Relationship Between Knowledge Management and Quality of Working Life in Nursing Staff of Zahedan Teaching Hospitals, 2014

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Background: Knowledge management is an attempt to discover the hidden treasure of knowledge in the minds of people and turn this treasure to organizational assets so that people who are involved in the decision making of the organization can use it. Besides, the application of knowledge management, as an organizational improvement technique, is required to assess the quality of working life (QWL).

Objectives: This study aimed to determine the association between knowledge management and dimensions of QWL in nurses working in Zahedan teaching hospitals.

Materials and Methods: In this cross-sectional study, all nursing personnel of six teaching hospitals in Zahedan, 2014, were selected using the stratified random sampling. Data were collected using two standardized Likert-style questionnaires. Data were then entered into SPSS 17.0 software and analyzed using Pearson, t test and the one-way ANOVA test.

Results: Knowledge management score in single and younger participants was higher compared to other participants and it was lower in the larger hospitals. Quality of working life score in the smaller hospitals was higher than the larger hospitals (P = 0.002). There was a strong correlation between knowledge management and all dimensions of QWL in teaching hospitals (P = 0.001).

Conclusions: Knowledge management can improve the QWL in nursing personnel in Zahedan teaching hospitals. Based on the findings of the study, hospital managers, especially head nurses, could play a crucial role in improving QWL by institutionalization of knowledge management in nursing personnel and sharing and developing knowledge to advance the practice.

Keywords: Knowledge Management; Nursing; Teaching Hospitals

1. Background

Modern healthcare practices require substantial use of knowledge management (KM). KM is emerging as an important aspect of achieving excellent organizational performance and it has been recognized and utilized as an effective organizational management method in a wide variety of enterprise (1, 2). With rapid changes in organizations in the 21 century, it seems that KM is a rather large challenge to the health industry, and becomes a main topic of debates for present and future success in achieving their goals (3). To enhance growth, development, communication and knowledge preservation in an organization, KM allows professionals to reach rapid and assertive responses, linked with the decisions that they need to take (4). One study showed that the effective KM is very important to achieve strong organizational performance and the success or failure of knowledge management depends on how organization's members share and use their knowledge. Because KM plays a key role in enhancing health worker performance, especially in nursing (5, 6), knowledge sharing using KM systems helps the nursing personnel to understand and acquire the appropriate knowledge that influences the quality of healthcare services (2). In addition, KM is assumed to have positive effects on patient outcomes and QWL among hospital staff (7). Quality of working life refers to the employee's satisfaction of their working life. It emphasizes the quality of the relationship between the worker and the working environment (8). Moreover, the QWL is principally a multidimensional concept and it is a way of reasoning about staff, work and its organization (9). It covers employees' feelings about the job content, the physical work environment, pays, benefits, promotions, autonomy, teamwork, participation in decision-making, occupational health and safety, job security, communication, colleagues and managers' support and work-life balance. Several studies have been conducted to determine the impact of workplace situation on nurses' productivity (10, 11). Improving employees' QWL is a prerequisite to increase their productivity. Positive results from improving QWL

include reducing burnout, absenteeism and desertion, improving job satisfaction and organizational commitment (12, 13).

2. Objectives

Since nurses, as the main healthcare providers and health educators can play an important role in promoting the individual and social health, this study aimed to determine the dimensions of QWL and the relationship between KM and QWL in nursing personnel of Zahedan teaching hospitals. Since a modern hospital is a knowledge intensity organization and the KM has become inevitable to development trend of the hospital management (14), the results of this study will help the health policy-makers and hospital managers in action plan and appropriate interventions for maximum efficiency and performance in hospitals.

