

MEASURING HEALTH-RELATED QUALITY OF LIFE AMONG VIETNAMESE HEALTHCARE STAFF: AN APPLICATION OF THE WHOQOL-BREF

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ABSTRACT

Objective: The purpose of this paper was to measure the health-related quality of life (QOL) among Vietnamese healthcare staff. Particularly, the study applied the World Health Organization Quality of Life Instruments (WHOQOL-BREF) questionnaire as an instrument for data collection and analysis, having divided it into four domains and assigned different items to the respective domains. **Methods:** In this cross-sectional study, the research instrument was the WHOQOL-BREF questionnaire, which is an abbreviated version of the WHOQOL-100 tool. The measurement and evaluation of the participants' degree of satisfaction were conducted based on 24 items.

Results: The results obtained by this investigation demonstrated that, as an instrument for assessing the QOL of healthcare staff, the WHOQOL-BREF questionnaire yields reliable and insightful outcomes. The scores obtained after administering the WHOQOL-BREF questionnaire to Vietnamese healthcare staff in various public healthcare organisations revealed that most of the participants exhibited a moderate QOL. Throughout the country, the study further demonstrated that the QOL among Vietnamese healthcare staff is shaped by the parameter of chronic disease. Also, the results demonstrated a good internal consistency in relation to the WHOQOL-BREF questionnaire, especially regarding the four domains into which the instrument was divided and the various items tested.

Conclusion: In summary, there was an additional statistically significant relationship between chronic disease and the four domains that were investigated. Number of years of education shaped two main domains: environmental health and psychological health. The implication of this for Vietnam's healthcare system is that the QOL of healthcare staff in public health organisations might be improved by implementing strategies aimed at minimising the prevalence of chronic disease. In so doing, the perceived improvements in the healthcare practitioners' QOL, which might occur in response to these nation-wide interventions, can in turn steer improvements in the professionals'

task performance and role completion processes, hence improving the quality of the healthcare service they deliver.

Keywords: *Healthcare, Health-Related Quality of Life, Quality of Life, Vietnam, WHOQOL-BREF.*

INTRODUCTION

Over the last few decades, increasing attention has been given to the understanding and measurement of health outside traditional health indicators. According to Chew, Mohd-Sidik and Shariff-Ghazali (2015), some of the traditional indicators of health include morbidity and mortality. Due to the broadening focus, the concept of *quality of life (QOL)* has emerged. As indicated by Gholami, Jahromi, Zarei and Dehghan (2013), QOL has gained increasing attention among interventional and clinical studies. Throughout the existing literature, *QOL* has been defined differently based on the nature of the organisation being studied and the researcher's perceptions. For instance, Hand (2016) stated that *QOL* refers to the perception of individuals in relation to their position in life, occurring in the context of value systems and the culture of their social environments. The study further highlighted that *QOL* is defined relative to the concerns, standards, expectations and goals that the individuals hold. In the study by Janodia (2016), it was explained that *QOL* refers to the happiness, comfort and standard of health experienced by a group or individual. This is in agreement with the definition given by Kohn et al. (2014), who asserted that *QOL* refers to the general well-being of a society or individuals. Other studies have defined *QOL* based on its associated standard measures. For example, Nguyen et al. (2018) stated that *QOL* is defined based on indicators such as social belonging, recreation and leisure time, education, mental and physical health, the built environment, and wealth and employment. Based on these scholarly insights, the emerging trend is that *QOL* entails the position individuals hold in relation to the social, economic, physical and cultural environment in which they live.

In the recent past, a number of instruments have evolved with the aim of measuring QOL among groups such as workers and patients. One of these instruments is the World Health Organization Quality of Life (WHOQOL-BREF) questionnaire (Purba et al., 2018). As indicated by Sepulveda et al. (2015), this questionnaire aims to capture several subjective aspects with which a group or individual's QOL is associated. Developed in several languages, the questionnaire is a promising instrument through which the QOL of individuals can be discerned via cross-cultural comparisons. The instrument relies on the views of individuals relative to their well-being, eventually yielding new perspectives of life (Shavro et al., 2012). It is also worth noting that the WHOQOL-BREF questionnaire has been employed in understanding the QOL of patients and their families, but the extent to which it reveals how healthcare staff perceive their positions in society is yet to receive in-depth analysis, especially in relation to the application of this instrument (Xiao et al., 2017); however, Xing et al. (2013) observed that because healthcare staff offer services to patients, understanding their QOL is critical for predicting interventions and strategies that could be adopted and implemented to align staff members' personal goals with the overall vision and mission of the healthcare organisations in which they serve.

