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MEASURING THE QUALITY OF NURSING WORK LIFE IN PUBLIC HOSPITALS

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ABSTRACT

The current shortage of nurses in Malaysia highlights the importance of understanding their work environment, giving emphasis on the different aspects of Quality of Work Life (QWL) so that relevant policies can be formulated to retain them in the workforce. Therefore the aim of this study is to determine the underlying factors that measure QWL of nurses. The sample consisted of 392 nurses working in the Obstetric and Gynecology, and Pediatric departments of the state level public hospitals. Both exploratory and confirmatory factor analysis produced a good fit and a reliable nine items, two factors measurement model of nurses’ QWL. The factors generated were labelled: Communication and Opportunities for Career Growth and Work-Family Life Balance. The study suggest that improvement in the different aspects of QWL which are related to nurses’ needs for communication and career growth opportunities and work-family life balance may effectively retain the nursing workforce.

Field of Research: quality of work life, communication and career growth opportunities, work-family life balance

1. INTRODUCTION

Nurses are precious resources in health-care systems around the world and Malaysia is no different. Nursing staff have been recognised as the key providers of health-promotion services (Nemec & James, 2007). It was suggested that quality of care for hospital patients is strongly linked to the performance of nursing staff (Hassmiller & Cozine, 2006). However, high nursing turnover and shortages are indicative of the problems faced by many hospitals around the world. The biggest challenge for hospital administrators is to retain experienced and skilled workers in the efforts to provide high-quality service (Chan et al., 2004; Simoens et al., 2005; Barnett et al., 2010). The supply of nurses in many developing and developed countries fails to keep pace with increasing demand, and shortages are expected to worsen as the current workforce ages (International Council of Nurses, 2004; Khowaja et al., 2005). Quality of nursing care received by patients is strongly associated with proper staffing and the stability
of the nursing workforce. Some of the negative consequences of high nursing turnover and shortages include decreased capacity to provide safe and effective care (Aiken et al., 2002; Morrison et al., 2007), the costs of recruiting and selecting new nurses (Cohen-Mansfield 1997), the cost of losing nurses with experience and knowledge (Chan, 2001). Another negative consequence of inadequate staffing is an overall increase in nursing workloads (Gifford et al., 2002). Nursing staff have outlined that work overloads are major stress factors at work (Khowaja et al., 2005). Stress among nurses is critical because it is associated with medical negligence and negative behaviour, which leads to poor quality of health services (Jones et al., 1998; Aiken et al., 2002).

In Malaysia, the shortage of nurses and doctors has been identified as a critical problem faced by public hospitals (Manaf, 2005; Barnett et al., 2010). The World Health Organization (WHO) recommends a nurse-to-patient ratio of 1:200 while the Malaysian nurse–ratio is 1:599 (Ministry of Health, 2009). At least 174,000 nurses need to be trained by 2020 to meet WHO’s nurse-to-patient ratio (Pillay, 2008; Barnett et al., 2010). However, this ratio is hard to achieve because 5000 nurses retire every year and only 1500 new nurses are hired yearly (Bernama, 2008). Reports of hospital nurse shortages and their consequences, particularly of uneven quality of care, have become commonplace in medias (Yee, 2006). There is a rising number of complaints regarding the service at the government hospitals for poor quality of services, such as unfriendly treatment by medical staff and errors in diagnoses and treatment that caused unnecessary harm (Kheng, 2007). Seventy five percent of the complaints point to the attitude and behaviour of the frontliners in the medical institutions. The patients and their families complain that medical staff are rude, uncaring, unfriendly, arrogant, inefficient, and impolite (Kheng, 2007; Yusoff, 2002).

The Malaysian government has collaborated with the private sector to train more nurses and hire nurses from foreign countries such as the Philippines, Albania and Bangladesh (Mohamed and De Silva, 2008), to overcome the nursing shortage. However, simply adding more nurses in an unhealthy work environment may not solve the hospital nursing turnover problem. According to the International Council of Nurses (2007), “in times of critical nursing shortages, a healthy work environment is key to attract and retain qualified and motivated personnel in health care.

