IN THE RESEARCHER'S TOOLBOX <i>Speakers: JENNY JOHNSTON</i>	Mistrangelo
9:30AM – 9:45AM	S THE EXAMINATION OF MASS HOUSING CONSTRUCTED WITH THE INDUSTRIALIZED FORMWORK SYSTEM IN TERMS OF SOUND COMFORT <i>Speakers: SAIM KORUR & ERCAN H. OGUZALP</i>	Bargello
9:30AM – 9:45AM	C RURAL WOMEN AND DEVELOPMENT- SYNERGY BETWEEN TECHNOLOGY AND SOCIETY <i>Speakers: NIRUPAMA PRAKASH</i>	Pitti
9:30AM – 9:45AM	C THE WORLD BANK GROUP IN THE BALTIC STATES: TRANSITION, ASCENSION, CRISIS <i>Speakers: ADRIAN ROBERT BAZBAUERS</i>	Santa Croce
9:45AM – 10:00AM	B LUXURY CONSUMPTION IN TRANSITIONAL ECONOMIES: ROLE OF SUBJECTIVE EXPECTED UTILITY <i>Speakers: GREGORY J. KIVENZOR</i>	Michelangelo
9:45AM – 10:00AM	E USING SENTENCE-COMBINING TO DEVELOP SYNTACTICAL FLUENCY SKILLS IN ENGLISH WRITING OF ESP-ENGINEERING STUDENTS <i>Speakers: CLIFFORD D. EMERSON</i>	Mistrangelo
9:45AM – 10:00AM	S THE USE OF PYROCLASTIC ROCKS AS LIGHTWEIGHT PLASTER AGGREGATE <i>Speakers: MUSTAFA DERELI & NAZIM KOCU</i>	Bargello
9:45AM – 10:00AM	C ENGINEERING THE HUMAN CONDITION <i>Speakers: LINDA LUCIA LUBRANO</i>	Santa Croce
9:45AM – 10:00AM	C SHIPWRECKS IN OMAN: SUFFERINGS AND HOSPITALITY <i>Speakers: HILAL AL-HAJRI</i>	Pitti
10:00AM – 10:15AM	B ECONOMIC AND SWITCHING COSTS IN RETAIL BANKING <i>Speakers: FARUK ANIL KONUK & FILIZ KONUK</i>	Michelangelo

