



Article Type: Original Article

Knowledge Sharing in University from the viewpoint of the Faculty Members

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Abstract

Background: Knowledge sharing ensures the distribution of the best business methods within organizations and Knowledge sharing are being applied to enhance nursing education curriculum. The aim of present study was to identifying solutions and barriers to knowledge sharing in Universities from the viewpoint of the faculty members. **Methods:** This cross-sectional study was conducted on 203 faculty members of Guilan University of Medical Sciences in 2017. Data was gathered using a questionnaire that measured the factors influencing the knowledge sharing behavior. The obtained data were analyzed in SPSS-21 software, using Pearson correlation. The significance level was set at $P \leq 0.05$.

Results: The most influential factor was organizational factors (Mean=2.91, SD= 0.33), and the most influential index was “dependency”, and the index with the lowest score, “innovation” was revealed to be an important barrier to knowledge sharing. “The perceived organizational motivations,” known as authorities’ inattention to the significance of knowledge sharing. No significant relationship was observed between the effective factors and variables such as gender, professional background, and educational level.

Conclusion: Identification of the solutions and barriers to knowledge sharing by the current study and their presentation to the authorities would remove the current barriers as much as possible leading to greater propagation of effective solutions to knowledge sharing for the promotion of organizations and society.

ARTICLE HISTORY

Received Feb 02, 2020

Accepted Mar 11, 2020

DOI: 10.29252/jgbfnnm.17.2.15

Keywords:

Solution

Barrier

Knowledge Sharing

Nursing

Iran

Introduction

Gaining, increasing and spreading knowledge are considered as an important factor in high-performance organizations. Nowadays, organizations take heed of how knowledge is spread and shared among her personnel which might be attributed, possibly as the main reason, to organizations’ effort in identifying those experts who are able to acquire new knowledge(1). Knowledge sharing or propagation process refers to all activities related to the spread or transfer of knowledge from one individual or an organization, to another individual, group, or organization. Knowledge sharing is considered as a vital factor for organizations(2), as it entails the development of skills, merits, values as well as the continuity of competitive advantages(3). Also, knowledge sharing defined as “define knowledge sharing as the provision or receipt of task information, know how, and feedback on a product or a procedure” (4). Almost everything we do in nursing is based on our knowledge and nursing knowledge is known as the culmination of practical experience and evidence from research, which over time becomes the “know-how” of clinical experience(5).

Some maintain that the definition of knowledge sharing is focused on components such as speed, volume, effectiveness and internalization, but the important issue is to what extent the made attempts have been influential and whether one can be sure about the internalization of the knowledge in a new environment(6). The effectiveness of knowledge sharing and transfer can be measured through measuring the changes created in receivers’ level of knowledge or their performance level (7). Knowledge sharing is a group of behaviors aimed at facilitation of the type of individuals’ relationship, and in order to promote knowledge-sharing behavior, people need to understand the influences and the mechanism that drives individually to contribute their valuable knowledge with others(8). Knowledge management and sharing are being applied to enhance nursing education curriculum and as a framework for designing nursing knowledge systems (9).

On the other hand, management consulting as an industry and practice can be viewed through the lenses of institutional theories and transaction cost economics (principal-agent problems, transaction costs of outsourcing advice and implementation (10). In nursing, knowledge sharing occurs when knowledge in any form is passed on from one nurse to another and may take place one-on-one or on a large scale through coaching, teaching, and learning (5).

Even though knowledge sharing is mainly perceived as an inter-personal activity in organizations, in some cases it is defined at higher levels such as inter-department, and inter-sections. In some definitions, it is considered as a process in which a unit in an organization is influenced by the experience of another unit (8). Thus, the capability of knowledge sharing among and within the groups is of prime importance (11). Point 9 of the NMC 2015 Code of Conduct states clearly

that nurses must share their skills, knowledge and experience for the benefit of people receiving care and their colleagues (12).

The recent advances lead to the increase in knowledge at universities, knowledge sharing gains greater significance in such organizations day by day. As shown by studies, active and voluntarily sharing of knowledge is an essential element of effective and meaningful learning at university level (11). On the other hand, the success of knowledge sharing is vital because, if successful, it results in shared intellectual capital. Knowledge sharing success, to a great extent, lies in the employees’ capability to share knowledge (13).