Despite an increased interest in nursing and QWL, it is surprising that only a relative handful of empirical research has been conducted on nurses QWL (Laar et al., 2007; Hsu and Kernohan 2006; Brooks and Anderson, 2005; Ellis and Pompili 2002; Knox and Irving, 1997; Lock, 1991). In Malaysia, there is only a few number of research carried out on QWL and those studies have focused on manufacturing (Beh, 2004), and information and technology (Rethinam and Ismail, 2008). Studies on nurses job satisfaction and intention to leave among nurses in Malaysia is widely research for example Alam and Mohammad (2010), however studies about nurses’ QWL is under researched. The current shortage of nurses in Malaysia highlights the importance of understanding nurses work environment so that hospitals can identify relevant aspect of their QWL that can be improved to effectively retain their nursing workforce. Therefore the aim of the present study is to determine the underlying factors that measure quality of work life of nurses in Malaysia.
2. QUALITY OF WORK LIFE

Similar to quality of life research, there is neither a single agreed definition of QWL nor consensus of what constitutes a good job (Beham et al., 2006). However, management scholars and industrial psychologists agree in general that QWL is a construct that deals with the well-being of the employees and that QWL is a much broader concept than job satisfaction (Efraty & Sirgy, 1990; Sirgy et al., 2001). QWL has been linked with a number of positive outcomes both for individual workers and for employing organisations. QWL programmes emerged from the humanistic theories of management that became popular in the 1950s and 1960s, all of which surface from the human relations movement in management and industrial/organizational psychology (Sirgy, 2006).

In health-care organisations, QWL factors have recently been recognised as significantly influencing the performance of staff members, and QWL also refers to strengths and weaknesses in the total work environment (Knox & Irving, 1997). Ellis and Pompili (2002) used both focus group and questionnaire methods to examine QWL among nurses. Findings showed that nurses considered factors such as the home-work interface, training opportunities, work stress, working conditions and career development as important issues in relation to QWL. From the focus group discussion, Hsu and Kernohan (2006) identified fifty six nurses’ quality of working-life categories and fitted into six dimensions: socio-economic relevance; demography; organizational aspects; work aspects; human-relation aspects; and self-actualisation. The focus group discussion showed that QWL for nurses meant keeping a good balance between work and personal life: that is, their free time should not be affected by their work. Overall QWL for nurses is a complex entity influenced by and interacting with many aspects of work and personal life.

The conceptualization of quality of nursing work life used for this study is adapted from Brooks and Anderson (2005): Nurse QWL (NQWL) is the degree to which nurses are able to satisfy important personal needs through their experiences in their work organisation while achieving the organisation’s goals. Efforts to understand the theoretical foundation of NQWL can be traced back to sociotechnical systems (STS) theory. STS insists that engaging employees fully in designing work gives them a sense of well-being because they find their work fulfilling, and at the same time it is productive in that it helps the organisation reach its goals (Brooks & Anderson, 2005).

3. METHODOLOGY

The population of this study consists of registered nurses working at the Obstetric and Gynecology, and Pediatric Department in the state-level public hospitals. These state-level hospitals provide a comprehensive range of secondary-care services and also function as referral centres for other hospitals in the respective state. They are the largest hospitals in the respective state with a bed capacity of more than 600 (Manaf, 2005). Referring to the Krejcie and Morgan sample-size table (Sekaran, 2006), a sample size of 357 was considered large enough. Using the Burns and Bush (2006) sample-size formula, the adequate sample size for the study was 221 respondents. To conduct Structural Equation Modelling (SEM), Garver & Mentzer, and Hoelter, in (Hoe, 2008), proposed a 'critical sample size' of 200. In other words, as a rule of thumb, any number above 200 is understood to provide sufficient statistical power for data analysis.
The selection of respondents involved two steps. First, using area-sampling technique, four state-level hospitals were selected and 300 questionnaires were distributed to each hospital. A total of 800 questionnaires were returned representing a 67% response rate. Second, a sampling frame was created using the returned questionnaires. From the created sampling frame, a total of 400 nurses were selected for the study using a random-sampling method. After a data cleaning process, a total of 392 respondent’s questionnaires were subjected for further analysis. The research instrument developed by Brooks and Anderson (2005) was used in this study to measure nurses’ Quality of Work Life (NQWL). The NQWL consists of 42 items and measures four dimensions of NQWL: “work life-home life”, work design, work context, and work world.