3. Materials and Methods

This cross-sectional study was performed at six teaching hospitals (Ali-ebne Abitaleb, Khatam-ol-Anbia, Ali-Asghar, Al-Zahra, Boo-Ali and Baharan) in Zahedan (southeast of Iran) in 2014. A statistical population was all nursing personnel working in the hospitals, including nurses, anesthetic technicians and operation room (OR) technicians. Stratified random sampling was used to identify three strata of nurses, anesthetic technicians and OR technicians and randomized sampling were also used in each stratum. According to the following sampling formula, 220 members entered into the study.

$$n = \frac{\left(Z_{1-\frac{\alpha}{2}}\right)^2 . S^2}{d^2} \quad 220$$

According to the stratified sampling method, at first, we selected participants on the each stratum based on their proportion; 175 (79.5%), 19 (8.6%) and 26 (11.8%) in nurses, anesthetic technicians and OR technicians groups, respectively. Subsequently, we used the lists of personnel in each hospital and the participants were selected through the lists. To collect data, two standardized questionnaires were used (life quality and knowledge management questionnaires). Life quality questionnaire has six dimensions as follows: 1) material privileges such as salary and welfare benefits, 2) training such as training workshops, 3) democracy in hospital such as voting of the members, 4) employee participation in decision-making, such as team working, 5) job design such as a job appropriate to an operator and 6) workplace like a safety in the workplace. The KM questionnaire, a standardized questionnaire, had 26 questions in five Likert scaled (1 = very low to 5 = very high). Motaghi et al. obtained reliability of the questionnaire: α coefficient = 92% (7). Collected data were entered into SPSS 17.0. Data were analyzed using descriptive statistics. We used the

Kolmogorov–Smirnov test for the examination of data normality (P > 0.05). Moreover, analytical tests such as the Pearson test (for association between KM and quality of life dimension), t test (for sex and marital variables) and one-way ANOVA (for the level of education and organizational post variables) were used. In this study, ethical subjects were considered, so for data gathering, researchers received hospital certification and participation in the study was voluntary.

4. Results

In this study, 220 questionnaires were gathered and all participants cooperated in the study (responded rate was 100% in the hospitals as follows: Ali-ebne Abitaleb (102; 46.4%), Khatam-ol-Anbia (79; 35.9%), Boo-Ali (13; 5.9%), Al-Zahra (12; 5.5%), Baharan (11; 5.0%) and Ali-Asghar (3; 1.4%). The majority of participants were nurses (175 individuals), and 85.4% were female and the mean age of the participants was 29.49 + 5.58. Demographic variables of the participants are shown in Table 1. The KM score and its association with demographic variables are shown in Table 2. As seen in Table 3, a significant association was found between QWL and KM in the hospitals. Moreover, the findings of this study showed a significant association between KM and dimensions of QWL.

Table 1. Demographic Variables of the Participants in Hospitals

Variables	Frequency, %
Gender	
Male	187 (85.4)
Female	32 (14.6)
Marital Status	
Married	134 (60.9)
Single	86 (39.1)
Job Experience	
5 >	103 (46.8)
5-10	71 (32.3)
10-15	27 (12.3)
>15	19 (8.6.)
Education Level	
Associate degree	23 (10.5)
Bachelor and upper	197 (89.5)
Work Shift	
Morning	141 (65.3)
Afternoon and night	75 (34.7)

Table 2. KM Score and Its Association with Demographic Variables [a]

Demographic variables	KM score		Test		Association
	Mean ± SD	Pearson	t test	One-way ANOVA	P Value
Age		√			0.015
Gender			√		0.921
Male	60.5 ± 18.86				
Female	60.14 ± 18.58				
Marital status			√		0.029
Married	57.96 ± 17.86				
Single	63.55 ± 17.62				
Jobs' group				√	0.824
Nurse	59.91 ± 19.01				
Anesthetic technicians	59.47 ± 17.39				
OR technicians	62.26 ± 16.60				
Education level				√	0.149
Associate degree	55.56 ± 19.83				
Bachelor and upper	60.69 ± 18.37				

[a] Abbreviations: KM, knowledge management; ANOVA, Analysis of variance.

