ORIGINAL ARTICLE

Psychometric Properties of the Malay Version of the Negative Acts Questionnaire-revised (NAQ-R) and Workplace Violence in the Health Sector Country Questionnaire on Workplace Bullying Among Nurses in Selangor, Malaysia

Rosuzeita Fauzi[1], Siti Khuzaimah Ahmad Sharoni[1], Syazwan Firdaus Abu Bakar[1], Siti Nor Ismalina Isa[2], Roslinda Isa[1], Ruhana Che Yusof[3]

[1] Centre for Nursing Studies, Faculty of Health Sciences, Universiti Teknologi MARA (UiTM) Selangor, Puncak Alam Campus, 42300 Selangor
[2] Department of Basic Sciences, Faculty of Health Sciences, Universiti Teknologi MARA (UiTM) Selangor, Puncak Alam Campus, 42300 Bandar Puncak Alam, Selangor, Malaysia.
[3] Department of Family Medicine, School of Medical Sciences, Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan

ABSTRACT

Introduction: Workplace bullying is a serious public health issue that may be associated stress-related health problems. These problems contribute to negative consequences such as mental stress, absenteeism, and quitting. It is thus key to evaluate or monitor workplace bullying through questionnaires, especially in a native language. Objective: The aim of this study was to determine the validity and reliability of the Malay version of the Negative Acts Questionnaire-Revised and the Workplace Violence in the Health Sector Country questionnaire among nurses in a Malaysian public hospital. **Methods:** Ten experts reviewed two sets of questionnaires; the Malay version of the Negative Acts Questionnaire-Revised and the Malay version of Workplace Violence in the Health Sector Country questionnaire, in this study. The cross-sectional pilot study of 40 nurses was carried out in the medical and surgical wards of a public hospital in Selangor from 1st to 7th April 2020. In addition, the content validation index and internal consistency were assessed. **Results:** Content validation index of the Malay version of the Negative Acts Questionnaire-Revised and the Workplace Violence in the Health Sector Country questionnaire were 0.977 and 0.979, respectively. The Cronbach alpha for the Malay version of the Negative Acts Questionnaire-Revised was 0.951. **Conclusion:** High values of content validation index were established in both questionnaires and internal consistency was excellent for the Malay version of the Negative Acts Questionnaire-Revised.
Malaysian Journal of Medicine and Health Sciences (2022) 18(8):91-96. doi:10.47836/mjmhs18.8.13

Keywords: Malay version, Negative Acts Questionnaire-Revised (NAQ-R), Psychometric properties, Workplace bullying, Workplace Violence in the Health Sector - Country

Corresponding Author:
Siti Khuzaimah Ahmad Shroni, RN, Ph.D
Email: sitik123@uitm.edu.my
Tel: +603-3258 4349

INTRODUCTION

In the nursing profession, workplace bullying is a deliberate form of negative assault, where the victim may experience threat, physical and mental abuse, or public humiliation. Workplace bullying may also cause the victim to feel uncomfortable in achieving their job scope and are intentionally put at risk of their safety and health by their perpetrators [1]. These causes mental and physical stress and ultimately discomfort at the workplace due to the inconducive working environment. Consequently, the organization would see a high rate of medical and emergency leave record and an increase in turnover rate due to victims having the urge to leave the organization [2]. A study [3] has reported that because of workplace bullying, up to 40% of the victims had an intention to leave and thus may cause an increase in turnover rates. This was specifically true for new nurses who are a group that is often bullied. In this group, it

was reported that 40% of them left their job in the first year of working, while 57% left their job by the second year [4]. Thus, workplace bullying may cause persistent bullying targets who often respond by quitting the job or being absent from work [5]. However, there are least published studies in relation to this issue in local setting.

Researchers have found that workplace bullying had a significant relationship with positive and negative affect, resilience, intention to leave, and health-related quality of life. Although initially, workplace bullying may have a positive or negative affect towards the nurses [4], some will develop resilience [6] and some may have the intention to leave the organization [7].

