

Demystifying the Factors Affecting Approaches of Primary Healthcare Nurses in Preventing the Emerging Chronic Diseases in Hail Region, Saudi Arabia

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ABSTRACT

Introduction: Prevention of emerging diseases has emerged as one of the leading objectives of primary health care institutions globally, and nurses are the front-liners in such endeavours. This study aimed to investigate the factors affecting the approaches of primary healthcare nurses in preventing emerging chronic diseases in the Hail region, Saudi Arabia.

Methods: This research employed a descriptive cross-sectional approach. The participants in this study were 214 primary healthcare nurses. Data collection was conducted between November 2022 and December 2022.

Results: The number of years of experience ($F = 0.132$; $P = 0.007$), the number of training sessions attended ($F = 1.562$; $P = 0.003$), and the average number of patients per day ($F = 0.132$; $P = 0.004$) were found to have a significant difference with the preventive approach to emerging chronic disease. Conversely, the number of years of hospital experience ($B = .091$; $P = 0.003$), the number of patients per day ($B = 0.018$; $P = 0.004$), and the number of training courses attended within a year ($B = 0.098$; $P = 0.003$) affect the approaches of primary healthcare nurses. Age and gender were found to have no significant relationship with the preventive approaches.

Conclusion: The years of experience, the number of training sessions attended, and the average number of patients per day were found to make a significant difference in the preventive approach to emerging chronic diseases. Of note, the number of years of hospital experience, the number of patients per day, and the number of training courses attended within a year affect the approaches of primary healthcare nurses. This study has shown that primary healthcare nurses' training experiences and clinical exposure substantially impact measures to prevent emerging chronic diseases. Further, these findings enable nurses to support patients in achieving their self-management goals, enhancing their health outcomes, and adding to their overall well-being.

Keywords: Primary health care, Nurses, Chronic disease, Prevention

INTRODUCTION

Chronic diseases are the leading cause of unnecessary death and disability around the world¹. Their costs are also rising quickly. In fact, according to the World Health Organization (WHO)², chronic diseases account for 73.6% of all global fatalities (WHO, 2016). Moreover, this puts more of a financial, social, and psychological strain on patients because these are long-term, life-threatening conditions³. As such, treating patients with chronic diseases is crucial, and nurses are seen as the cornerstone of preserving and advancing these patients' health. Chronic disease is defined by the World Health Organization (WHO) as having one or more of the following traits: It requires thorough patient training for rehabilitation or is anticipated to need ongoing supervision, observation, or care⁴. In context, the provision of

clinical care, management, and accountability are provided by nurses in a variety of contexts. According to Bodenheimer et al. (2015), the recent emphasis on population health has changed to self-management and health promotion assistance. To this end, care coordination and transition management nurses offer high-quality and safe care to at-risk groups, like patients with multiple chronic diseases.

Care objectives for patients with chronic diseases are to improve functional status, lessen uncomfortable symptoms, extend life through secondary prevention, and improve quality of life rather than cure them⁶. Hence, in helping persons with chronic illnesses, nurses must urge them to take an active role in their care by promoting self-management. This necessitates that individuals with chronic illnesses take an active role in their care by heeding therapy advice or changing their lifestyles

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as necessary⁷. Unfortunately, nurses only really understand client engagement in the context of the client "complying" with nursing recommendations and leading a healthy lifestyle⁸. Indeed, nurses have many opportunities to contribute more to preventing and managing chronic diseases. However, this can be better understood when nurses can determine the parameters of their responsibilities in the delivery of primary care⁹ and can significantly advance client participation. The development of primary care techniques that improve healthcare delivery is receiving more attention as the frequency of chronic diseases rises. To date, no studies have undermined the role of primary healthcare nurses in preventing emerging chronic diseases, specifically in Saudi Arabia and the Hail region in particular.

Primary healthcare workers, like nurses, are mostly in charge of making sense of the factors that affect how to prevent new chronic diseases. Unfortunately, this is frequently inadequate, necessitating a more rigorous approach. Assessing the management of chronic diseases is necessary for preventing and managing complications in individuals with chronic diseases. As a result, this study is important for improving nurses' current management styles. This study aimed to investigate the factors affecting the approaches of primary healthcare nurses in preventing emerging chronic diseases in the Hail region of Saudi Arabia.

METHODS

Research Design: The researchers employed a descriptive cross-sectional approach in investigating the factors affecting the approaches of primary healthcare nurses in preventing emerging chronic diseases in the Hail region of Saudi Arabia.

Participants: The participants of this study were 214 primary healthcare nurses in the city of Hail, Saudi Arabia, resulting from convenience sampling. These nurses served as health counselors and helped in policymaking in the context of preventive management of chronic diseases. Nurses included in this study were those who (a) had at least six months of experience working in the PHC, (b) were responsible for health counseling and policy-making, and (c) were willing to participate. Excluded were those nurses who had no direct contact with clients.

