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Evaluating knowledge management practices in a hospital pharmacy: A comprehensive investigation

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Abstract

Background: Knowledge management practices in healthcare settings play a crucial role in improving patient care quality and operational efficiency. However, the understanding and implementation of these practices in Oshakati Hospital pharmacy, Namibia, remain unclear.

Methods: A structured questionnaire was administered to 26 participants, including pharmacists, pharmacist interns, and pharmacist assistants, to assess knowledge-sharing frequency, documentation practices, technology effectiveness, and the overall knowledge management effectiveness.

Results: The study found no significant relationship between work experience and knowledge management practices, indicating potential gaps in understanding and implementation of knowledge management strategies. Participants showed moderate attitudes towards knowledge sharing, with technology perceived as moderately effective in facilitating knowledge management.

Conclusion: Enhancing knowledge management practices at Oshakati Hospital pharmacy is crucial to address existing gaps, improve collaboration, and elevate pharmaceutical care standards in the region. Implementing a comprehensive health information system and integrating innovative technologies can enhance knowledge extraction and patient interactions, ultimately improving healthcare outcomes.

Keywords: Knowledge Management; Healthcare; Pharmacy; Namibia; Technology; Patient Care.

1. Introduction

1.1. Background

Efficient Knowledge Management (KM) in pharmacy settings is crucial for improved patient care, safety, and organizational success in the ever-changing healthcare field. The Oshakati Hospital pharmacy in Namibia must adapt its knowledge management processes to meet the changing needs of the healthcare sector. A strong knowledge management system is crucial due to the growing complexity of pharmacological treatment and the need for smooth information flow. According to Mazorodze and Buckley [1], most organizations in Namibia, including government departments, educational institutions, healthcare facilities, and small and medium companies, have a limited understanding of and poorly practice Knowledge Management.

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Knowledge management is the process of managing the development, archiving, accessibility, and distribution of the institution's intellectual capital [2]. Although knowledge management is recognized as important, a full understanding of the existing processes at Oshakati Hospital pharmacy is still unclear. Namibia's public health facilities are considered substandard by both the public and healthcare practitioners due to congestion in the outpatient unit, lengthy lineups, and extended waiting periods, all of which are seen as signs of inadequate patient care quality [3]. In their work, Bare et al. [4] concluded that the primary obstacles to achieving the best hospital pharmacy services are linked to insufficient human resources, lack of coordination among healthcare professionals, and policy deficiencies. The insufficient investigation of how often knowledge is shared, documentation methods, and technology use may hinder the attainment of maximum operational efficiency and quality results.

Given the many responsibilities in the pharmacy team, it is crucial to identify possible differences in knowledge management procedures across various positions and levels of expertise. Oshakati Hospital pharmacy needs to address these gaps in knowledge management research to proactively adapt to new difficulties, improve collaboration, and effectively use technology improvements. This study aims to investigate the complexities of knowledge management practices at Oshakati Hospital pharmacy systematically to address current gaps. It aims to provide practical insights to inform strategic improvements, foster a culture of continuous learning, and ultimately elevate pharmaceutical care standards in the region.

1.2. Objectives

- To examine the frequency and efficacy of knowledge-sharing methods among Oshakati Hospital pharmacy personnel.
- To assess the effectiveness of pharmacy staff in documenting vital information and assess the accessibility of this recorded data within the pharmacy.
- To examine the frequency of utilizing technical tools such as digital databases or intranet systems for knowledge management and assess their perceived effectiveness.
- To examine if work experience of the pharmacy staff affect their utilization of knowledge management strategies.

2. Methods

2.1. Study Design

A cross-sectional survey was carried out on the hospital pharmacists, pharmacist interns, and pharmacist assistants. This cross-sectional survey design offered a concise assessment of knowledge management procedures at Oshakati Hospital pharmacy, delivering crucial quantitative data for the study.

2.2. Sampling

All the pharmacy staff members took part in the survey. There were 13 pharmacists, 8 pharmacist assistants and 5 pharmacist interns.

2.3. Survey Development

A structured questionnaire with closed-ended questions was developed, focusing on key knowledge management areas of knowledge-sharing, documentation, and use of technology.

2.4. Data collection

The survey was administered in person, ensuring confidentiality. Demographic information and responses related to knowledge management practices were collected.