Psychometric properties are study about the instrument's quality and provide evident the validity and reliability of the instrument. Questionnaires such as Negative Acts Questionnaire Revised (NAQ-R) [8] and Workplace Violence in the Health Sector Country questionnaire [9] are commonly used to measure and assess workplace bullying. The Workplace Violence in the Health Sector Country questionnaire is looking into several factors (i.e., physical assault, homicide, verbal abuse, bullying/mobbing, sexual and racial harassment and psychological stress) that may contribute to violence and the strategies to prevent it [9]. Moreover, these questionnaires had been translated into many languages. The Negative Acts Questionnaire-Revised (NAQ-R) questionnaire has Japanese [10], Italian [11], Spanish [12], Arabic [13], Malay [14] and Indonesia [15] versions. The Workplace Violence in the Health Sector Country questionnaire has Italian [16] and Chilean [17] versions. Thus, developing a Malay version of the questionnaires can provide more accurate results regarding the prevalence of workplace bullying, resilience, intention to leave, positive and negative aspects and health-related quality of life (HRQoL) among Malay speaking employees.

The study was aimed to assess and evaluate the validity and reliability of the Malay version of the NAQ-R and the Workplace Violence in the Health Sector Country questionnaire among nurses. This is part of a study on the relationship of workplace bullying towards the HRQoL among nurses in a Selangor government hospital.

MATERIALS AND METHODS

Instruments
Negative Acts Questionnaire-Revised (NAQ-R) [8] was used to measure exposure to bullying at work in the past six months and intention to leave the unit and the organization [8]. This questionnaire consists of 22 items with a five-scale rating. It consists of three main aspects including work-related bullying (Questions 1, 2, 3, 14, 16, 18, 19, 21), person-related bullying (Questions 4, 5, 6, 7, 10, 11, 12, 13, 15, 17, 20), and physically intimidating bullying (Questions 8, 9, 22).

The five types of scale were 1 (Never), 2 (Occasionally), 3 (Monthly), 4 (Weekly) and 5 (Daily). The total score of this questionnaire by scale was from 22 to 110, with three classification categories. A score of below 40 was considered that the respondent was not bullied. A score of 40 to 56 would suggest a respondent who experienced occasional bullying, while a score of 57 and above represented as being severely bullied at work [18].

The Workplace Violence in the Health Sector Country questionnaire was developed by the International Labour Office (ILO), the International Council of Nurses (ICN), World Health Organization (WHO), and the Public Services International (PSI) in 2003. The purpose of the questionnaire was to gather information on the level of workplace violence in the health sector [9]. The questionnaire is divided into five sections in its original English version. Section A, focuses on personal and workplace data, containing 19 items (PD1-PD19) and section B consisted of three items on physical workplace violence (PV1-PV3). Section C is divided into five subsections: (I) Verbal abuse (VA1-VA12), (II) Bullying/ mobbing (BM1-BM12), (III) Sexual harassment (SH1-SH12), (IV) Racial harassment (RH1-RH12), and (V) Health sector employer (HE1-HE5). Meanwhile, section E has three open-ended questions (O1-O3) on opinions on workplace violence (The International Labour Organization (ILO), 2003). The questionnaire consisted of multiple responses, such as binary and ordinal responses, the Likert scale, and open-ended questions. The descriptive statistics of frequency and percentage for categorical responses were measured for this instrument.

Translation process
The original English version of NAQ-R and Workplace Violence in the Health Sector Country questionnaire was initially translated into the Malay language by a language expert. The first draft of the translation was sent to three experts with medical and health sciences background for reviews and comments. The comments were reviewed accordingly, and the modified instrument was sent back to the same experts for a second time for confirmation. Next, the improved questionnaire was sent to two bilingual experts for translation back into the English language. Thus, through the forward and back translation processes and expert reviews, clarity and translation inaccuracies of the questionnaire was improved after minor modifications. The Malay version of NAQ-R was named as "Soal Selidik Tindakan Negatif – Disemak" and "Keganasan di Tempat Kerja dalam Kajian Kes Sektor Kesihatan Negara – Soal Selidik" for the Malay version of Workplace Violence in the Health Sector Country questionnaire.

