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Knowledge sharing in healthcare centers:
practices and influences
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Abstract

The desire to improve health services provided to citizens in Saudi Arabia increases the need to encourage health practitioners to share their knowledge with peers. Unfortunately, there is no evidence that information and knowledge are shared in healthcare sectors. This study thus investigates the practice of knowledge sharing by workers and practitioners in primary healthcare centers. The influence of technology and management support in dissemination of the culture of knowledge sharing is also studied. The findings revealed that the staff in healthcare centers have a positive perception toward the importance of knowledge sharing in the work environment Workers have the desire to exploit all available potentials to transfer, exchange, and provide new knowledge within these centers. However, some factors were found to be barriers to sharing knowledge. Such factors include management-level discouragement of such knowledge sharing as well as a lack of technology that supports knowledge management and sharing. Therefore, employees depend on their own efforts to share knowledge and apply it in the work place.

Keywords:

Information Sharing, Healthcare, In Formation Management, Knowledge Sharing, Health Information

1. Introduction

We have long heard the phrase "knowledge is power." This expression means that knowledge is a major part of people's lives. When looking to knowledge in practice, we can clearly note its ability to form the best model in social, economic, political, and educational activities. The continuous increase in innovations and technological development mostly comes through the accumulated knowledge transmitted between humans. However, one of the most important problems associated with knowledge is the difficulty of finding the right type. This can be solved by sharing research results with others, who may then build on previous work to move knowledge forward.

Knowledge sharing can be defined as the exchange of knowledge between and among individuals, groups, and organizations, and it is a way for the organization to make effective use of the volume of knowledge retained by its members (Swacha, 2015). Knowledge sharing can be shaped and expressed by a variety of forms and factors such as motivation, social relationships, and organizational culture (Trivellas, Akrivouli, Tsifora, & Tsoutsa, 2015). To spread a culture of sharing, organizations need to encourage employees to work together effectively and share a certain knowledge base in order to arrive at the same understanding (Rexhepi, 2015). When tacit and explicit knowledge is rapidly disseminated and shared with team members, health professionals can enhance the team's decision-making skills on care actions, which will directly affect the quality of healthcare delivery (Rocha *et al*., 2012).

2. Research problem

The health sector in Saudi Arabia has received great attention by the government and decision-makers to provide advanced healthcare. There is a desire to improve the health services provided to citizens (MENA Report, 2014). Health practitioners need to develop their skills to be part of the achievement of the goals of health institutions. Among the most prominent means of

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development is accessing the latest information and resources and sharing these with peers. Knowledge sharing can help health professionals update themselves and deliver quality healthcare services. However, evidence that information and knowledge are shared in health sectors in Saudi Arabia is lacking. This study thus investigates the perception and practice of knowledge sharing by workers and practitioners in primary healthcare in Saudi Arabia.

3. Research questions
To investigate the stated problem, the following research questions were formulated:
RQ1. In which ways do primary health centers share knowledge?
RQ2. Does management provide support and encouragement for knowledge sharing?
RQ3. What efforts do health practitioners make to obtain knowledge and share it with others?
RQ4. What is the perceived value of knowledge sharing in the work environment from the perspective of the health workforce?
RQ5. What technology is available for the health workforce to share knowledge and information?

4. Literature review
Knowledge sharing, as an important part of the knowledge management system, means that an individual, team, or organization shares knowledge with other members in the form of activities in various ways (Navimipour & Charband, 2016). It is a learning activity with which people not only professionalize themselves, but contribute to the professional development of their colleagues as well (Runhaar & Sanders, 2015). Knowledge sharing also affects the long-run performance of organizations (Akram & Bokhari, 2011; Masa'deh & Gharaibeh, 2013; Obeidat, Masa'deh, & Abdallah, 2014).