1:15PM – 1:30PM	C REPRESENTATION OF PUBLIC RELATIONS IN TURKISH DAILY NEWSPAPERS <i>Speakers: ÖMER BAKAN</i>	Santa Croce
1:30PM – 1:45PM	B ANALYSIS OF FACTORS AFFECTING THE LABOUR MARKET IN LATVIA <i>Speakers: INESE SAULĀJA</i>	Pitti
1:30PM – 1:45PM	E THE EFFECT OF A PERCEPTUAL-MOTOR INTERVENTION PROGRAMME AS AID TOWARDS LEARNING READINESS FOR GRADE R LEARNERS FROM DEPRIVED ENVIRONMENTS <i>Speakers: MYRTLE ERASMUS, ONA J VAN RENSBURG, ANITA E PIENAAR & SURIA ELLIS</i>	Mistrangelo
1:30PM – 1:45PM	S AN EXPERIMENTAL INVESTIGATION OF EFFECT OF HYDROGEN ON ENGINE EMISSIONS <i>Speakers: MURAT CINIVIZ & HUSEYIN KOSE</i>	Bargello
1:30PM – 1:45PM	C THE USE OF RELEVANT INFORMATION TECHNOLOGY SYSTEMS TO DELIVER ON PRACTICAL RESEARCH: A VIEW FROM SOUTH AFRICA <i>Speakers: MARK FRIER</i>	Santa Croce
1:30PM – 1:45PM	C WEB BASED INSTRUCTION AND THE NATURALNESS OF LEARNING IN INDONESIA <i>Speakers: MURTI KUSUMA WIRASTI, NANIEK SETIJADI POERWITO</i>	Michelangelo
1:45PM – 2:00PM	B LOCAL ECONOMIC DEVELOPMENT - A WAY OUT OF GLOBAL CRISIS <i>Speakers: LILIANA CRACIUN</i>	Pitti
1:45PM – 2:00PM	E THE POTENTIAL OF ICT IN DEVELOPING HIGHLY DEMANDED SKILLS <i>Speakers: SVETLANA ANDREEVA</i>	Mistrangelo
1:45PM – 2:00PM	S BIOETHANOL PRODUCTION FROM ACID HYDROLYSATE OF DATE PALM LEAF USING CO-CULTURE OF SACCHAROMYCES CEREVISIAE AND PICHIA STIPITIS <i>Speakers: ISMAIL, W. ALI, KETULY, K. AZIZ & ARIFIN, Z.</i>	Bargello
1:45PM – 2:00PM	C ADVERTISING ON SOCIAL MEDIA: RESEARCH FROM TURKEY <i>Speakers: FIGEN EBREN</i>	Michelangelo
1:45PM – 2:00PM	C VALIDITY AND RELIABILITY OF THE MALAY VERSION MODIFIED VERTIGO SYMPTOM SCALE (MVMVSS) <i>Speakers: ZURAI DA ZAINUN, MOHD RIDUAN CHE ABDULLAH & MOHD NORMANI ZAKARIA</i>	Santa Croce
2:00PM – 2:15PM	B USING ANALYTICAL NETWORK PROCESS FOR ASSESSING THE DEGREE OF READINESS OF IRANIAN SMALL-TO-MEDIUM SIZED ENTERPRISES FOR SUCCESSFUL KNOWLEDGE MANAGEMENT IMPLEMENTATION <i>Speakers: CHANGIZ VALMOHAMMADI</i>	Pitti
2:00PM – 2:15PM	E HARNESSING ICT, TRANSFORMING MOTHER TONGUE LANGUAGES LEARNING- 10'CMT IN ACTION <i>Speakers: PHANG YUH KOON</i>	Mistrangelo
2:00PM – 2:15PM	C JOURNALISM EDUCATION IN TURKEY: A SURVEY ABOUT STUDENTS' EXPECTATIONS <i>Speakers: ŞÜKRÜ BALCI & BIROL GÜLNAR</i>	Santa Croce
2:00PM – 2:15PM	C THE PRINCIPLE OF MUTUAL RECOGNITION IN JUDICIAL COOPERATION IN THE EUROPEAN UNION <i>Speakers: LIVIA DUMITRESCU</i>	Michelangelo
2:15PM – 2:30PM	B EFFECTS OF HINTERLAND ACCESSIBILITY ON US CONTAINER PORT EFFICIENCY <i>Speakers: YUEN CHI LOK, SARAH WAN & ANMING ZHANG</i>	Pitti
2:15PM – 2:30PM	E 'BLENDED LEARNING' : HIGHLEARN - AN EFFICIENT TOOL FOR SUPPLEMENTING TRADITIONAL LEARNING AT HOLON INSTITUTE OF TECHNOLOGY, ISRAEL	Mistrangelo

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FIR241

March 20, 2012

Dr Zuraida Zainun
Audiology Programme
School of Health Sciences, Health Campus, Universiti Sains Malaysia
16150 Kubang Kerian Kelantan
Malaysia

Dear Dr Zainun:

RESEARCH TITLE

Validity and reliability of the Malay Version Modified Vertigo Symptom Scale (MVMVSS)

AUTHOR/S: Zuraida Zainun, Mohd Riduan Che Abdullah and Mohd Normani Zakaria
RESEARCH ID: FIR241
REGISTRATION FEE: \$360 (if one registers for the full conference); \$560 (if two co-authors register)
REGISTRATION DEADLINE: March 31, 2012

We are pleased to inform you that on the basis of your submission the reviewers have accepted the above for presentation at the *International Journal of Arts & Sciences (IJAS)* conference for academic disciplines which will be held at Piazza della Calza 6, 50125 Florence, Italy. The conference will run from 19 to 22 June 2012.

The conference follows the multidisciplinary TED format (<http://www.ted.com/>).

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The registration fee does not include food and lodging.

We look forward to your presentation.

Sincerely,

A handwritten signature in black ink, appearing to read "Joseph Bonnici".