Content validity
Ten experts including three nursing lecturers and a statistician from a public university, four nurses from

the Universiti Teknologi MARA and two certified psychologists from the Malaysian National Heart Institute were invited to review and evaluate the questionnaire and provide constructive feedback on the items' relevancy, comprehensiveness, clarity, and ambiguity. Content validity of the measured construct relied on the knowledge and subjective judgements of the experts in their related fields. The content validation index (CVI) of each item was analysed. CVI values greater than 0.78 were included in the final instrument. A few amendments were done in the Malay version of the Workplace Violence in the Health Sector Country questionnaire. A few questions (PD 12, PD 14 and PD 15) from the original version were dropped and new questions (PD 3, PD 10, PD 14 and PD 16) were added into the Malay version. PD 9 and PD 15 answer responses were changed to fill-in answers in the Malay version. Some choices of answers for selected questions were recategorized into different categories and some questions have been added on as new categories of responses. These changes involved questions PD 13.2, PD 19.1, certain sub-sections of PV1, VA 3, VA 6, sub-sections VA 9, BM 3, BM 6, sub-sections BM 9, SH 3, SH 6, sub-sections SH 9, RH 3, RH 6, and sub-sections RH 9.

The content validation index was measured using item-level content validity index (I-CVI) and scale-level content validity index based on the average method (S-CVI/Ave). I-CVI is the number of experts who thought that the item (individual) was essential/ useful divided by a total number of experts. S-CVI is a total of I-CVI. Meanwhile, S-CVI/Ave is an I-CVI score for all items on the scale over the number of items [19].

Pilot Study
A cross-sectional pilot study was conducted in the medical and surgical wards of a public hospital from 1st April 2020 until 7th April 2020. Previous study revealed that the highest determinants of workplace bully among nurses were working in medical and surgical wards [20]. Convenience sampling was applied, and it involved 40 staff nurses, representing 10% of the exact population of nurses in that hospital.

Nurses who provided direct care to the patients or are involved in clinical tasks (i.e., staff nurse, nurse manager or supervisor), working at the medical and surgical wards and who has already worked at the medical and surgical wards for more than three months, were included in the study. Those who did not meet these inclusion criteria were excluded from the study.

Ethical clearance and approval were granted by the Research Ethics Committee of Universiti Teknologi MARA (Reference: 600-TNCPI (5/1/6) and the Medical Research and Ethics Committee (MREC), Ministry of Health Malaysia (Reference: NMRR-19-3333-50707(IIR).

Statistical analysis
IBM SPSS Statistics version 26.0 was used to analyse data from the pilot study (SPSS Inc., Chicago, IL, USA, 2019). Continuous data were summarised using descriptive statistics, whereas categorical data were summarised using frequency tabulations. Content validity of the questionnaire was assessed by a panel of experts and content validity index (CVI) was calculated for both instruments. Meanwhile, Cronbach's alpha was employed to assess the internal consistency of NAQ-R's reliability. Internal consistency assessed how well the various items of an instrument worked together or conceptually complement one another. The acceptable level of Cronbach's alpha was 0.70 and above [21].

RESULT

Content validity
The Malay version of NAQ-R and Workplace Violence in the Health Sector Country questionnaire was validated for language and content by ten experts.

The relevancy and clarity of each item in the questionnaires were also evaluated by the experts. Each item in the content validity instrument was rated by the experts using three available response scales. The scales were 'Essential', 'Useful but not essential' and 'Not necessary'. Only "essential" and 'Useful but not essential' were counted in the final instruments.