Despite the importance of knowledge sharing, organizations sometimes face difficulties in the deployment of this culture in

the work environment, such as the absence of trust among members or insufficient incentives rewarded to those who deserve it (Tan, 2015). Abrams, Cross, Lesser, and Levin (2003) stated that in order for professionals and specialists to be known as reliable sources of knowledge, they should disclose their expertise and limitations by clarifying what they know and do not know. Managers could play a role in reducing some difficulties through the encouragement of formal and informal communication, learning exchange, and putting knowledge into practice (Al Saifi, Dillon, & McQueen, 2016).

In the healthcare setting, knowledge sharing practices can be effectively institutionalized within an organization with the aid of institutional structures (Yong-Mi, Newby-Bennett, & Song, 2012). Healthcare organizations have recently realized that medical knowledge not only needs to be managed but also shared among professionals and patients. Indeed, knowledge sharing in the healthcare industry may no longer be a "nice to have" process (Tabrizi & Morgan, 2014). Therefore, the Knowledge for Health (K4Health) project uses a knowledge sharing and capacity building approach to improving health services (Ahmed, Limaye, & Harlan, 2015). However, organizations may face obstacles to disseminate a knowledge sharing culture. One major dimension of this problem relates to the fragmentation of care, with a lack of communication and coordination between the different physicians involved creating inefficiency as well as potentially serious quality breakdowns (Marabelli, Newell, Krantz, & Swan, 2014). Other barriers such as power/political issues, clinical management conflicts, a lack of trust, and a lack of leadership make knowledge sharing difficult in healthcare (Nicolini, Powell, Conville, & Martinez-Solano, 2008).

Although the importance of knowledge sharing has become evident, this subject in Saudi Arabia has received very little attention. In a study investigating knowledge sharing at Taif University (Althinibat, Albuqoor, & Alotaibi, 2011), the authors found a positive view among faculty members toward knowledge sharing in that they are willing to share their knowledge and

expertise with peers if there is an appropriate environment and positive encouragement. However, some obstacles may reduce the practice of sharing; for example, the absence of a clear and explicit system determines the importance and type of knowledge sharing that can be exchanged (Albadry & Arif, 2013).

5. Methodology

Health services at the primary healthcare centers in the city of Riyadh are provided by dividing the city into five health sectors: northern, western, eastern, southern, and middle. This study examined workers in the northern health sector. A quantitative research approach was adopted to investigate knowledge sharing in the health environment. This required the development and dissemination of a questionnaire survey, which was distributed to 112 physicians and paramedics working at primary healthcare centers in the northern health sector. The main goal of the questionnaire was to gather two types of information: (i) perceptions of participants toward sharing health knowledge in the work environment and (ii) the role of administration in the process of supporting and encouraging knowledge sharing among employees.

6. Data Analysis and Results

The descriptive statistics of each variable of the study are used to investigate sharing information in primary healthcare centers. The percentage for each survey item is reported in the tables that follow. The results are divided into categories that address the previously mentioned issues, namely the demographic characteristics of participants, perceptions toward sharing knowledge in the work environment, and administration support and encouragement for employees to share knowledge.

The data gathered were analyzed on a five-point Likert scale. Strongly disagree was scored as one (1), disagree as two (2), neutral as three (3), agree as four (4), and strongly agree as five (5). Similarly, never was scored as one (1), rarely as two (2),

sometimes as three (3), often as four (4), and always as five (5). The mean of the answers from the test questionnaire was calculated for each question or statement. The mean obtained was interpreted based on the scale in Table 1.

Table 1. Scale used to interpret the data

Mean	Verbal Interpretation
4.20 – 5.00	Strongly Agree/Always
3.40 – 4.19	Agree/Often
2.60 – 3.39	Neutral/Sometimes
1.80 – 2.59	Disagree/Rarely
1.00 – 1.79	Strongly Disagree/Never

As shown in Table 2, the gender distribution revealed a higher female participation than male (76.1%). Participants were asked to identify their job title to which almost half (48.2%) identified technician. The remainder reported 16.1% as specialist, 14.3% as pharmacist, 14.3% as physician, 3.6% as clerk, and 3.6% as other job titles. Participants were also asked to identify their discipline. The findings highlight the diversity of specialty. Nursing (39.2%) was the most frequently reported discipline, with laboratory (21.2%) the next most frequent. Diversity was also evident in the length of time participants had spent in the workforce. As shown in Table 2, (35.7%) reported working for five years or less, 33.9% from six to 10 years, 17.9% more than 15 years, and the fewest participants had worked from 11 to 15 years.