Setting: This research was conducted at the 15 primary healthcare centers in the Hail region. These 15 PHCs were known as the community hub and served primarily for consultation of all clients with chronic diseases.

Data Collection: The necessary data was gathered via a self-administered questionnaire, which was started following institutional review board permission. Before the actual data collection, the researchers gave the respondents an orientation to explain the purpose of the study, how involved they could be, and what their rights were as participants. Then, during their break, the researchers gave the participants a questionnaire in person. With a 100% return rate, data collection was done between November and December 2022.

Instrument: The researchers partially adopted the questionnaire¹⁰ used in their national survey of chronic disease management by nurses. The questionnaire has 9-item questions that can be answered on a 5-point Likert scale (Never (1) to Always (5)). Examples of questions were 'Use a register to identify/track care', and 'Use a tracking system to remind patients about visits,' among others.

Validity and reliability tests were performed on the instrument. The researchers asked four expert panels to check and evaluate the questionnaire's items. Of them, two were PHC policymakers. The other

two worked as patient quality directors in the PHC, Hail Region. The face validity result was deemed valid and encompassed the notion it aimed to measure. The tool was then tested on 15 PHC nurses using the content validity index (CVI). The questionnaire's overall CVI scores of 0.88 for relevance and 0.91 for clarity indicate that it has a high level of content validity. The reliability coefficient for the survey for this study was 0.81.

Ethical Consideration: The Institutional Review Board of the University of Hail gave clearance and permission for this study. The privacy, anonymity, confidentiality, and the right to withdraw at any moment were guaranteed. In addition, written informed consent was given for the participant to read and sign should they choose to participate.

Data Analysis: Statistical Package for Social Sciences version 26 (SPSS v. 26, IBM Software Group, Chicago, IL, USA) was used to look at the data that was collected. Frequency and percentage were used to describe the demographic information of the respondents. Multiple regression was used to determine the factors affecting approaches to managing chronic diseases.

RESULTS

Table 1 presents the socio-demographic characteristics of the participants. Of the 302 surveyed nurses, the majority were females (60%) ages 35–50 years old (60%) and with six years or more of hospital experience (65.6%). In addition, nearly 60% had an average of 2–5 patients and 1–2 training sessions attended annually (58.9%).

Table 1: Sociodemographic characteristics of participants. N=302

Demographics	Frequency	Percent
Gender		
Male	122	40
Female	180	60
Age		
20-34 years old	102	34
35-50 years old	180	60
51 years old and above	20	6
Years of Hospital Experiences		
Less than 2 years of hospital experience	21	7.0
2-5 years of hospital experience	83	27.5
6 years and above hospital experience	198	65.6
Average Number of Patients per day		
less than 2 patients	62	20.5
Average of 2-5 patients	178	58.9
Average of 6 and above patients	62	20.5
Number of trainings attended within a year		
1-2 training attended per year	178	58.9
3-4 training attended	74	24.5
5 and above training	50	16.6

Table 2 shows the differences between demographic characteristics and the preventive approach. Of note, the gender ($t = -.305$; $P > 0.760$) and age ($F = 1.137$; $P > .297$; were found not to be significant with a preventive approach to emerging chronic diseases within a year. Meanwhile, the years of experience ($F = .132$; $P = 0.007$), the number of trainings attended ($F = 1.562$; $P = 0.003$), and the average number of patients per day ($F = 0.132$; $P = 0.004$) were found to have a significant difference with the preventive approach to emerging chronic disease.

Table 2: Differences between demographic characteristics and preventive approach to emerging chronic disease

Demographics		Mean	Std	t	df	Sig. (2-tailed)
Gender	Male	2.22	.861	-.305	300	.760
	Female	2.29	.688	-.374	15.048	
		Mean	Std	F	df	Sig.
Age	20-34 years old	2.31	.790	1.138	3,300	.287
	35-50 years old	2.19	.875			
	51 years old and above	2.22	.853			
Years of Experience	Less than 2 years of hospital experience	1.90	.775	.132	3,300	.007
	2-5 years of hospital experience	2.31	.795			
	6 years and above hospital experience	2.22	.879			
Number of Training Attended	1-2 training attended per year	2.26	.691	1.562	3,300	0.003
	3-4 training attended	2.26	.887			
	5 and above training	2.03	1.233			
Average number of patients	less than 2 patients	2.22	.798	.132	3,300	0.004
	Average of 2-5 patients	2.27	.798			
	Average of 6 and above patients	2.20	.892			

Table 3: Factors affecting the approaches of primary healthcare nurses in preventing the emerging chronic diseases