4. FINDING & DISCUSSION

4.1 Profile of Respondents

Analysis of the data revealed that the majority of the respondents were female (99%), reflecting the population of nursing staff in Malaysia, and married (72%). The majority of them had obtained a Diploma in nursing and were aged between 25 and 34 years old. Their children ranged from 1 to 4. Almost 60% of the respondents had served in the public health-care institutions for less than 10 years and only 8% of them had worked for a period of 21 to 25 years. This implies that there is a high nursing staff turnover within the sector.

4.2 Exploratory Factor Analysis

The exploratory factor analysis (EFA) was performed to determine the underlying dimensions of QWL. The results of Barlett’s test of sphericity are significant and the values of Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is 0.91. QWL components loaded into two underlying factors termed as “communication and opportunities for career growth” and “work-family life balance”. These factors explained 64 % of the variation in QWL. Reliability tests conducted on QWL, produced Cronbach’s alpha values of 0.85. Unidimensionality of the underlying factors was assessed using factor loading of retained items from EFA. Table 1 illustrates factor loadings for all items of the identified factors are greater than 0.5, indicating that these items are associated with the underlying factors (Hair et al., 2010).

4.3 Confirmatory Factor Analysis

To validate the underlying factor of construct identified from the exploratory factor analysis, a confirmatory factor analysis (CFA) was conducted as suggested by Costello and Osborne (2005) and Brown (2006). Therefore the CFA will be used in this study to examine the fit of the proposed measurement models with the sample data and also to check the validity of the constructs in the study. The factor loadings and covariances obtained from CFA are shown in Figure 1. The scores obtained from the CFA suggested an excellent fit between the data and the model. All the fit indices are comply with the values recommended by Hair et al., (2010). Table 2 summarizes the results of this analysis together with the recommended values suggested by Hair et al., (2010).
Table 1: Results for Exploratory Factor Analysis

<table>
<thead>
<tr>
<th>Factors</th>
<th>Factor Loading</th>
<th>Eigenvalues</th>
<th>% of Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Communication and opportunities for career growth (WF1)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel like I belong to the “work family”</td>
<td>0.783</td>
<td>5.361</td>
<td>39.893</td>
</tr>
<tr>
<td>I am able to communicate well with my nurse manager/supervisor</td>
<td>0.741</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am recognised for my accomplishments by my nurse manager/supervisor</td>
<td>0.736</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am able to participate in decision made by my nurse supervisor/manager</td>
<td>0.732</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My work setting provides career advancement opportunities</td>
<td>0.724</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am able to communicate with other therapists (physical, respiratory, etc.)</td>
<td>0.703</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Work-family life balance (WF2)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am able to arrange for day care for my elderly parents</td>
<td>0.886</td>
<td>1.050</td>
<td>23.902</td>
</tr>
<tr>
<td>I am able to arrange for day care when my child is sick</td>
<td>0.706</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am able to balance work with my family needs</td>
<td>0.545</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td>63.795</td>
</tr>
</tbody>
</table>

Hair et al. (2010) suggested that convergent validity is assessed using construct reliability (CR) and the average variance extracted (AVE). The calculated CR and AVE for all latent constructs surpassed the threshold value of 0.7 and 0.5 respectively. The AVE values for the latent constructs was compared to the squared correlations between the corresponding constructs to examine the discriminant validity of the measurement model (Fornell and Larcker, 1981) and the squared correlation value did not surpassed the AVE. The above test indicated that the discriminant validity is secured (see Table 3).
Table 2: Goodness-of-For Indices for Quality of Work life