From 22 items in the NAQ-R, 18 items were CVI =1, three items were CVI= 0.9 and one item was CVI=0.8 (Supplement T1). Meanwhile, for Workplace Violence in the Health Sector Country questionnaire, 145 items were CVI=1, 31 items were CVI=0.9, three items were CVI=0.8 and one item was CVI=0.7 (Supplement T2). The total CVI for NAQ-R was 0.977 while a CVI of 0.979 was for Workplace Violence in the Health Sector Country questionnaire. Table I shows the content validity index for the Malay version of NAQ-R and Workplace Violence in the Health Sector Country.

Table I. Content Validation Index of the instruments

Instrument	Proportion Essential	CVI
Negative Acts Questionnaire-Revised (NAQ-R)	21.5 / 22	0.977
Workplace Violence in the Health Sector Country	175.2 / 179	0.979

Socio-demographic of respondents
There were 40 nurses that took part in this pilot study. The mean age of the respondents was 30.95 years old; 7.83 years mean of working experience and 4.40 years mean of unit experiences. Majority of the respondents were females (95.0%), of the Malay ethnicity (90.0%), Muslim (90.0%), married (57.5%), had diploma in education

(95.0%), no post-basic qualification (80.0%) and were training nurses (85.0%). The socio-demographic profiles of the nurses are presented in Table II.

Table II. Socio-demographic characteristics of respondents (n=40)

Description	n	%
Age (years) (mean±SD)	30.95	7.2
Work experience (years) (mean±SD)	7.83	6.8
Unit experience (years) (mean±SD)	4.4	3.1
Gender		
Female	38	95.0
Male	2	5.0
Race		
Malay	36	90.0
Chinese	2	5.0
Indian	1	2.5
Other	1	2.5
Religion		
Islam	36	90.0
Christian	2	5.0
Hindu	1	2.5
Buddha	1	2.5
Marital status		
Single	17	42.5
Married	23	57.5
Education		
Diploma	38	95.0
Degree	2	5.0
Post basic		
No	32	80.0
Yes	8	20.0
Occupation		
Training nurse	34	85.0
Supervisor	5	12.5
Director	1	2.5

Internal consistency of NAQ-R

The Cronbach's alpha coefficient for the overall scale of the Malay version of NAQ-R was 0.951, which indicates that the scale was reliable. Meanwhile, Cronbach's alpha values for work-related bullying, person-related bullying, and physically intimidating bullying, were 0.930, 0.847, and 0.936, respectively. The high Cronbach's alpha values indicated that the scales were robust in terms of internal consistency. The Cronbach's alpha coefficient values are shown in Table III.

Table III. Cronbach's alpha for each domain and overall scale of the Malay version of NAQ-R

Domain	Number of items	Cronbach's alpha
Person-related bullying	4, 5, 6, 7, 10, 11, 12, 13, 15, 17, and 20	0.847
Work-related bullying	1, 2, 3, 14, 16, 18, 19, and 21	0.930
Physically intimidating bullying	8, 9, and 22	0.936
Overall		0.951

DISCUSSION

The NAQ-R and Workplace Violence in the Health Sector Country questionnaires were translated into Malay versions. The translated versions of the questionnaires were evaluated based on the need of the items in the questionnaires. The resulting questionnaires revealed a high level of content validity, as well as a high level of reliability for the NAQ-R questionnaire. The content validation index was very high for all the items in each questionnaire (I-CVI≥0.7) and both questionnaires produced an excellent total score (S-CVI>0.9). Internal consistency of the NAQ-R was also high, as shown by the Cronbach alpha value. However, reliability was not done for the Workplace Violence in the Health Sector Country questionnaire since it was in the categorical (nominal) form. The nominal format was not appropriate for analysis using the Cronbach alpha test.