Professor Joseph Bonnici, PhD, JD
IJAS Conferences Coordinator

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Italia
Telefono +39 0662207164

20.03.2012

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TEMA: Visto di ingresso/i per il/la/i Dott. Zuraida Zainun e Rosli Zakaria

Egregio Sig. Ambasciatore,

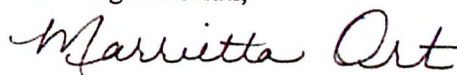
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ZURAIDA ZAINUN

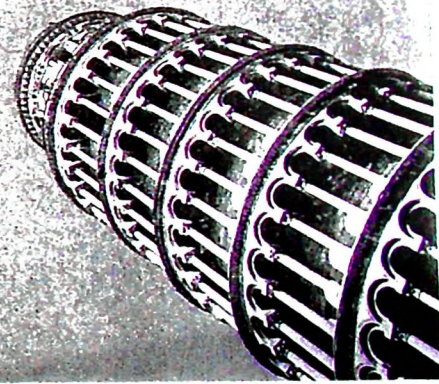
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Validity and reliability of the Malay Version Modified Vertigo Symptom Scale (MVMVSS)

Zuraida Z. Universiti Sains Malaysia, Malaysia, Mohd Riduan C A Universiti Sains Malaysia, Malaysia and Mohd Normani Z. Universiti Sains Malaysia, Malaysia.

ABSTRACT

Balance disordered is one of the common problems among elderly and clinically the subjective measure for this problem is important. There is one newly translated Malay version of Modified Vertigo symptom scale (MVMVSS) by Davies et al 1998. Validity and reliability test is essential before this MVMVSS can be used clinically especially in newly translated questionnaire. This cross sectional study involves translation (4 professionals), face validity (Professionals, students, patient and public (n=10)) and reliability test (Normal and healthy subjects (n=80)). All subjects were asked to complete the MVMVSS once. However, for reliability test they were asked to complete Malay Version Vertigo Symptom Scale (MVVSS) and MVMVSS form twice. MVMVSS showed a good validity with 100% agreements in forward and backward translation. It also showed good face validity with good feedback about the number of questions, understanding and overall format. Higher reliability test showed for both questionnaires with Cronbach's alpha 0.91 for MVVSS and 0.85 for MVMVSS. In conclusion, this study shows that MVMVSS is a good validity and reliability.

KEYWORDS: Face validity, Malay version modified vertigo symptom scale; reliability; vertigo symptom scale

Background

Balance disorder is one of the common problems among elderly and clinically the subjective measure for this problem is important. Having this subjective measure will help most of the clinician in term of making accurate diagnosis and proper management. Vertigo Symptom Scale (VSS) by Yardley et al. (1992) is one of a good subjective tools to determine the severity of balance disorders. This VSS has 22 questions (34 items) and that can be considered a great number. This will give troublesome to a certain age group especially elderly. It had been translated into seven languages including Dutch, French, German, Spanish, Swedish, Turkish and the latest is in Malay by Zuraida Zainun et al., (2010).

The original version of the VSS has two main scales which are 'vertigo and related symptoms' (VER) that assesses balance system dysfunction and 'somatic anxiety and autonomic arousal' (AA) that examines accompanying anxiety related system. Lucy Yardley et al., (1992). R. Tschan, J.Wiltink et al., (2008) found that the subscales VER and AA had good internal consistency which are Cronbach's alpha VER=0.79 and AA=0.89. When internal consistency is compare with the Spanish version, Cronbach's alpha of VER=0.82 and AA=0.90. For the test retest reliability, they found that the correlation for both VER and AA are VER $r=0.75$ and AA $r=0.75$. This value is a highest test-retest correlation.

German version of VSS also showed the construct validity that demonstrates the highest score on VER and AA as increase the like hood of restriction of 'quality of life'. The VER and AA have moderately associated with each other and it was significant. However, the VER was weak to anxiety and depression. According to Tschan, J.Wiltink et al., (2008), correlation between VER and emotion was low.

Kjersti Wilhelsem et al., (2008) showed in study of psychometric properties

of the VSS-SF in Norwegian version, the reliability of the VSS-SF has a higher internal consistency ($\alpha=0.9$). The construct validity was indicated as the correlation value between vertigo balance subscale (VSS-V) and path length was moderate ($r=0.52$, $p<0.01$). Various aspect of validity must be taken into consideration (Finch E 2002). The test-retest reliability of VSS-SF showed satisfactory high on all scale, Kjersti Wilhelsem et al., (2008). The higher value seen in the long version instrument may be due to short interval test-retest (24 hour) and the recall-bias or fact that the long version measured the construct dizziness.