In fact, to store and develop the expert knowledge existing in higher education sector, an appropriate framework is required for transfer of the knowledge and experiences existing within and between the educational groups. With this in mind the need and importance of sharing knowledge with other nurses and healthcare colleagues should never be overlooked. As nurses, they can never stop learning and should use all available opportunities to impart and share their knowledge and skills to those around them and likewise seize opportunities to learn from others (12).

Different factors contributing to the knowledge sharing behavior include: environmental factors such as the organizational context of the structure, leadership properties and managerial support, motivational/perceptual factors including beliefs and the level of trust, individual properties such as gender, personality and perceptions on knowledge sharing such as attitudes toward and individuals’ intention of knowledge sharing(14).

The review of literature indicates the presence of several facilitators and obstacles in various organizations for knowledge transfer and sharing. Presence of proper relationships, having enough time(15), and relative sameness of educational level are among the facilitating factors, and age difference between the sharer and recipient of knowledge(16) lack of trust in the accuracy and value of individuals’ knowledge and differences in values and beliefs (17) are among the identified obstacles. Kohengkul et al. conducted a study in Thailand on knowledge sharing between university researchers and university professors, and evaluated various factors such as organizational culture, cooperation strategies, organizational environment, and professional satisfaction (18). Also, result in a study identified that six factors that sustain knowledge sharing in nursing are self-selection, validation of one’s practice with others who shared a similar working situation, a need to gain a better understanding of current knowledge and best practices in the field, a non-competitive environment, the asynchronous nature of the online communication medium, and the role of the listserv moderator (19).

Considering the fact that developing countries such as Iran utilize developed countries’ knowledge widely, it is necessary to identify the solutions and barriers, as the effective factors in knowledge sharing in the important academic

organization of Iran, and then strengthen the existing strategies for knowledge sharing in these organizations.

In the study conducted by Alipour Darvishi, technological capabilities, organizational culture, organizational structure, knowledge documentation status, supervising control, and motivational strategies as organizational background factors; and trust in management, perception of organizational support as perceptual factors were identified as the effective factors in knowledge sharing within and among the educational groups in Islamic Azad Universities (14). Also, in a study entitled “The role of knowledge sharing culture in business performance,” Marouf revealed the impact of the mediating variable knowledge sharing culture on the enhancement of business performance and cited that both knowledge sharing strategy and human resource strategy were observed to have a positive direct effect on knowledge sharing culture (20). In other study, knowledge sharing in nursing was cited as a need to gain a better understanding of current knowledge and best practices in the field (19). Considering the significance of evaluation of the knowledge sharing methods and identification of existing solutions and barriers at universities as per the above review, as well as the fact that no similar studies have thus far been conducted in Guilan province on this subject, and since contextual and quick access to proper information has high importance for nurses (21), an emphasis on the results yielded by the present study on the effective individual, organizational and technical factors in knowledge sharing can help with promotion of these effective factors. Also, an emphasis on the results yielded by the present study on the effective individual, organizational and technical factors in knowledge sharing can help with removing or decreasing the existing barriers. The present research is aimed at “identification of solutions and barriers to knowledge sharing at universities as per the viewpoint of Faculty Members” at Guilan University of Medical Sciences.

Methods

This cross-sectional study was conducted in 2017 at Guilan University of Medical Sciences. The faculty members were selected randomly. The inclusion criteria were having at least 3 years of experience. To observe the ethical aspects of the study, permissions were obtained from the ethic committee of Guilan University of Medical Sciences (Code IR.GUMS.REC.2017.27). The participants were informed about the study objectives and their participation was based upon their consent and willingness. Their written consent was obtained before study.

A questionnaire on the factors influencing the knowledge sharing behavior was developed by Jabari et al. in 2016 (22) and its validity was confirmed. The reliability of the questionnaire in Iran has also been approved (Cronbach’s alpha 86%) (23). This questionnaire comprise 39 items, to evaluate the effective factors in knowledge sharing which was categorised in three individual, organizational and technical factors. Twenty one items (1-21) address the individual factor such as reputation, understanding mutual benefits, enjoying helping others, losing the power of knowledge, and perceived organizational incentives. Ten items (22-31) dealt with organizational factor and 8 items (32-39) addressed the technical factor. Scoring was performed on a 5-degree Likert scale starting from “fully agree” (score 5) to “fully disagree (score 1).” To obtain the results, the acquired scores from the three groups of factors were written down and then, in each case, the scores were divided by the number of the statements for each component. Ultimately, the higher score in each component indicated the more positive effect of that factor on knowledge sharing. The questionnaires were distributed among the faculty members of the university. Then the questionnaires were filled out by the board members willing to participate. Data are presented as mean and standard deviation. Pearson correlation was used to test the correlation between subscales. Data was analysed in IBM SPSS Statistics for Windows, version 21 (IBM Corp, USA).