2.5. Data Analysis

Data were analyzed using PSPP software. Descriptive statistics were used to identify trends, patterns, and statistical significance in knowledge management practices.

2.6. Ethical consideration

The data collected was anonymized and respondents were assured of confidentiality. Approval was obtained from the hospital research ethics committee.

3. Results

3.1. Features

There were 26 participants- 21 females (80.8%) and 5 males (19.2%). The participants constituted 13 pharmacists (50%), 8 pharmacist assistants (31%), and 5 pharmacist interns (19%). Their work experience ranged from less than 1 year to over ten years. There was a 100% response rate. The study features are displayed in Table 1 below: The study examined 13 variables concerning knowledge management practices. These variables include work experience, knowledge-sharing frequency, communication effectiveness, collaboration effectiveness, knowledge-sharing effectiveness, knowledge sharing, communication effectiveness, documentation, collaboration effectiveness, accessibility of knowledge documents, technology utilization, supportiveness of technology, effectiveness of the technology, and the overall perception of knowledge management effectiveness. The statistics are shown in

Table 1 Study features

Row Labels	**Count of Participant**	**Percentage**	**Gender**					
P	13	50%			Frequency	Percent	Valid Percent	Cumulative Percent
F	9	35%	Valid	Male	5	19.20 %	19.20 %	19.20%
M	4	15%		Female	21	80.80 %	80.80 %	100.00%
PA	8	31%	Total		26	100.00 %		
F	7	27%						
M	1	27%	**P**=Pharmacist					
PI	5	19%	**PA**=Pharmacist Assistant					
F	5	19%	**PI**=Pharmacist Intern					
Grand Total	26	100%						

Table 2 Variable statistics

Statistics

		Work experience-	Knowledge sharing frequency	Intention	Knowledge sharing effectiveness	DocUsage	Techstrategy	Overall perception on knowledge management effectiveness-
N	Valid	26	26	26	26	26	26	26
	Missing	0	0	0	0	0	0	0
Mean		2.15	3.35	2.81	2.85	2.81	2.77	2.65
Mode		1-5 years	Occasionally	3.00	Moderately effective	2.00	3.00	Good
Std Dev		1.01	1.06	.94	1.01	.98	.86	.75

3.2. Work experience

The majority of the participants (34.6%) had 1-5 years of work experience followed by less than 1 year (30.8%). 23.1% of the respondents had between 6-10 years of work experience while 11.5% had above 10 years of working experience.

3.3. Knowledge-sharing frequency

Half of the respondents indicated that they only occasionally share relevant knowledge and information with colleagues. Four participants (15.4%) frequently share knowledge, 19.2% always share knowledge while 1 participant never shares relevant knowledge at all.

3.4. Knowledge sharing inclination

Perception towards knowledge-sharing effectiveness, inclination towards communication, and inclination towards collaboration were merged into one composite variable of knowledge-sharing intention. The majority of the participants (46.2%) have a moderate attitude toward knowledge sharing. Six participants had a high level (score of 4) towards knowledge exchange intention. Five respondents (19.2%) had the strongest intention to share knowledge with 11.5% having the lowest appetite to exchange knowledge

3.5. Knowledge documentation

The majority of the respondents (34.6%) stated that they only rarely document and access knowledge-sharing files and 26.9% occasionally do so. Eight of them (30.8%) frequently document knowledge sharing and 7.7 % neither document nor locate knowledge sharing documents always.

3.6. Technology effectiveness

This encompasses technology utilization, the extent to which technology is considered supportive, and the overall effectiveness of technology. Most of the participants (46.2%) believe technology is moderately effective in facilitating knowledge management. Those who perceive technology to be somewhat effective are 26.9% while 19.2% and 7.7% view technology as very effective and not effective, respectively.

3.7. Overall perception of knowledge management effectiveness

The majority (46.2%) of the professionals think knowledge management practices are just good while 38.5% think they are fair. Three professionals (11.5%) think that the practices are very good and 3.8 % think they are poor.

Table 3 Perception of the knowledge management practices

Overall perception of knowledge management effectiveness

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Poor	1	3.8%	3.8%	3.8%
	Fair	10	38.5%	38.5%	42.3%
	Good	12	46.2%	46.2%	88.5%
	Very good	3	11.5%	11.5%	100.0%
Total		26	100.0%		

3.8. Correlations

The correlations among the variables are shown in Table 4. There is no significant correlation between work experience and any of the variables. There is a notable positive correlation between frequency, intention, and effectiveness of knowledge-sharing. Another significant positive correlation is observed between document usage and retrieval, and the overall perception.