Table 2. Demographic characteristics

Variable	Characteristics	Percentage
Gender	Female	76.8
	Male	23.2
Job title	Pharmacist	14.3
	Physician	14.3
	Technician	48.2
	Clerk	3.6
	Specialist	16.1
	Other	3.6

Specialty	Nursing	39.2
	Laboratory	21.2
	Dentistry	7.1
	Pharmacy	14.6
	Nutrition	0
	Radiology	1.8
	General	5.4
	Other	10.7
Years in Practice	≤ 5 years	35.7
	6–10 years	33.9
	11–15 years	12.5
	>15 years	17.9

6.1. RQ1. In which ways do primary health centers share knowledge?

Table 3 shows the opinions of participants on the frequency of each method that health centers use to share knowledge. The dissemination of health information and making it available to others was found to be the most often used sharing method among health centers (mean=3.42). However, the general result of the construct indicated that knowledge sharing is sometimes practiced by the centers (mean=2.83).

Table 3. Ways of knowledge sharing by primary health centers

Statements of construct	Always	Often	Sometimes	Rarely	Never	Mean	SD
Requesting necessary information from other centers	10.7	16.1	46.4	12.5	14.3	3.03	1.13
Offering information to other centers	25	14.3	35.7	8.9	16.1	2.76	1.35
Dissemination of health information and making it available to others	8.9	17.9	23.2	21.4	28.6	3.42	1.31

Preparing lectures and workshops	16.1	23.2	23.2	21.4	16.1	2.98	1.32
Provision of a journal or website for the dissemination of research and studies	55.3	16.1	16.1	1.8	10.7	1.96	1.32
Result of the construct						2.83	.95

6.2. RQ2. Does management provide support and encouragement for knowledge sharing?

According to participants' answers (Table 4), administration does not seem to play a satisfactory role in supporting knowledge sharing. Although providing lectures and participating in scientific activities outside the center are allowed (mean=3.42), the overall result indicates that administration does not play an important role in this regard. Participants are neutral toward the opinion that administration encourages knowledge sharing among employees (mean=3.05).

Table 4. Administration support and encouragement for sharing knowledge

Statements of construct	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Mean	SD
The environment in the center is appropriate to share knowledge	23.2	10.7	32.1	21.4	12,5	2.89	1.32
Incentives are provided to employees for sharing knowledge	33.9	14.3	12.5	19.6	19.6	2.76	1.56
Sharing knowledge is considered by administration in the annual	19.6	14.3	19.6	26.8	19.6	3.12	1.40

performance evaluation of employees							
Providing lectures and participating in scientific activities outside the center are allowed	14.3	5.4	23.2	37.5	19.6	3.42	1.27
Result of the construct						3.05	1.21

6.3. RQ3. What efforts do health practitioners make to obtain knowledge and share it with others?

As Table 5 shows, participants make efforts to share knowledge with others. These efforts vary, as communication with experts to take advantage of their knowledge ranks in first place among these efforts. Overall, the mean of this construct is 3.58, which means that participants often make efforts to exchange knowledge with others.

Table 5. Efforts taken to obtain and share knowledge

Statements of construct	Always	Often	Sometimes	Rarely	Never	Mean	SD
I take the initiative to raise issues and brainstorm scientific issues with my colleagues	10.7	7.1	37.5	21.4	23.2	3.39	1.22

I attend traditional and virtual discussion forums and workshops	8.9	14.3	28.6	25.0	23.2	3.39	1.24
I am keen to join interest groups to exchange knowledge and interact with others	10.7	5.4	19.6	35.7	28.6	3.66	1.24
I communicate with experts to take advantage of their experience	7.1	3.6	21.4	30.4	37.5	3.87	1.17
Result of the construct						3.58	1.04

6.4. RQ4. What is the perceived value of knowledge sharing in the work environment from the perspective of the health workforce?