Results

The mean age of the participants was 38.5 years. Most of them (42.3%) were females. The participants were teaching in medicine (n=64), dentistry (n=39), pharmaceuticals (n=15), hygiene (n=18), nursing (n=48), and midwifery (n=19) faculties of Shahid Beheshti University of Rasht as well as nursing, midwifery and paramedical faculties in the East of Guilan.

According to the comparison made between the three individual, organizational and technical factors, organizational factor was identified as the most effective factor (2.91±0.33).

Table 1. Mean Scores of Individual, Organizational and Technical Factors and items

Factors and items	Mean ± SD
Individual	2.77 ±.19
Earn fame	3.27 ±.62
Understand the benefits of mutual	1.78 ±.33
Enjoy helping others	4.38 ±.31
Loss of knowledge power	1.60 ±.41
Perceived organizational motives	2.70 ±.34
Organizational	2.91 ±.33
Desirability	2.73 ±.55
Innovation	2.50 ±.67
Affiliation	3.34 ±.59
Technical	2.54 ±.36
Tools and technologies	2.54 ±.36

Table 2. Correlation between individual, organizational and technical factors

		Individual	Organizational	Technical
Individual	Pearson Correlation	1	-.071	.055
	Sig. (2-tailed)		.313	.437
	N	203	203	203
Organizational	Pearson Correlation	-.071	1	-.002
	Sig. (2-tailed)	.313		.972
	N	203	203	203
Technical	Pearson Correlation	.055	-.002	1
	Sig. (2-tailed)	.437	.972	
	N	203	203	203

Table 3. Correlation between Individual items

		Individual	Earn fame	Understand the benefits of mutual	Enjoy helping others	Loss of knowledge power	Perceived organizational motives
Individual	Pearson Correlation	1	.701**	.199**	.299**	.454**	.360**
	Sig. (2-tailed)		<.001	.004	<.001	<.001	<.001
	N	203	203	203	203	203	203
Earn fame	Pearson Correlation	.701**	1	-.208**	.016	-.007	.005
	Sig. (2-tailed)	<.001		.003	.818	.921	.944
	N	203	203	203	203	203	203
Understand the benefits of mutual	Pearson Correlation	.199**	-.208**	1	-.081	.076	.061
	Sig. (2-tailed)	.004	.003		.253	.281	.385
	N	203	203	203	203	203	203
Enjoy helping others	Pearson Correlation	.299**	.016	-.081	1	.064	-.057
	Sig. (2-tailed)	<.001	.818	.253		.367	.419
	N	203	203	203	203	203	203
Loss of knowledge power	Pearson Correlation	.454**	-.007	.076	.064	1	.033
	Sig. (2-tailed)	<.001	.921	.281	.367		.643
	N	203	203	203	203	203	203
Perceived organizational motives	Pearson Correlation	.360**	.005	.061	-.057	.033	1
	Sig. (2-tailed)	<.001	.944	.385	.419	.643	
	N	203	203	203	203	203	203

Table 4. Correlation between Organizational items

		Individual	Organizational	Technical
Individual	Pearson Correlation	1	-.071	.055
	Sig. (2-tailed)		.313	.437
	N	203	203	203
Organizational	Pearson Correlation	-.071	1	-.002
	Sig. (2-tailed)	.313		.972
	N	203	203	203
Technical	Pearson Correlation	.055	-.002	1
	Sig. (2-tailed)	.437	.972	
	N	203	203	203

Among the components of the individual factor, the “enjoying helping others” item, with a mean of 4.38 was recognized as the most effective item in knowledge-sharing. On the other hand, “losing the power of knowledge” item, with a mean of 1.60, was identified as the most negative item in this factor.

With regard to the items of organizational factor, the “dependency” item was recognized as the most effective item in knowledge-sharing (3.34±0.59). On the other hand, the “innovation” item, acquired the lowest score in this item (2.50±0.67) which indicates to be an important challenge to knowledge sharing among the scientific board members. 2.54±0.36 was calculated for the single item pertaining to the technical factor (Table 1). Based on results obtained by the present study, no significant relationship was observed among the individual, organizational and technical factors (Table 2).