Table 3. Association between QWL and KM in the Hospitals [a,b]

Hospitals	QWL		KM	
	Mean ± SD	P Value	Mean ± SD	P Value
Ali-ebne Abitaleb	74.11 ± 20.10	0.002	57.96 ± 17.04	0.001
Khatam-ol-Anbia	78.45 ± 14.52		57.26 ± 17.38	
Ali-Asghar	92.33 ± 23.55		68.66 ± 24.06	
Al-Zahra	87.00 ± 15.75		72.33 ± 24.48	
Baharan	89.45 ± 20.94		66.45 ± 21.39	
Boo-Ali	90.15 ± 15.16		76.30 ± 16.09	

[a] abbreviations: QWL, quality of working life; KM, knowledge management.
[b] Level of significance: 0.05.

Table 4. Association Between KM and Dimensions of QWL [a,b]

	Independent Variable												
Dependent variable	Material privileges		Training		Democracy		Employee Participation		Job Design		Workplace		QWL	
	P Value	R	P Value	R	P Value	R	P Value	R	P Value	R	P Value	R	P Value	R
KM	< 0.001	0.377	< 0.001	0.452	< 0.001	0.536	< 0.001	0.658	< 0.001	0.625	< 0.001	0.397	< 0.001	0.646

[a] abbreviations: QWL, quality of working life; KM, knowledge management.
[b] Level of significance: 0.05.

5. Discussion

The results showed a significant association between KM and QWL in all dimensions among the nursing personnel; therefore, increasing in KM can improve the QWL. Several studies confirmed this issue (7, 14), as Dolan believed that increasing in supporting factors in workplace can improve the QWL (15). Moreover, Cheng indicates that the KM greatly influences the organizational loyalty of hospital staff (4). Studies that measured these two factors on nursing personnel were limited and other studies indicated that the QWL and KM can lead to productivity and high performance in hospitals (10, 15, 16). Moreover, knowledge needs are the most important factors in QWL of the staff (17). Based on the findings of the current study, paying special attention to the knowledge level could play a crucial role in improving QWL. Organizations that focus on the QWL, their staff have higher commitment and therefore will be more productive (16). Hence, managers should consider KM in all staff, especially in the nursing personnel as the important treatment group. The QWL score in Ali-Asghar hospital, children and the smallest hospital, was higher than others and it was lower in Ali-ebne Abitaleb as specialty and the largest hospital. According to the one study, the QWL score was not different in teaching and non-teaching hospitals (6). The KM score in nursing personnel, as knowledge workers, was lower in the larger hospitals than smaller hospitals (19). It seems that workload in smaller hospital is lower than larger hospitals and nursing group can allocate their time to study and to increase the knowledge. The KM process has a significant effect on operational and organizational performance appropriately (6, 18); therefore, hospital managers should prepare workforce which motivate the personnel to rise their knowledge. Knowledge management leads to change in the characteristics of the work performed, with a view to the rapid and assertive achievement of expected results (4). Hence, all the nursing staff could increase their productivity using KM. According to the results, younger staff had the higher KM score and it had a significant association with marital status; therefore, single staff had a higher KM score. Perhaps, there are justifying by a higher incentive in younger and single nurses. Although there was no association between KM and education level, Rocha et al. indicated that KM should increasingly be a part of the hospital organizations' strategies, as the growing valuation of knowledge can be considered unavoidable (4). It is important for the nursing group to understand not only his/her role in knowledge management but also hospital managers, especially head nurses, should promote organizational learning by facilitating nurses as they find knowledge, share knowledge, and develop knowledge to advance the practice of nursing (18). There were no similar studies, which were conducted in nursing personnel. It was the main limitation of the current study; thus, we had to use the near similar studies for comparison. Knowledge management is an important factor to increase productivity in organizations and improve the nurses' QWL in hospitals. Hospital managers should pay more attention to promote KM in larger hospitals, and staff with low-education level, married and elderly. Head nurses could play a crucial role in improving QWL by institutionalization of KM in nursing group, sharing knowledge, and developing knowledge to advance the practice.

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Authors' Contributions

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