Participants have a positive perception toward the importance of knowledge sharing in the work environment (mean=4.12). The answers of the construct items range between agree and strongly agree with a mean range from 3.98 to 4.37. Table 6 shows that the item "Sharing knowledge helps raise the level of my performance and functional skills" is the highest.

Table 6. Perceived value of knowledge sharing in the work environment

Statements of construct	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Mean	SD
Mutual knowledge contributes to the achievement of quality and development of work	5.4	5.4	7.1	35.7	46.4	4.12	1.10
Sharing knowledge helps raise the level of my performance and functional skills	5.4	1.8	5.4	25.0	62.5	4.37	1.04
Knowledge sharing supports the design and development of systems and procedures in the work environment	10.7	1.8	7.1	39.3	41.1	3.98	1.23
The exchange of knowledge makes me more aware of the news and activities of work locally and abroad	5.4	1.8	14.3	41.1	37.5	4.03	1.03
Result of the construct						4.12	1.03

6.5. RQ5. What technology is available for the health workforce to share knowledge and information?

When the technology provided to the workforce to share knowledge was examined, it was found that participants believe that technology is not provided adequately (Table 7). This was reflected in average mean scores for the questionnaire statements (mean=2.91). The highest mean scores were found for the statements, "The Internet is provided to facilitate the process of knowledge communication within the center" (mean=3.21), which means that Internet access is not given to everyone. Other statements received lower mean scores. For example, it was observed that electronic archives are not commonly provided (mean=2.67).

Table 7. Available technology for the health workforce

Statements of construct	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Mean	SD
The Internet is provided to facilitate the process of knowledge communication within the center	23.2	16.1	10.7	16.1	33.9	3.21	1.60
Administration provides email services to facilitate communication between employees	25.0	17.9	8.9	23.2	25.0	3.05	1.55
Digital libraries and databases are provided to facilitate access to information and knowledge	26.8	21.4	19.6	17.9	14.3	2.71	1.40

Statements of construct	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Mean	SD
Electronic archives are provided to preserve information resources and retrieve them when needed	32.0	17.9	16.1	17.9	16.1	2.67	1.48
Result of the construct						2.91	1.38

7. Discussion

The findings of this study revealed that the staff in healthcare centers has a positive perception toward the importance of knowledge sharing in the work environment. This result is in agreement with earlier research (Manaf & Marzuki, 2014; Chalak, Ziaei, & Nafei, 2014; Daniel, 2015) that found that the awareness of knowledge sharing has been rising among employees in organizations. This can facilitate sharing scientific knowledge and help encourage employees to cooperate to exchange information that can solve the problems they face. According to Bock, Zmud, Kim, and Lee (2005), trust among employees is an important factor that influences knowledge sharing in the work setting. Further, Wu and Zhu (2012) found that perceived enjoyment in helping others has a positive effect on the knowledge worker's attitude toward knowledge sharing.

Although previous results have indicated that participants are aware of the importance of sharing knowledge with others, it was found that sharing is not commonly practiced. One explanation could be that administration does not play an important role in this regard despite a previous study finding that managers play a key role in the knowledge sharing process (Gaál, Szabó, Obermayer-Kovács, & Csepregi, 2012). Moreover, conscious administration encourages explicit communication networks and

a spirit of trust, enabling the transmission and sharing of knowledge (Slater & Naver, 1995). Mushtaq and Bokhari (2011) stated that it has become commonplace to claim that leadership plays an effective role in knowledge creation, sharing, and exploitation. To overcome the lack of encouragement by administration, employees in health centers depend on their own efforts to share knowledge and apply it in the work environment. However, relying on informal and own efforts to spread a knowledge sharing culture in any organization is inefficient. Therefore, the authorities in Saudi Arabia should integrate knowledge sharing activities into daily work and involve all employees so that they feel responsible for applying these activities.