The Malay version VSS by Zuraida Z et al., (2010) proved their reliability and validity. The Cronbach's alpha for test reliability was 0.9 and good overall format, language and level of understanding of MVVSS. In the translation phase, Zuraida Zainun et al., (2010) used the forward and backward method to translate the original VSS. The result showed 80% agreement in terms of the content amongst the translators involved in the forward and backward translations. Study by Zuraida Zainun et al., (2010) showed that the Cronbach's alpha for Malay version of VSS in test reliability was 0.9 and it indicated that the MVVSS is reliable enough for use. In the face validate of MVVSS showed that the overall format of MVVSS including the language and level of understanding of MVVSS is acceptable and receives a good comment.

There are only a few shorter version that has been develop and one of them is by Davies et.al, 1998 unpublished that was called Modified VSS (MVSS). This version, created from the original VSS version using factor analysis method that one of the common methods that have been used [46]. According to this method all the high Eigen value items of rotated factors will be selected in the new short version questionnaire [46]. Since it is developing, it will never be translated into other

languages. In this study we plan to translate this short version into Malay version and evaluate the validity and reliability of this questionnaire. Validity and reliability test is essential before it can be used clinically especially in newly translated questionnaire.

Objective

The aim of this study is to determine the validity and reliability of MMVVSS.

SUBJECTS AND METHODS

This is a cross-sectional study design. A questionnaire with a Likert type-scale was chosen as a tool for collecting data.

1. Subjects

We included 4 specialists for the translation part and we recruited 10 normal subjects from university staff and students for face validity part. For the reliability test we recruited 80 normal subjects which were included from the Otorhinolaryngology (ORL) clinic of Hospital Universiti Sains Malaysia (HUSM).

Table 1: Inclusion criteria for normal subjects

Normal subjects	
Inclusion criteria	Exclusion criteria
1. Normal and healthy subjects without any balance and hearing disorders or	1. Subjects with hearing, balance disorder and chronic

other chronic diseases.	diseases
2. Subjects aged 18 years and above.	2. Subjects aged below 18 years.

2. Methods

All participants were invited to involve in the study. The voluntary participation was emphasized. Detail instructions given are about all the study flows (Figure 1). After the consent form was signed, all subjects were instructed to answer the MVVSS questionnaires.