In situations where healthcare staff exhibit good QOL and remain healthy, Yin et al. (2016) stated that the staff is more likely to offer higher quality services to patients and their families. Therefore, this study aims to evaluate the QOL of different healthcare staff members from different public healthcare organisations in the Vietnamese context. The central objective is to unearth some of the factors with which the use of the WHOQOL-BREF questionnaire is associated.

METHODS

The research design employed in this study was a cross-sectional scholarly investigation. Particularly, the process of data collection was conducted in the months of April and July 2017. The research setting was public healthcare organisations in Vietnam. The selected participants were requested to provide informed consent before engaging in the data provision process. Prior to securing informed consent from the selected healthcare staff, the individuals were acquainted with this study's central purpose.

Study instruments and research procedure

In this investigation, the instrument of data collection was the WHOQOL-BREF questionnaire. This questionnaire was administered to the participants, prompting them to respond accordingly. To ensure that honest responses were obtained, all the individuals selected for participation were informed about the aspects of data privacy and confidentiality, as well as their anonymity as research study participants. In particular, the participants were informed that data privacy and confidentiality would be achieved by securing the raw and analysed data with strong passwords, barring unauthorised access to the information.

Regarding the anonymity of the participants, the selected individuals were informed that codes would be used rather than any revealing information, such as their place(s) of work, physical addresses, personal contacts or names and positions held in their organisations. It is also worth highlighting that a trained individual was enlisted to explain to the participants how they were expected to fill in the questionnaires. Also, the participants were informed that the decision to participate was voluntary and that they were at liberty to stop participating at any stage of the data collection process, especially if they felt traumatised, uneasy or psychologically disturbed.

The research instrument used was the WHOQOL-BREF questionnaire, which is an abbreviated version of the WHOQOL-100 tool. It is also notable that in the WHOQOL-BREF questionnaire, two questions focus specifically on overall QOL and general health, respectively, while the remaining 24 questions focus on the measurement and evaluation of the participants' degree of satisfaction. These items were divided further into four broad categories or domains: participants' physical health (constituting seven items; DOM1), participants' psychological health (with six items; DOM2), participants' social relationships (with three items; DOM3) and participants' environmental health (with eight items; DOM4). This study targeted 535 individuals across healthcare organisations in Vietnam, presenting participants with the Iranian version of the WHOQOL-BREF questionnaire. In the questionnaire, the respective items being tested were rated on a five-point Likert Scale, ranking the participants' responses from 1 to 5. The raw data obtained from the healthcare staff was translated into a score of 4 to 20, in line with the standards governing the WHOQOL-BREF questionnaire's data collection and analysis procedure. It is also important to highlight that the data analysis process was established in such a way that the higher the score, the higher the reported QOL. In the respective domains, the data analysis proceeded to establish the mean scores of the participants, eventually rating them on a scale of 0 to 100, after conducting a linear transformation.

Independent and dependent variables of the study

The four main domains into which the WHOQOL-BREF questionnaire was divided were the dependent variables used in this study. Additionally, the study collected data regarding the participants' demographic characteristics. The specific parameters collected included local residence, presence of chronic disease, job background and the healthcare staff's level of monthly income and type of employment; in addition, the marital status of the participants, number of years of education years, age and sex were used as the study's independent variables. Regarding the participants' age brackets, two major categories were established: participants older than 35 years and participants aged 35 years and below. Regarding the participants' years of education, this study focused on those who had undergone education beyond a 12-year period and those who had undergone education in the range of 0 to 12 years. In relation to the participants' marital status, the attributes measured included those who were married, single or divorced. Finally, the evaluation of type of employment as a predictor of the participants' QOL was examined based on the employment being contractual or official. In relation to the job background of the participants, they were evaluated based on whether they had worked for less than ten years, or for ten years and above. Regarding the existence of a chronic disease, the participants were requested to select 'Yes' or 'No', and, finally, regarding local residence, the participants were requested to select either 'Rural' or 'Urban'.