Contents of the Malay translated version of these questionnaires were evaluated by nursing experts, as the questionnaires will be implemented for the nurses population in the current study. The role of the experts was to assess the accuracy and appropriateness of translated test items from the English language and the western's cultural context to the Malay language and Malaysian culture [22]. Moreover, the experts also judged the items based on work-related criteria, complexity and quality of the questions [22], which are applicable to nurses in Malaysia. These qualitative approaches were transformed into a quantitative approach by measuring the content validation index (CVI). This quantitative approach helped to evaluate the level of content validity.

The questionnaires were reviewed by ten experts and the acceptable cut-off score of the content validation index (CVI) was 0.78 [19]. However, the recommendation of an excellent content validity is when items had an I-CVI of 0.78 or higher and an S-CVI/Average of 0.9 or higher [23]. The I-CVI and S-CVI of the NAQ-R and Workplace Violence in the Health Sector Country questionnaires were considered excellent and fulfilled the recommendation criteria.

The previous study [14] had translated the NAQ-R into a Malay version, however there was no report on content

validity. The respondents for the study were workers from diverse organizations but not in a health organization. The internal consistency of the study was 0.96, which was similar to this current study. The Cronbach alpha for this study was 0.95, which was considered as a high level of internal consistency for the questionnaire. Each item per domain in the questionnaire also showed a high internal consistency. Cronbach alpha demonstrating the consistency of the items or statements on the questionnaire across observations. The acceptable rate of reliability value was 0.7 [24].

As a limitation of the study, the internal consistency of Workplace Violence in the Health Sector Country questionnaire was not evaluated. The questionnaire was in the nominal categorical form. Cronbach alpha was not suitable for this type of questionnaire [25]. The same would apply for the Kuder-Richardson (KR-20) test, which is only applicable for binary variables. Further study is necessary and recommended to use the Rasch analysis to analyze the categorical variables of this questionnaire.

Applying the questionnaires in the Malay language will help provide evidence on whether these instruments are useful in assessing bullying, resilience, intention to leave, positive and negative aspects and health-related quality of life, particularly in the Malaysian cultural context. The availability of the questionnaires in Malay will lead to the readers having a better understanding of the questionnaires' contents.

However, the application of these Malay version of questionnaires requires a further cross-validation study with a larger sample size and a different Malaysian geographical population. This is because, this study only focused on nurses in one particular setting and with a limited sample size. In addition, future studies are recommended to explore on other reliability analyses, such as test-retest analysis and conducting exploratory and confirmatory factor analysis. In future, a large scale of study can be conducted in other study location as well as other health care worker.

CONCLUSION

This study demonstrated high content validity of the Malay translated version of the NAQ-R and Workplace Violence in the Health Sector Country questionnaires. The items in the Malay-translation of Workplace Violence in the Health Sector Country questionnaire were also highly reliable in the sampled population.