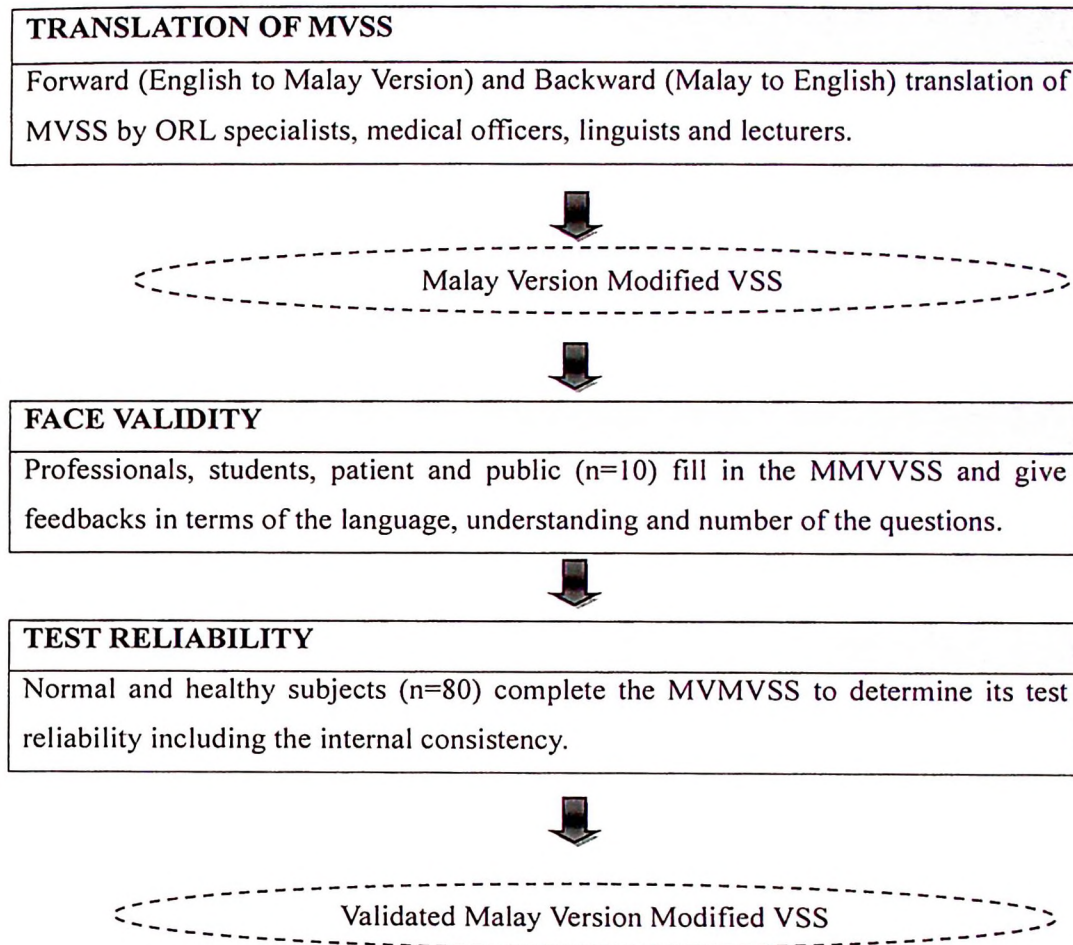


Figure 1: Flowchart of the translation and validation of the Malay version Modified VSS questionnaire.

3. Results

3.1 Translation of MVSS into MVMVSS

The translation phase of Modified VSS into Malay Version Modified VSS involves 4 professionals in forward and backward method translation. They are medical officer from ORL-HNS and vertigo clinic, a linguist and university lecturers. From their discussion, the result showed 90% agreement in terms of the

content amongst the translators involved in the forward and backward translations. For final conclusion, they were deciding to retain the entire 14 questions in this final Malay Version Modified VSS.

3.2 Face Validity

For face validate, we recruit 10 responders to assess the face validate and all of them give good feedback about the language which is 80% from them give appropriate, 70% appropriate for understanding and 100% appropriate for overall format including the number of questions (Figure 2, Figure 3, Figure 4).

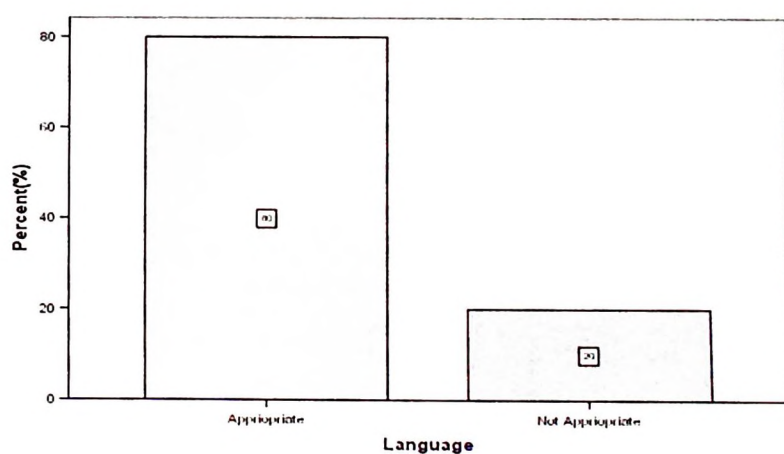


Figure 2: 80% said language is appropriate and 20% said not appropriate

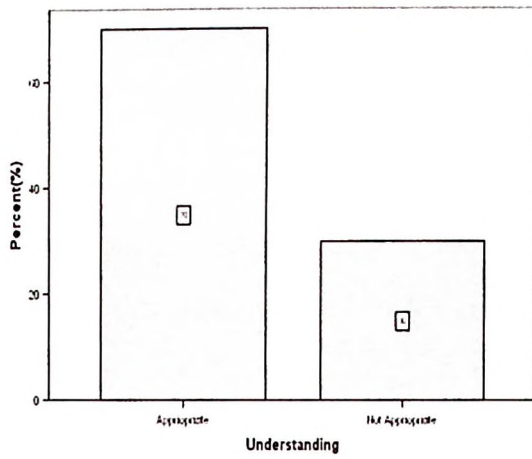


Figure 2: 70% said understanding of question is appropriate and 30% said not appropriate