Model	B	Std. Error	t	Sig.	95.0% Confidence Interval for B		
					Lower Bound	Upper Bound	
1	(Constant)	2.233	.353	6.324	.000	1.538	2.928
	Age	-.155	.130	-1.191	0.235	-.411	.101
	Gender	.131	.241	.544	0.587	-.343	.605
	Years of hospital experience	.091	.088	1.032	0.003	-.082	.264
	Number of patients per day	.018	.077	.233	0.004	-.134	.170
	Number of training attended within a year	.098	.066	-1.481	0.003	-.228	.032

a. Dependent Variable: Preventive Approach

Table 3 presents the factors affecting the approaches of primary healthcare nurses in preventing emerging chronic diseases. It can be noted, that the number of years of hospital experience (B = .091; P = 0.003), number of patients per day (B = .018; P = 0.004), and number of training courses attended within a year (B = 0.098; P = 0.003) affect the approaches of primary healthcare nurses. Age and gender were found to have no significant relationship with the preventive approaches.

DISCUSSION

Healthcare institutions all over the world are putting a lot of effort into preventing new chronic diseases, and they are using a variety of methods to do so. Therefore, there is a need for studies in the region of Hail on this specific healthcare concern, considering the absence of related studies in this part of Saudi Arabia. With the above as a premise, this study was initiated and aimed to investigate the factors affecting the approaches of primary healthcare nurses in preventing emerging chronic diseases in the Hail region of Saudi Arabia.

Analysis of the data shows that gender and age do not have a big effect on how to prevent new chronic diseases. It means that gender and age don't matter when it comes to preventing chronic diseases. In contrast to the finding of an earlier study, male nurses during the COVID-19 pandemic performed management roles in attending to patients, while female nurses focused on their families¹¹.

The number of years of experience, the number of training courses attended, and the average number of patients cared for showed significant differences with a preventive approach to emerging chronic diseases. The differences in years of experience and preventive

approach suggest that primary health care nurses with more exposure to clinical settings can better weigh the advantages and disadvantages of various health strategies for emerging chronic diseases because it allows them to refine their abilities. It corroborates Kieft's¹² research on nurses' perceptions of how competent nurses with sufficient clinical experience enhance patients' satisfaction with healthcare services¹².

A difference was noted in how many trainings primary health care nurses go to. This means that training in preventive health standards for new chronic diseases helps to improve their skills and knowledge. Nurses become more competent in clinical settings as they receive more training. The current findings are reinforced by earlier studies, in which nurses believe that training enhances their knowledge and skills in pandemic situations^{13,14}.

The difference between the average number of patients and the preventive strategy shows that when patient numbers are growing, nurses have better chances to use their management skills to stop new chronic diseases from developing. To date, there is no related research study supporting this recent result. However, Heckman made a statement closely connected to this latest research, stating that nurses sometimes could not execute appropriate nursing strategies for patient care due to insufficient staff¹⁵.

According to the most recent research, a strong link exists between how many years of experience a primary care nurse has and how they try to keep new chronic diseases from happening. This means that nurses who have worked in hospitals for a long time have mastered different ways to stop new chronic diseases from getting worse, while nurses with less experience still need to improve their skills. Accordingly, the

work experience of nurses before an outbreak of an emerging disease is relevant since it reflects their preparedness to undertake critical elements of care^{16,17}.

The result showed that the number of patients cared for each day had a strong relationship with the preventative approach. This means that nurses who care for more patients tend to give better care to their patients and improve their health. Earlier studies support this recent finding that there is a link between nurses' workload and their clinical performance^{18,19}.

Also, there was a strong link between the number of training courses taken in a year and preventive techniques. This means that nurses who keep moving up in their careers make their patients safer and improve the quality of care they give. This current finding is consistent with a previous study by Walters, which found that nurses who received training in the chronic disease approach felt their knowledge and skills in patient collaboration and assisting patients in setting and achieving self-management goals had significantly improved²⁰.

On the other hand, there was no significant link between age and gender and the preventive approaches. This means that it does not matter how old or young nurses are and regardless of their gender, they can develop or create strategies to prevent the occurrence of the emergence of chronic diseases. Such a result would enable nurses to help patients attain their self-management goals, improving their health outcomes and contributing to better overall well-being.

CONCLUSION

The years of experience, the number of training attended, and the average number of patients per day were found to make a significant difference in the preventative approach to emerging chronic diseases. Of note, the number of years of hospital experience, the number of patients per day, and the number of training courses attended within a year affect the approaches of primary healthcare nurses. This study has shown that primary healthcare nurses' training experiences and clinical exposure substantially impact measures to prevent emerging chronic diseases. Further, these findings enable nurses to support patients in achieving their self-management goals, enhancing their health outcomes, and adding to their overall well-being.

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Competing Interest: None

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