Data analysis

Upon collecting raw data from the participants, the data was organised using SPSS version 20.0 software. Regarding the specific process of data analysis, this study employed a descriptive statistical approach whereby some of the aspects that were presented included the standard deviations, means, ranges, percentages and frequencies of the participants' responses in various domains, with the particular aim of predicting their QOL based on correlations between the independent and dependent variables. To estimate the degree to which the WHOQOL-BREF questionnaire was reliable, this study used the internal consistency index. If values of 0.7 and above were obtained for the Cronbach's alpha, these values were considered valid and acceptable. To discern the degree of agreement between the four broad categories, or domains, into which the WHOQOL-BREF questionnaire was divided, the study used Pearson's correlation coefficient, with differences in the means of the scores (reflecting the various QOL domains being evaluated) established via the use of a paired *t*-test. It is also worth indicating that this study investigated the relationship between the QOL and the demographic characteristics of the healthcare staff in Vietnam. This step was accomplished using a *t*-dependent test. Any

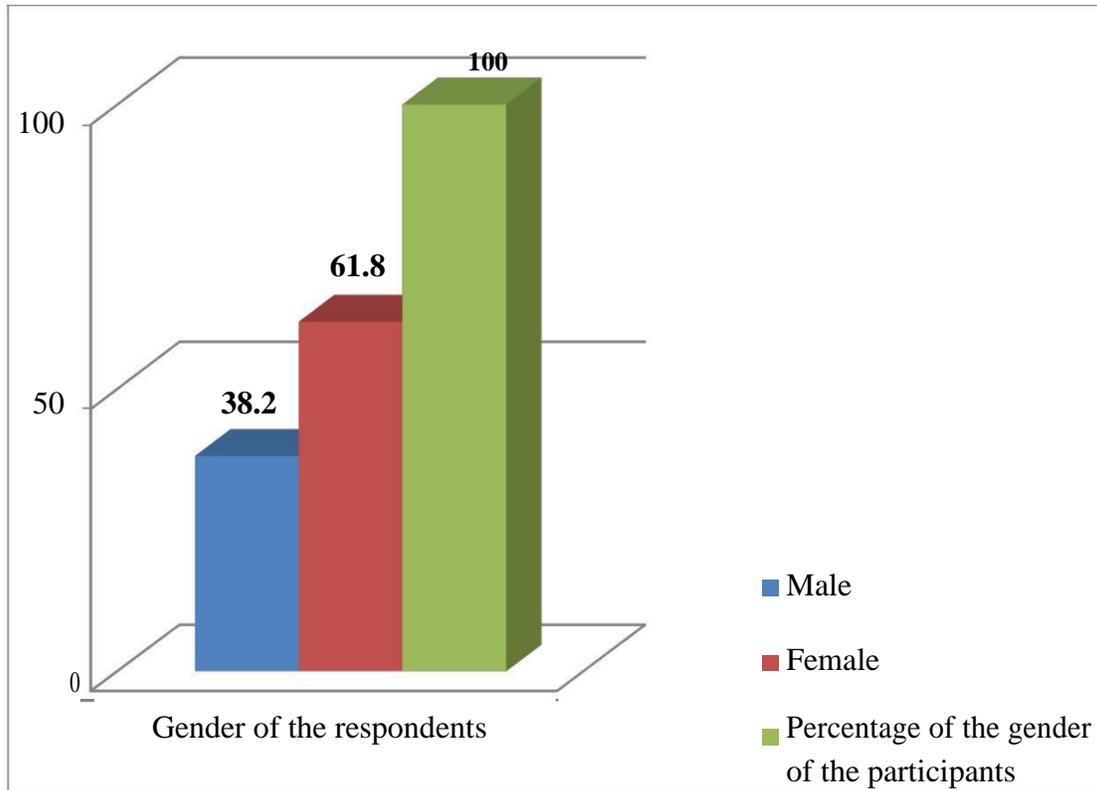
confounding effects that would have affected the statistical analysis process were addressed by employing the multiple linear regression approach. Overall, $P < 0.05$ reflected the significance level that was set to achieve the intended statistical analyses.