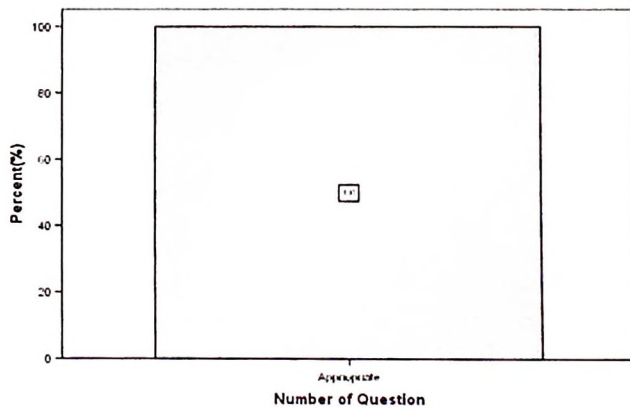


Figure 3: 100% agree about the number question

3.3 Reliability of MVMVSS

The reliability of this MVMVSS was testified by 80 responder and this questionnaire showed high value of Cronbach's alpha 0.852.

4. Discussion

This study was successfully translated the Modified VSS by Davies (1998) into Malay Version Modified VSS using forward and backward method. It showed 90% agreement between translators and they were deciding to retain all the 14 items in this questionnaire. This method also was successful when study done by Zuraida et.al (2010) showed over 80% agreement between translator when she did translation VSS into Malay Version VSS. During the translation process, all the translator try to kept as close as the original version of semantic and technical error of the items. There are several words from the questions were changed or modified but the meaning is consistent and very close with the original one. This adaptation is important in order to adapt with the Malay language and culture.

After the translation phase, the questionnaire was tested for 10 health persons that from difference background such as the professional worker, health student and also public. The aim is to assess the face validate of the MVMVSS. All of them give good feedback about the understanding, language and overall format including number of questions 80% from them give appropriate, 70% appropriate for understanding and 100% appropriate for overall format including the number of questions (Figure 4, Figure 5, Figure 6). Study done by Zuraida et al (2010), she was evaluate the language, understanding and overall format of MVVSS. The result showed that most of their respondents gave good respond on understanding and overall format and moderate good of number of questionnaire items. In this study, we did not interested to evaluate the detail about the questionnaire like pervious study done by Zuraida et al (2010) because this questionnaire just have 14 items to

answer and the reliability is good. In the other word, we just need a small group of people with difference background in order to give some feedback about the questionnaire. This feedback will prove the usefulness of this questionnaire to be used clinically and for research purposed in the future, mainly for Malay language people.

For reliability test, the result showed high reliability for this questionnaire. Correspond to study by Zuraida et al. (2010) showed the MVVSS is reliable to be used in the clinical and research setting (Zuraida et al 2010). It showed high value of Cronbach's alpha of MVVSS and they indicated that the final translation of version of MVVSS is reliable enough to be used. When we refer to the study done by Lucy Yardley et al (1992), can see that the each Cronbach's alpha subscale was high and indicated that every scale was good enough to prove that items were related to vertigo and imbalance, and suggestive of anxiety and arousal.

In the other study done by R.Tschan et al (2008) in validation of German version of VSS, good internal consistency with value of Cronbach's alpha of vertigo and related symptom (VER) was 0.79 and somatic anxiety and autonomic arousal (AA) was 0.89. They conclude that this German VSS was good enough for diagnostic and screening of dizziness syndromes. The good psychometric properties of the VSS by Yardley et al (1992) could be replicated in its German version.

5. Conclusion

The MVMVSS is only consists of 14 items that will be a useful subjective measure for clinical used. This study showed it has been proof the validity and reliability.

This questionnaire will be used for the clinical and research used especially for Malay community.

Corresponding Author:

Dr Zuraida Zainun

Audiology Program,

School of Health Sciences, Universiti Sains Malaysia, Health Campus,

16150 Kubang Kerian, Kelantan, Malaysia

Tel: + 609-767 7559

Fax: + 609-767 7515

Email drzuraida@yahoo.com

6. References

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