3.9. Internal consistency

The reliability of the study was assessed through the Cronbach alpha which yielded a score of 0.82 as shown in table 4.

Table 4 Cronbach alpha computation

Case Processing Summary

Cases	N	Percent
Valid	26	100.0%
Excluded	0	.0%
Total	26	100.0%

Reliability Statistics

Cronbach's Alpha	N of Items
.82	13

Table 5 Correlation between variables

Correlations

		Work experience-	Knowledge sharing frequency	Intention	DocUsage	Techstrategy	Knowledge sharing effectiveness-	Overall perception on knowledge management effectiveness-
Work experience	Pearson Correlation	1.000	.324	.371	-.050	-.050	.339	-.033
	Sig. (2-tailed)		.107	.062	.809	.810	.090	.874
	N	26	26	26	26	26	26	26
Knowledge sharing frequency	Pearson Correlation	.324	1.000	.796[a]	.260	.003	.729[a]	.108
	Sig. (2-tailed)	.107		.000	.200	.987	.000	.601
	N	26	26	26	26	26	26	26
Intention	Pearson Correlation	.371	.796[a]	1.000	.306	.091	.982[a]	.301
	Sig. (2-tailed)	.062	.000		.129	.658	.000	.135
	N	26	26	26	26	26	26	26
DocUsage	Pearson Correlation	-.050	.260	.306	1.000	.135	.333	.617[a]
	Sig. (2-tailed)	.809	.200	.129		.512	.096	.001
	N	26	26	26	26	26	26	26
Techstrategy	Pearson Correlation	-.050	.003	.091	.135	1.000	.142	.431[a]
	Sig. (2-tailed)	.810	.987	.658	.512		.490	.028
	N	26	26	26	26	26	26	26
Knowledge sharing effectiveness	Pearson Correlation	.339	.729[a]	.982[a]	.333	.142	1.000	.352
	Sig. (2-tailed)	.090	.000	.000	.096	.490		.077
	N	26	26	26	26	26	26	26
Overall perception on knowledge management effectiveness	Pearson Correlation	-.033	.108	.301	.617[a]	.431[a]	.352	1.000
	Sig. (2-tailed)	.874	.601	.135	.001	.028	.077	
	N	26	26	26	26	26	26	26

a. Significant at .05 level

4. Discussion

This study examined knowledge management practices at Oshakati Hospital from the perceptions of pharmacists, pharmacist interns, and pharmacist assistants. This research found no relationship between work experience and knowledge management practices. This finding is in sharp contrast with some studies [5, 6, 7] who state that people and institutions undoubtedly acquire knowledge via experience, gradually learning about themselves, their operations, and their clients. The success of learning from experience depends on the context and individual factors [8]. However, the results of this research are supported by [9], who found that demographic attributes, including experience and education, have no impact on knowledge sharing.

The lack of association between experience and knowledge management practices could be a reflection of poor understanding and implementation of knowledge management and a lack of elaborate strategies to do so. On the other hand, it could be a manifestation of knowledge hiding by the experienced staff to stay relevant. Research in the literature has shown that concealment and emotional ownership of information are the primary factors contributing to knowledge hiding inside organisations [10]. Concealing knowledge is highly likely to decrease the effectiveness of sharing

information among people, hinder the development of new concepts, undermine trust, increase the risk of knowledge loss, and inhibit the innovative thinking of individuals and teams [11]. An adverse and harmful work environment may cause workers to exhibit counter productivity, incivility, and hostility [10], leading to knowledge concealment.

The majority of the professionals only share knowledge occasionally, while a handful do so frequently. People may view sharing knowledge as an expensive social activity and a risky interaction for the reason that they run the potential danger of receiving a poor evaluation from their peers [12]. This study found a positive relationship between both the intention to share knowledge and the sharing frequency and the effectiveness. Kuusinen et al. [13] demonstrated a clear correlation between how often knowledge-sharing procedures are used and the level of ease encountered while transferring knowledge to colleagues. Accessibility can also indirectly impact information exchange. Holdt Christensen and Pedersen [12] indicate that proximity significantly influences the establishment of relationships because when humans engage, they are more inclined to develop good feelings toward each other, leading to the transformation of geographically close ties into intimate friendships.