RESULTS

As mentioned earlier, this study strove to collect data about the QOL of healthcare staff in Vietnam, targeting 535 individuals. Out of the WHOQOL-BREF questionnaires that were administered, which were divided into the four main domains mentioned earlier, 14 had more than 21% of the required data missing. Therefore, these questionnaires were excluded from the analysis process. As such, the data analysis relied on responses from 521 questionnaires. Notably, the study's participant response rate was high, implying that the results could be related or generalised to the rest of the healthcare staff in the Vietnamese context (regarding their QOL). The age range of the participants was from 20 to 66 years, with the mean age established as 36.2 ± 8.8 . From a gender perspective, there were more female participants than male; specifically, of the study data obtained 61.8% of the healthcare staff members were female, while the remainder (38.2%) were male. Given that the average age of the male participants was 38.87 ± 9.30 , while that of the female participants was 34.49 ± 7.88 , this study established a statistically significant difference in the ages of the male and female participants—a trend that implied that the results were prone to ceiling, floor and missing effects. Whereas the highest scores ranged between 3.0 and 39.6, the lowest scores ranged between 2.1 and 17.4. As mentioned earlier, for the 26 items on the WHOQOL-BREF questionnaire, internal consistency was measured, being either determined or predicted using Cronbach's alpha coefficient.

Relative to the four domains and the items under each category, this study revealed an adequate Cronbach's alpha coefficient for the WHOQOL-BREF, being 0.930. Relative to the specific domains, the value for physical health (DOM1) was 0.924, for psychological health (DOM2) was 0.922, for social relationships (DOM3) was 0.76, and for environmental health (DOM4) was 0.883. From the correlations between the four domains, which had different numbers of items under investigation, this study established statistically significant relationships. Also, the scores reflecting the broad domains and the overall QOL of healthcare staff in Vietnam exhibited a statistically significant relationship.

The percentage and means of satisfaction in DOM4 were 57.95 and 14.08, respectively, while in DOM1, they were 71.50 and 16.37, respectively. Regarding the role of gender as a predictor of the QOL of healthcare staff in the research context, this study established that in DOM1, DOM2 and DOM3, male participants exhibited higher percentages and means based on the rating for satisfaction with life than did their female counterparts. However, the female participants had higher percentages and means in DOM4 regarding the measure of satisfaction. It was further established that the total results of the WHOQOL exhibited a significant correlation with the aspects of number of years of education and the existence of a chronic disease. DOM2 demonstrated a close linkage between QOL and the sex of the participants, while DOM2 and DOM4 exhibited a close linkage between QOL and education years. However, the type of the participants' employment exhibited a significant correlation and shaped the outcomes for DOM1. Overall, the confounders of DOM4 entailed the healthcare staff's local residence, income level and type of employment, while the confounders that shaped the outcomes for DOM and DOM2 included job background, type of employment and age. Hence, only type of employment emerged as a confounder for the items in DOM1.



DISCUSSION

This study sought to evaluate the QOL of healthcare staff in Vietnam. The main aim of the study was to determine the extent to which the WHOQOL-BREF is a reliable tool for measuring QOL, especially among healthcare practitioners. Through a reliability analysis, the study established that the WHOQOL-BREF scale exhibits an acceptable level of internal consistency. Apart from the domain relating to social relationships (DOM3), the other domains yielded high scores. These results concurred with those reported by Gholami et al. (2013) and Hand (2016), who noted relatively low scores for the social relationships domain upon employing the WHOQOL-BREF scale to determine the QOL of residents. It is possible that the lower internal consistency of DOM3 is a result of fewer questions being asked relative to the social relationship domain (i.e., only three items).