Finding showed that there was no significant relationship between gender, professional background and educational level.

A direct and significant relationship was observed between all items of individual factor. "Reputation" and "understanding mutual benefits" had a reserve significant relationship with each other, and no other significant relationship was observed in other cases (Table 3). A direct and significant relationship was observed between all items of organizational factor. "Innovation" and "desirability" were of a reserve significant relationship with each other (Table 4).

Discussion

Considering the main objective of the present study, "Solutions and Barriers to Knowledge Sharing in Universities from the viewpoint of the Faculty Members at Guilan University of Medical Sciences," various factors were studied and evaluated through the employed tools. The solutions and barriers to knowledge sharing were determined as per the participants' responses to the questions on individual, organizational and technical factors. According to the comparison made between the three aforementioned factors, organizational factors were identified as the most effective factor.

With regard to the significance of knowledge sharing, it must be claimed that creation of human resources is naturally a social process, and humans' technical skills grow when the learnings of a generation is passed to the next generation so knowledge sharing capability is an important factor to consider when designing human resource management (HRM) practices that help to facilitate successful knowledge sharing behaviors among employees (13). Thus, if we have some perfected nursing skills or have areas of expertise, then we should share that knowledge with those around us and, likewise we should be willing and pleased to gain knowledge and skills from our colleagues around us (12).

Among the many reasons justifying knowledge sharing, decreases in costs, improved performance, improved services provided to customers, reducing the time needed for development of new products, and ultimately, cutting the costs of finding and accessing various valuable types of knowledge inside an organization can be mentioned (2).

Studies conducted on knowledge sharing indicate the complexity and multifaceted nature of this organizational phenomenon (8, 14, 24) who's individual, organizational and technical factors have been evaluated by the present study and through the utilized tools.

Participants' response to questions on the role of individual, organizational, and technical factors in the solutions and barriers to knowledge sharing identify the organizational factors as the most effective factors in this regard. The organizational environment can usually be seen and felt which is considered as product of organizational culture. The impact of culture on knowledge management in international teams is an important topic and culture, and site-specific organizational culture are subtle and not easy to separate from other factors (25).

Regarding the role of individual items, the "enjoying helping others" item, which was addressed by several questions on the pleasure of knowledge sharing with other colleagues at the scientific faculty of university, was recognized as the most significant item in knowledge sharing. Consistent with the results of this study, in Hara study et al, a nurse said she thinks that sharing knowledge is a two-way street, as she share her knowledge, she usually receive some comments and feedback to what she have shared and this back and forth sharing helps her has a better perspective of things and as a result, she gained a better understanding of an issue at the end (19).

In fact, individuals' willingness for knowledge sharing was one of the main subjects and even if individuals remain in the organization, their personal knowledge seems to be inaccessible and unidentifiable, unless there are opportunities and channels available to the personnel for sharing their knowledge with their other colleagues (26).

The majority of participants in the present study stated that they enjoy assisting their colleagues with resolving their problems. In fact, this is considered as a mutual pleasurable relationship as, in addition to the pleasure of sharing knowledge, another individual's problems are resolved. In this regard

Donato Tallo stated "Constant learning and development is essential if we as nurses are to be holistic practitioners" (12). Regarding this issue, "Hooff" maintains that knowledge sharing is beneficial when all personnel need that knowledge in their business or at least put the majority of that knowledge into practice (27). In nursing, lack of knowledge sharing is a critical factor that may have negative consequences both to nurses as well as patients (28).

The knowledge-based view of organisational behavior emphasizes the importance of knowledge for organizations to retain their competitive advantage (13), in contrast, while as per the results obtained by Yazdani et al. in their study on evaluation of the current obstacles, the present communication methods for the purpose of knowledge sharing between the teams seems to be of poor design (1). The difference in study populations can account for such a gap in the results; it is worth to note that Yazdani et al. focused on different organizations, while the present research, with university scientific board members as its study population, and considering their workplace being university, had a greater emphasis on inter-personal relationships.

Also, regarding individual factors, the "fear of losing the power of knowledge" through knowledge sharing acquired the lowest score. This item, seeking participants' opinion on the possibility of losing one's personal power in the organization through sharing one's knowledge, indicated participants' disagreement on this possibility. When individuals are not motivated to share knowledge and there is no reward for them, they tend to hide the knowledge they

possess and do not reveal or share it with others. Subsequent studies on factors relating to knowledge sharing and transfer confirm that the presence of rewards and motivation facilitates knowledge sharing and transfer, while the absence of rewards and motivation hinders the sharing and transfer of knowledge (29) and some of the personnel tend to retain the ownership of their business so as to gain their colleagues' recognition and acclamation. This is while, to improve nursing, nurses must always be willing and eager to share their knowledge and skills (12).