Another result indicated that technology relating to knowledge sharing is not provided adequately in health centers. Research has stated that technology is a major factor to unlocking new pathways for knowledge transfer and maintaining knowledge sharing (Garcia-Perez & Ayres, 2010; Oye, Salleh, & Noorminshah, 2011; En, 2011). ICT is a major component to managing knowledge effectively in organizations. Therefore, decision-makers should provide the Internet, email, digital libraries, and electronic archives to all workers in healthcare organizations and encourage them to use these for scholarly communication.

8. Conclusion

Knowledge sharing has become an important activity in health sectors for increasing the scientific and cognitive skills of professionals and practitioners. It also helps in the development of services and rapid spread of new innovations. Institutions of all kinds must thus encourage employees to transfer the knowledge and science they generate or gain to their peers.

The present study addressed the sharing of knowledge in health centers from the perspective of employees. The most significant finding is the presence of the awareness of the importance of sharing knowledge among workers in health centers. Workers

have the desire to exploit all available potentials to transfer, exchange, and provide new knowledge within these centers. However, some factors were found to be barriers to sharing knowledge, such as administration discouragement and the lack of technology that supports knowledge management. For this reason, the authorities of the health sector in Saudi Arabia should try to overcome these difficulties by disseminating a knowledge sharing culture, emphasizing its importance among managers in health centers, and giving them powers to reward workers who produce and share knowledge with their colleagues. In addition, it is necessary to provide technologies and applications that support the sharing of knowledge through storing, retrieving, and dissemination.

References

Abrams, L. C., Cross, R., Lesser, E., & Levin, D. Z. (2003). Nurturing interpersonal trust in knowledge sharing networks. *Academy of Management Executive, 17*(4), 64-77.

Ahmed, N., Limaye, R. J., & Harlan, S. V. (2015). A multilevel approach to knowledge sharing: Improving health services for families and children. *Annals of Anthropological Practice. 39*(2), 192-204.

Akram, F., & Bokhari, R. (2011). The role of knowledge sharing on individual performance, considering the factor of motivation-the conceptual framework. International Journal of Multidisciplinary Sciences and Engineering, 2(9), 44-48.

Al Saifi, S., Dillon, S., & McQueen, R. (2016). The relationship between management support and knowledge sharing: An exploratory study of manufacturing firms. *Knowledge and Process Management*, *23*(2), 124-135.

Albadry, A. & Arif, M., (2013). The role of knowledge sharing in the scientific councils in Saudi universities: An empirical study. *Journal of King Fahad National Library, 19*(2), 371-390.

Althinibat, M., Albuqoor, K., & Alotaibi, M. (2011). Knowledge sharing at the University of Taif: Proposed framework to development knowledge management from the perspective of the faculty members. *Scientific Journal, 51*, 200-239.

Bock, G. W., Zmud, R. W., Kim, Y. G., & Lee, J. N. (2005). Behavioral intention formation in knowledge sharing: Examining the roles of extrinsic motivators, social-psychological forces, and organizational climate. *MIS Quarterly, 29*(1), 87-111.

Chalak, A. M., Ziaei, S., & Nafei, R. (2014). A survey of knowledge sharing among the faculty members of Iranian library and information science (LIS) departments. *Library Philosophy and Practice*.

Daniel, A. (2015). Knowledge sharing among librarians in university libraries in Nigeria. *Information and Knowledge Management, 5*(2), 31-36.

En, L. S. (2011). *Factors influencing knowledge sharing intention in higher education institution* (Doctoral dissertation, Master Dissertation. University Technology Malaysia).

Gaál, Z., Szabó, L., Obermayer-Kovács, N., & Csepregi, A. (2012). Middle managers' maturity of knowledge sharing: Investigation of middle managers working at medium-and large-sized enterprises. *Electronic Journal of Knowledge Management, 10*(1), 26-38.