Notably, QOL can be an insightful tool for identifying persons experiencing mental and physical health issues, potentially providing room for early and relevant interventions, and prompting follow-up evaluations to ensure quality healthcare services are also given to professionals such as healthcare staff. In this investigation, DOM1 focused on the participants' physical health and how it shaped their QOL, a parameter that yielded the highest rating of mean satisfaction. Some of the issues that the majority of the participants cited and accounted for within these results included good work capacity, sufficient sleep, less discomfort and pain, enough mobility and energy, less dependence on medical aids and medicinal substances, and good activities of daily living. In contrast, DOM4 exhibited the lowest mean score; in this domain, some of the issues that the majority of the participants cited to account for this rating included fewer opportunities for leisure activities or the acquisition of new skills and information, as well as a lack of adequate financial resources. It was also evident that DOM3 revealed the highest standard deviation from the mean. This domain concerned the nature of the participants' social relationships. Factors that explained this significant deviation from the mean included a small number of the questions or items that were presented in this domain, as well as variations in the participants' interpretation of the questions with which they were presented. Despite this, all four domains exhibited statistically significant variations in the mean scores. DOM1 and DOM4 demonstrated the greatest difference, and these findings are in agreement with those obtained by Janodia (2016).

In addition, the aspect of gender shaped the scores in DOM1, DOM2 and DOM3, whereby the male participants in these categories exhibited higher mean satisfaction scores than did their female counterparts. Despite these differences, it was only in DOM2 that the superior performance of males (over females) regarding the mean satisfaction score was statistically significant. Some of the parameters that explain these mixed outcomes include Vietnamese women experiencing lower ob and psychological health due to issues such as homemaking-including milking or attending to other domestic chores-and going through pregnancy and delivery. The implication for the national government is that there is a need for further investigation and intervention in response to the role of gender in compromising the level of satisfaction in women's psychological health. It was also notable that the aspect of the existence, be it a presence or absence, of a chronic disease shaped the participants' overall QOL, moderated by the factors of years of education and gender.

CONCLUSION

In conclusion, the results obtained through this investigation demonstrated that the WHOQOL-BREF questionnaire, as an instrument for assessing the QOL of healthcare staff, yields reliable and insightful outcomes. Based on the results, the scores obtained after applying the WHOQOL-BREF questionnaire to healthcare staff in various public healthcare organisations of Vietnam revealed that most of the participants exhibited a relatively moderate QOL. The study further demonstrated that the QOL among Vietnamese healthcare staff is shaped by the parameter of chronic disease. Also, the results demonstrated a good internal consistency in relation to the WHOQOL-BREF questionnaire, especially regarding the four domains into which the instrument was divided and the various items tested. For the factors of physical health (DOM1) and environmental health (DOM4), the WHOQOL-BREF domains yielded the highest and lowest mean scores, respectively. Based on the additional results obtained through the multiple linear regression analysis, there was an additional statistically significant relationship between chronic disease and the four domains that were investigated, with number of years of education shaping the domains of psychological and environmental health (DOM2 and DOM4). The implication for Vietnam's healthcare system is that the QOL of healthcare staff in public health organisations might be improved by implementing strategies aimed at minimising chronic disease. In so doing, the perceived improvements in the healthcare practitioners' QOL, which might come in response to nation-wide interventions, can prompt improvements in the professionals' task performance and role completion processes. In future, this study recommends the need for additional scholarly investigations to examine the feasibility and efficacy of various healthcare system interventions in shaping the QOL of healthcare staff in Vietnam. Also, future studies should determine the relationship between the QOL of healthcare staff in Vietnam and their ability to align their goals to the mission and vision of the healthcare organisations in which they serve. In so doing, it is projected that the research outcomes might pave the way for national and local governments to make informed decisions regarding the targeted interventions that could be implemented through regular seminars and conferences; these, in turn, could make the country's healthcare practitioners better prepared and ready to respond to the present and future needs of patients, their families and communities in need of public healthcare services.

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CONFLICTS OF INTERESTS

The authors have no conflicts of interests to declare.

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