Most of the pharmacy professionals have a moderate inclination towards knowledge-sharing. The desire to disseminate knowledge reflects a person's aim to impart information to others, stemming from a relationship or engagement with other people, which is demonstrated through conduct [14]. According to Weijs-Perrée et al. [15], the structure and layout of professional work environments can impact communication trends and data dissemination. This implies that the pharmacy processes, standard operating procedures and workflows should support knowledge-sharing, an important component of knowledge management. A supportive work environment leads to job satisfaction. Individuals' willingness to share their knowledge is significantly influenced by the degree of job security they have [16]. The effective execution of knowledge-sharing practices inside an organization is evidence that the organization is proficient in the management of knowledge [14].

Employee collaboration and enthusiasm for sharing ideas are crucial for enhancing organizational success [1]. Knowledge sharing attitude is a crucial step in creating valuable knowledge assets for an organization's service quality, often initiated by a willingness to share expertise [14]. Since sharing knowledge and transferring it leads to the creation of novel concepts, enhances efficiency in operations, and maintains staff motivation [1], the pharmacy must design an elaborate knowledge management program that encourages knowledge-sharing.

Organisations are social communities and interactions are therefore important for organisations to get access to knowledge and resources [15]. Enjoyment in assisting others might impact the desire of imparting knowledge by conveying the satisfaction connected with sharing knowledge [14]. This enjoyment is perhaps derived from job satisfaction. The lukewarm attitude towards knowledge sharing points out to a strong need to drive organisational knowledge management.

While technology has long been widely seen as an integral part of knowledge management, most participants view it as only moderately effective. This calls for enhancement and strengthening the use of technology in pharmacy practice. Technology infrastructures primarily aim to systematize, categorize, disseminate, and uphold knowledge assets [17]. Various technological products that facilitate the generation, preservation, access, transmission, and utilization of knowledge include organising data and educational instruments, knowledge archives, files, digital discussion forums, and email services [18].

The result of this study indicate the need for a comprehensive health information system in which there is interoperability between pharmacy and other departments. Therefore, integrating technological systems is a crucial component of Knowledge Management strategies [17]. Innovative technologies enhance the timely and successful extraction of knowledge, leading to increased patient interactions with healthcare practitioners and awareness levels in healthcare information technology applications [18].

On a Likert scale of poor to excellent, the majority of the pharmacy professionals believed the overall knowledge management practices are good. None of the respondents believes the know ledge management practices are excellent. Establishing the practice of mapping expertise, schedules, and capacities, as a technique to enhance Knowledge Management in an institution, with the core principle being that hidden capabilities are activated by management or external variables [17], can improve this situation. Implementing knowledge management systems has significant advantages, such as enhancing organisational flexibility and responsiveness to sector changes, fostering innovation, and improving decision-making and efficiency [19].

Reliability (or internal consistency) of the measuring instrument was assessed through the Cronbach alpha. Internal consistency refers to the degree to which each question in a test assess a single notion or construct, indicating the

interconnectedness of all the questions in the test's scope [20]. The Cronbach alpha was fairly high at 0.82, indicating a good reliability.

5. Conclusion

This paper sought to assess knowledge management practices at Oshakati State Hospital, Namibia. The findings of this study underscore the critical need for enhancing knowledge management practices at Oshakati Hospital pharmacy. Improving knowledge sharing, documentation, and technology utilization are essential steps towards fostering a collaborative and efficient work environment among pharmacy professionals. By creating a supportive culture that encourages knowledge sharing, the pharmacy can elevate patient care standards and operational efficiency. Moving forward, implementing strategies to enhance knowledge management practices will be crucial in advancing pharmaceutical care delivery at Oshakati Hospital pharmacy.

Recommendations

Additional research at Oshakati Hospital pharmacy could investigate how training programs influence knowledge-sharing attitudes among pharmacy workers in the context of knowledge management procedures. Studying how supportive leadership and organizational culture impact knowledge management methods in pharmacies could offer significant insights for enhancing productivity and patient care quality. Further studies on how external variables like regulatory requirements and industry changes impact knowledge management initiatives in the pharmacy can provide a thorough insight into the obstacles and possibilities in executing successful knowledge management procedures.

Limitations

The study was blighted by the small sample size which could limit the generalizability of the findings.

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