<table>
<thead>
<tr>
<th>Goodness-of-fit Indices</th>
<th>Recommended value (Hair et al., 2010)</th>
<th>Measurement Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\chi^2$</td>
<td>Low $\chi^2$ relative to degree of freedom with an insignificant $p$ value ($p &gt; 0.05$)</td>
<td>53.343</td>
</tr>
<tr>
<td>$\chi^2$/df</td>
<td>$\leq 3$</td>
<td>2.052</td>
</tr>
<tr>
<td>RMSEA</td>
<td>$\leq 0.08$</td>
<td>0.060</td>
</tr>
<tr>
<td>GFI</td>
<td>$\geq 0.90$</td>
<td>0.963</td>
</tr>
<tr>
<td>RMR</td>
<td>$\leq 0.08$</td>
<td>0.033</td>
</tr>
<tr>
<td>NFI</td>
<td>$\geq 0.90$</td>
<td>0.967</td>
</tr>
<tr>
<td>CFI</td>
<td>$\geq 0.90$</td>
<td>0.982</td>
</tr>
<tr>
<td>TLI</td>
<td>$\geq 0.90$</td>
<td>0.976</td>
</tr>
<tr>
<td>AGFI</td>
<td>$\geq 0.80$</td>
<td>0.935</td>
</tr>
</tbody>
</table>

Table 3: Results for QWL Measurement Model

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Construct Reliability (CR)</th>
<th>Average Extracted (AVE)</th>
<th>Squared Correlation Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication and Opportunities for Career Growth</td>
<td>0.91</td>
<td>0.54</td>
<td>0.51</td>
</tr>
<tr>
<td>Work-Family Life Balance</td>
<td>0.76</td>
<td>0.53</td>
<td></td>
</tr>
</tbody>
</table>
Figure 1: Confirmatory Factor Analysis on Quality of Work Life
5. DISCUSSION AND CONCLUSION

In this study, we explored the factor structure of quality of work life measurement model for nurses. Two factors with nine items were generated by the exploratory factor analysis. Further confirmatory factor analysis established this measure as a good fitting model. The present study produced a set of two factors from the data, showing some similarities with previously conducted quality of work life research. The identification in the present study of communication and opportunities for career growth as a component within the quality of work life factor structure is consistent with the study conducted by Knox and Irving (1997) and Laar et al., (2007). Other authors in the health care setting such as Ellis and Pompili (2002), Hsu and Kernoahan (2006) as well as Laar et al., (2007) all found that a good balance between family and work needs as a component within the quality of work life factor structure, as was found in the current study.

Barnett et al., (2010) in their critical review of nursing shortage in Malaysia conclude that nursing shortage should not be solved by increasing the supply of new nurses only. The creation of a safe and supportive work environment is important to retain nurses within the Malaysian healthcare system. Therefore, based on the evidence from the current analysis, the study suggest that improvement in the different aspects of quality of work life which are related to nurses' needs for communication and opportunities for career growth and work-family life balance may effectively retain the nursing workforce.

The findings of the present study have several managerial implications for the management of public hospitals in Malaysia. The hospital management could address nursing shortage by addressing aspects that would enhance their QWL such as addressing to their needs for, what are termed as, "communication and opportunities for career growth" and "work-family life balance". The needs for "communication and opportunities for career growth" could be addressed by providing a conducive work environment that permits participatory decision-making, free flow of vertical and horizontal communication, opportunities for career advancement and create the feeling of "work family" belonging among staff.

This study also indicates that achieving work-family life balance is important among the nursing workforce. Tausig and Fenwick (2001) reported that "voluntary alternate scheduling" could reduce work-life time imbalance. Therefore, the hospital management perhaps should consider implementing "voluntary alternate scheduling", where nurses have some choice or control over the hours or days worked instead of involuntary scheduling where nurses have no choice as to time or days worked. The hospital management should treat nurses as "assets" to an organisation instead of perceiving them as "cost" and allow them to participate in managing their work and making decisions.

REFERENCES