ACKNOWLEDGEMENTS

REFERENCES

1. Murray JS. Workplace bullying in nursing: a problem that can't be ignored. Medsurg nursing : official journal of the Academy of Medical-Surgical Nurses. 2009; 18: 273-6.
2. Wolf LA, Perhats C, Clark PR, Moon MD, Zavotsky KE. Workplace bullying in emergency nursing: Development of a grounded theory using situational analysis. International emergency nursing. 2018; 39: 33-9.
3. Balamurugan G, Joseb TT, Nandakumar P. Patients' violence towards nurses: A questionnaire survey. International Journal of Nursing. 2012; 1.
4. Yun S, Kang J. Influencing Factors and Consequences of Workplace Bullying among Nurses: A Structural Equation Modeling. Asian nursing research. 2018; 12: 26-33.
5. Laschinger HKS, Fida R. A time-lagged analysis of the effect of authentic leadership on workplace bullying, burnout, and occupational turnover intentions. European Journal of Work and Organizational Psychology. 2014; 23: 739-53.
6. Marie M, Hannigan B, Jones A. Resilience of nurses who work in community mental health workplaces in Palestine. International journal of mental health nursing. 2017; 26: 344-54.
7. Christensen M. Relationships between Workplace Violence, Burnout, and Intent to Leave in Emergency Department Nurses: Walden University; 2014.
8. Einarsen S, Hoel H, Notelaers G. Measuring exposure to bullying and harassment at work: Validity, factor structure and psychometric properties of the Negative Acts Questionnaire-Revised. Work & Stress. 2009; 23: 24-44.
9. ILO/ICN/WHO/PSI. Workplace Violence in the Health Sector - Country Case Study Research Instruments - Survey Questionnaire. In: Sector IIWPJPoWVitH, editor.; 2003.
10. Tsuno K, Kawakami N, Inoue A, Abe K. Measuring workplace bullying: reliability and validity of the Japanese version of the negative acts questionnaire. Journal of occupational health. 2010; 52: 216-26.
11. Giorgi G, Arenas A, Leon-Perez JM. An operative measure of workplace bullying: the negative acts questionnaire across Italian companies. Industrial health. 2011; 49: 686-95.
12. Gonz6lez-Trijueque D, Graca Gymez JL. Adaptaciyn psicomйtrica de una versiyn espacola del cuestionario de conductas negativas revisado (NAQ-R) Psicopatologнa Clнnica Legal y Forense. 2013; 13: 7-28.

13. Makarem NN, Tavitian-Elmadjian LR, Brome D, Hamadeh GN, Einarsen S. Assessment of workplace bullying: reliability and validity of an Arabic version of the Negative Acts Questionnaire-Revised (NAQ-R). BMJ open. 2018; 8: e024009.

14. Dawood S. Exploring workplace bullying in malaysia:reliability and validity analysis of the Malaysian version of the Negative Acts Questionnaire Revised (NAQ-R). Southeast Asia Psychology Journal 2020; 8.

15. Erwandi D, Kadir A, Lestari F. Identification of Workplace Bullying: Reliability and Validity of Indonesian Version of the Negative Acts Questionnaire-Revised (NAQ-R). International Journal of Environmental Research and Public Health. 2021; 18: 3985.

16. La Torre G, Sestili C, Iavazzo E, Mannocci A. Workplace Violence in the health sector: validation of the Italian version of the WHO questionnaire. La Clinica terapeutica. 2017; 168: e199-e202.

17. Rodrнguez-Campo VA, Paravic-Klijn TM. Validaciyn de la versiyn chilena del cuestionario "Workplace Violence in the Health Sector" en la atenciyn prehospitalaria. Revista de la Facultad de Medicina. 2020; 69.

18. Gupta R, Bakhshi A, Einarsen S. Investigating Workplace Bullying in India: Psychometric Properties, Validity, and Cutoff Scores of Negative Acts Questionnaire–Revised. SAGE Open. 2017; 7: 2158244017715674.

19. Yusoff M. ABC of Content Validation and Content Validity Index Calculation. Education in Medicine Journal. 2019; 11: 49-54.

20. Ko YY, Liu Y, Wang CJ, Liao HY, Liao YM, Chen HM. Determinants of Workplace Bullying Types and Their Relationship With Depression Among Female Nurses. J Nurs Res. 2020;28(3):e92.

21. Taber KS. The use of cronbach's alpha when developing and reporting research instruments in science education. Res Sci Educ. 2018;48(6):1273–96.

22. Beck K. Ensuring Content Validity of Psychological and Educational Tests -- The Role of Experts. Frontline Learning Research. 2020; 8: 1-37.

23. Polit DF, Beck CT, Owen SV. Is the CVI an acceptable indicator of content validity? Appraisal and recommendations. Research in Nursing & Health. 2007; 30: 459-67.

24. Thigpen NN, Kappenman ES, Keil A. Assessing the internal consistency of the event-related potential: An example analysis. Psychophysiology. 2017; 54: 123-38.

25. Sijtsma K. On the Use, the Misuse, and the Very Limited Usefulness of Cronbach's Alpha. Psychometrika. 2009; 74: 107-20.