Garcia-Perez, A., & Ayres, R. (2010). Wikifailure: The limitations of technology for knowledge sharing. *Electronic Journal of Knowledge Management*, *8*(1), 43-52.

Manaf, H. A., & Marzuki, N. A. (2014). The roles of personality in the context of knowledge sharing: A Malaysian perspective. *Asian Social Science, 10*(1), 138-150.

Marabelli, M., Newell, S., Krantz, C., & Swan, J. (2014). Knowledge sharing and health-care coordination: The role of creation and use brokers. *Health Systems, 3*(3), 185-198.

Masa'deh, R., & Gharaibeh, A. (2013, March 25-26), Antecedents and outcomes of knowledge sharing: a proposed causal model on Jordanian telecommunication firms, Proceedings of the 20th IBIMA Conference on Entrepreneurship Vision 2012: Innovation, Real Estate Investment, Development Sustainability, and Economic Growth, Kuala Lumpur.

MENA Report (2014). Saudi Arabia: Big development in Saudi health care. Retrieved from http://search.proquest.com/docview/1507479148?accountid=142908.

Mushtaq, R., & Bokhari, R. H. (2011). Knowledge sharing: Organizational culture and transformational

leadership. *Journal of Knowledge Management Practice, 12*(2).

Navimipour, N. J., & Charband, Y. (2016). Knowledge sharing mechanisms and techniques in project teams: Literature review, classification, and current trends. *Computers in Human Behavior*, *62*, 730-742.

Nicolini, D., Powell, J., Conville, P., & Martinez-Solano, L. (2008). Managing knowledge in the healthcare sector: A review. *Journal of Management Reviews, 10*(3), 254-263.

Obeidat, B., Masa'deh, R., & Abdallah, A. (2014). The relationships among human resource management practices, organizational commitment, and knowledge management processes: A structural equation modeling approach. International Journal of Business and Management, 9(3), 9-26.

Oye, N. D., Salleh, M., & Noorminshah, A. (2011). Knowledge sharing in workplace: Motivators and demotivators. *International Journal of Managing Information Technology, 3*(4), 71-84.

Rexhepi, H., (2015). *Improving healthcare information systems: A key to evidence based medicine*. Informatics. Licentiate Dissertation.

Rocha, E. S. B., Nagliate, P., Furlan, C. E. B., Rocha Jr, K., Trevizan, M. A., & Mendes, I. A. C. (2012). Knowledge management in health: A systematic literature review. *Revista latino-americana de enfermagem*, *20*(2), 392-400.

Runhaar, P., & Sanders, K. (2015). Promoting teachers' knowledge sharing: The fostering roles of occupational self-efficacy and human resources management. *Educational Management Administration & Leadership, 44*(5), 794-813.

Slater, S. F., & Naver J. C. (1995). Market orientation and the learning organization. *Journal of Marketing, 59*(3), 63-74.

Swacha, J. (2015). Gamification in knowledge management: Motivating for knowledge sharing. *Polish Journal of Management Studies*, *12*(2), 150-160.

Tabrizi, N. M., & Morgan, S. (2014). Models for describing knowledge sharing practices in the healthcare industry: Example of experience knowledge sharing. *International Journal of Management and Applied Research*, *1*(2), 48-67.

Tan, C. N. L. (2015). Enhancing knowledge sharing and research collaboration among academics: The role of knowledge management. *Higher Education*, *71*(4), 525-565.

Trivellas, P., Akrivouli, Z., Tsifora, E., & Tsoutsa, P. (2015). The impact of knowledge sharing culture on job satisfaction in accounting firms. The mediating effect of general competencies. *Procedia Economics and Finance, 19*, 238-247.

Wu, Y., & Zhu, W. (2012). An integrated theoretical model for determinants of knowledge sharing behaviours. *Kybernetes, 41*(10), 1462-1482.

Yong-Mi, K., Newby-Bennett, D., & Song, H. (2012). Knowledge sharing and institutionalism in the healthcare industry. *Journal of Knowledge Management, 16*(3), 480-494.