Also, in some cases, the fear of losing one's personal power in the organization posed some barriers to knowledge sharing with other colleagues. For instance, in cases where an individual is of low job security, knowledge is considered as some

leverage, and thus vital, to such individuals. In other words, knowledge is a guarantee against losing one's job. In fact, by the time possession of knowledge constitutes individuals' professional profile, those individuals avoid sharing their knowledge with others (26). In contrast to the results obtained by the present study, in a qualitative study that was accomplished in other country with different culture, a nurse said: "knowledge sharing helps create a stronger identity of nurses" (19).

There is another interpretation for such cases as well: when personnel are not sure about their managers' objectives and intention, even those low- and mid-range personnel tend to retain and hoard their knowledge as they are afraid of not getting promoted when their managers find out that their personnel's knowledge is higher than that of theirs (30). In fact, a strategy for implementing successful organizational KM initiatives requires precise understanding and effective management of the core knowledge infrastructures and processes. This is while that one of the key tasks of the manager will be to find gaps in the current knowledge of nursing practice (28).

The other item in the individual factor which did not acquire a high score as another barrier to knowledge sharing is "the perceived organizational incentives" item. Participants' responses indicate authorities' inattentiveness or underestimation of the significance of knowledge sharing. Considering the fact knowledge sharing has been recognized as one of the behavioral phenomena, proper attention to this issue has been advised and the knowledge sharing and innovation have been subject to many studies in the literature (31).

Research shows the essential role motivation plays as a success factor in knowledge sharing. Knowledge sharing, in its effective form, cannot be forced, but it can be encouraged and facilitated and results showed that no knowledge is shared when it is not willed by the person in possession of the knowledge. The management should seek solutions to removing the barriers and should encourage, motivate, and facilitate knowledge sharing that is important for knowledge sharing success, suggesting its significant role in the design of knowledge-driven HRM practices (13). Conforming to the results of the present study, Yazdani et al. found that it is necessary to pay more attention to motivational policies for creating the incentive in professional personnel, and managers should attempt to keep such personnel for further optimization of knowledge sharing in organizations (1).

Regarding the relationship between all items of the individual factors, a significant and direct relationship between all items and the individual factor was identified. "Reputation" and "understanding mutual benefits" showed a significant inverse relationship. No significant relationship was observed in all other cases. In this regard and despite the fact knowledge sharing is recognized as a promotional strategy for organizations, participants pointed out organizations' lack of reverence for such individuals, while encouraging this strategy in these individuals can lead to the promotion of organization and their intra- and inter-professional relations, which ultimately improves their inter-organizational relationships.

It is also believed that individuals with rare knowledge tend to retain their knowledge as the possession of such rare knowledge empowers them in the organization (29); this can be attributed to their inadequate awareness about the value and benefits of knowledge sharing. Such individuals cannot believe, or have not yet experienced how knowledge sharing brings about benefits for them. Thus, they need to strengthen personnel's spontaneous and innovative motivations and explain the reasons behind such knowledge sharing to them. In contrast to the results obtained by

the present study, findings in "Hara" and "Hew" study that was about Knowledge-Sharing in Community of Health-care Professionals, indicated that more knowledge contribution occurs when members believe that their contribution is unique and when they are given specific-goals. The authors of the possible cause of the difference in outcome consider the cultural difference. In fact, culture is created in how nurses practice and communication among nurses is one part of it (19).

However, the participants of the present study did not agree with the above; that is, they were not afraid of losing their power and role by sharing their knowledge. Similar results obtained by Yazdani et al. also indicate the low weight of "job security" index imposing no barriers to knowledge sharing (1).

Organizational factors/environment which included "desirability," "innovation," and "dependency" indices, emphasized the role of faculty deans' relationship with the scientific faculty members, members' trust in deans' judgments, deans' adequate and equal attention to all members, faculties' support for creating new opportunities for scientific board members, creating an appropriate environment for formation and expression new ideas, and close interpersonal relationships, mingled with sympathy and respect to one another.

In fact, managers pursue, as one of their main objectives, to improve knowledge sharing between individuals within their organization and between individuals and organization; to this end, they need to constantly search about strategies for knowledge sharing between and inside various departments in organizations (26). It is also well recognized that senior managers' support is a key motivator for success, and if individuals know that senior managers support and encourage any tasks geared toward knowledge sharing, they will have greater motivation for sharing their knowledge (32).

In this section, "dependency," which corresponds to all questions on the type of relationships and cooperation between faculty members, was recognized as the most influential item in knowledge sharing. Despite the great body of works on organizational learning and knowledge management, the nature of relationships has been neglected to a large extent among other personal motivations and knowledge sharing in organizations (13); nevertheless, it is worth noting that the very subject of knowledge sharing gives rise to the issue of trust. Lack of trust can obstruct knowledge sharing, while presence of trust in an organization and among its various departments and personnel can facilitate the relational channels between various sections in organizations (33). The way trust is formed between individuals was identified by Shami Zanjani et al. as the most influential factor in members' decision for knowledge sharing (34). The results obtained by Yazdani et al. also showed that the "formal relations in organization" index, and not a close relationship mingled with a sense of trust, among all organizational factors, has created the greatest obstacle to knowledge sharing (1). In fact, if organizations promote rivalry among personnel without encouraging constructive cooperation, distrust will grow within the organization.

"Innovation" acquired the lowest score in this section. This item includes questions on faculties' support to faculty members for finding and creating new opportunities. The low score of this index indicates another important obstacle to knowledge sharing among faculty members. In the study conducted by Yazdani et al., the culture of receiving and welcoming new ideas plays an important role on individuals' decision on knowledge sharing (1). Various studies have shown that open and flexible organizations appropriately facilitate their knowledge sharing procedures (33, 34). In contrast to the results obtained by the present study, in a qualitative study that was accomplished by "Hava" and "Hew", one nurse cited: "sharing knowledge helps me benchmark a lot of practices that I use in my organization". One of the reasons for the difference in outcome is the difference in organizational culture in the two studies (19). The studies have also shown that in organizations where there is no room for innovative ideas, there will be obstacles to knowledge sharing (35).

As per the above, the results indicate that there is a significant relationship between all organizational factors and there is a significant inverse relationship between "desirability" and "innovation." With regard to the technical factors which had only one item relating to technological aspects dealing with the appropriate and accessible technical tools for facilitation of knowledge sharing, no high score was gained which indicates that faculty members were not satisfied with this aspect; thus this can be an obstacle to knowledge sharing, while provision of appropriate infrastructure and adequate resource for facilitation of knowledge sharing activities within and between various sections of organizations constitute the essential pillar for the success of knowledge management programs (35). Other studies have also pointed out the significance of technical and technological factors as well as the necessary resources and equipment (1). Thus, managers need to provide the various up-to-date technical tools and techniques for improving knowledge sharing and encouraging the members (13).

Considering technical factors contained only one item, the study of the relationship between different indices was not possible. The identification of solutions and obstacles to knowledge sharing by the present study and presentation of the result to authorities will hopefully help with removing the current obstacles as much as possible, and thus will lead to the expansion of effective solutions to knowledge sharing aimed at promotion of organizations and the community.

As participants were kept anonymous, no limitations were observed for the expression of opinions. The present study was conducted at Guilan University of Medical Sciences, and considering the cultural and organizational differences in other regions of the country, more precise results demand further studies in other universities all over the country.

Conclusion

As per the results obtained by the present study, evaluation of the relationship between individual, organizational and technical factors in knowledge sharing revealed no significant relationship between the aforementioned factors. Even though some studies indicate that individuals do not tend to receive any knowledge from the opposite gender, individuals younger than oneself, and those with a lower educational level, which can be considered as an individual obstacle to knowledge sharing (16), the lack of any significant relationship between gender, work experience and educational level in the results of the present study might be attributed to the different cultural grounds and proportional similarity shared by the participants of the present study. As stated by Riege, "differences in national cultures, values and beliefs is one of the effective factors in knowledge sharing" (17).

Acknowledgements

The authors would like to express their gratitude to the vice chancellor Guilan University of Medical Sciences, Rasht, Iran. Also, we thank all faculty members in Guilan University of Medical Sciences for their support and taking part in this study.

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How to Cite:

Mohammadreza Mahmoudi, Parand Pourghane. Knowledge Sharing in University from the viewpoint of the Faculty Members. *Journal of Research Development in Nursing & Midwifery*, 2020; 17(2): 15-19