Original Article

Nurses' Knowledge Towards Management of Asthmatic Patients at Alshaab Teaching Hospital -Khartoum State 2023

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Abstract

Background: Asthma is an episodic syndrome characterized by attacks of dyspnea, wheezing, and coughing. Nurses have an important role in care of asthmatic patients' so a proper knowledge about the disease is essential.

Objective: To assess nurses' knowledge regarding the care of asthmatic patients

Methods: Hospital-based cross-sectional study was conducted at Al-Shaab Teaching Hospital. The sample size was 29 nurses. All nurses, fulfilling the inclusion criteria were interviewed. The data were collected using a standardized administered questionnaire and analyzed using the Statistical Packages of Social Sciences (SPSS) version 25 and were presented in the form of tables and figures.

Results: The majority of the nurses aged between 20-30 years and about 75% of them were Bachelor holders as a basic qualification. Near half had less than two years'

experience.82.8% had never attended any training course. 69% of nurses had good knowledge about asthma definition, while 72.4% of nurses had poor knowledge about asthma triggers. 65.6% of nurses had poor knowledge regarding the nursing management of asthma. There was a significant association between the overall knowledge of nurses and attendance of training courses (P value 0.03).

Conclusion: The nurses had poor knowledge of asthma management. Although their knowledge seems to be associated with attending in-service training courses.

Keywords: Asthmatic patient, knowledge, Nurses, Nursing management.

Introduction

Asthma is a chronic inflammatory disease of the airway resulting in airway hyper responsiveness, mucosal edema, and mucus production [1]. It is usually characterized by shortness of breath, chest tightness, wheezing, and coughing. Asthma is characterized by recurrent attacks of symptoms, which vary in severity and frequency from person to person. Symptoms may occur several times in a day or a week in affected individuals and, for some people, become worse during physical activity or at night [2]. Asthma is a public health problem that occurs in all countries regardless of their level of development. It has a relatively low fatality rate compared to other chronic diseases [2]. Globally, asthma ranks as the third most frequent cause of hospitalization following pneumonia and malaria, and there has been a striking increase in the number of emergency visits [3].

Asthma is clinically classified according to the frequency of symptoms, forced expiratory volume in one second (FEV1), and peak expiratory flow rate [3]. Treatment of acute symptoms is usually with an inhaled short-acting beta-2 agonist (such as salbutamol) and oral corticosteroids. In very severe cases, intravenous corticosteroids, magnesium sulfate, and hospitalization may be required. Symptoms can be prevented by avoiding triggers [4]. Clinical manifestations of asthma can be controlled with appropriate treatment. Some common asthma triggers include dust mites, smoking, stress, environmental allergens, perfume smell, pillows, outdoor air pollution, exercise, pets, flu, and humidity. These triggers differ from one person to another [4].

Asthma is a common disease worldwide, affecting more than 15% of the population. The burden of asthma, a highly neglected disease that affects 235 million people globally, is substantial in terms of morbidity and economic costs [3]. Nurses' knowledge plays a crucial role in empowering patients with the necessary skills and knowledge to manage asthma. Without sufficient asthma knowledge, treatment regimens may fail because patients are unaware of appropriate management steps or how to avoid triggers. Nurses' education is

becoming an essential area of service provision, with the increasing population of people with chronic diseases and conditions requiring long-term management in the community [5].

In Sudan, approximately 10% to 15% of the population, particularly women and children under five, are affected by asthma. It has been estimated that around 34% of the total man-days lost are due to asthma and other airway disorders [5]. For these reasons, the study aimed to determine nurses' knowledge regarding the care of asthmatic patients at Al-Shaab Teaching Hospital.

Methods

A hospital-based cross-sectional study was conducted at Al-Shaab Teaching Hospital, the largest referral cardio-thoracic center in Sudan. It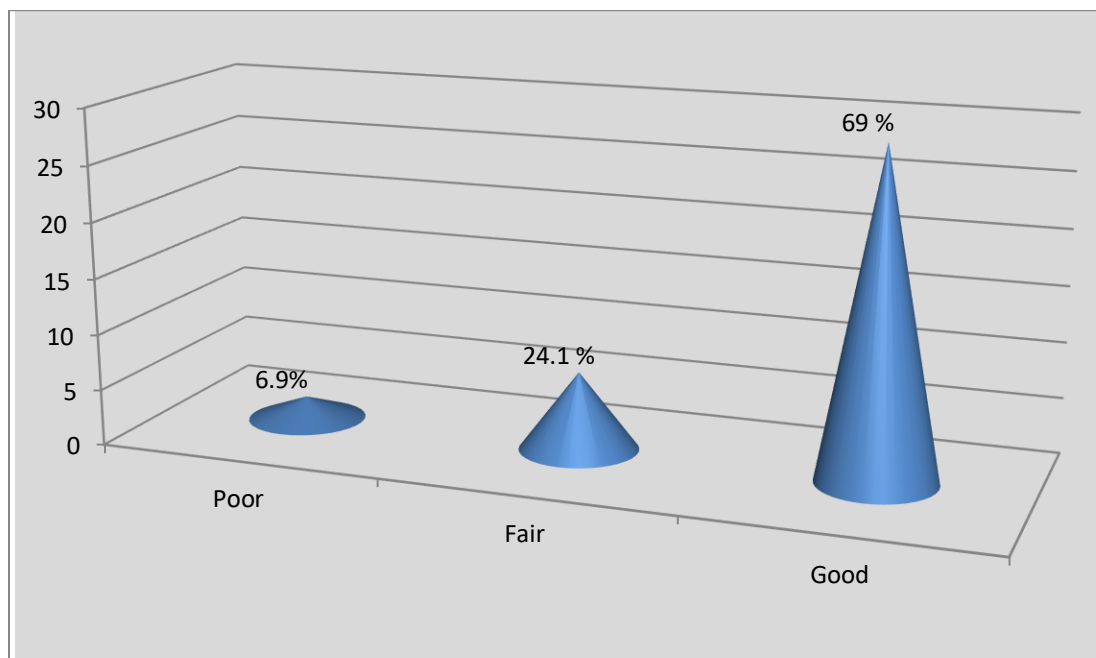 provides services to citizens referred from all hospitals in Sudan. The study involved nurses who worked in the asthma unit and emergency department. The nurses were Sudanese, composed of different ethnic groups and qualifications of both genders. A total of 29 nurses were interviewed, and all nurses who met the inclusion criteria were included in the sample. Data were collected by trained research teams using a standardized administered questionnaire. The data were analyzed using the Statistical Package for Social Sciences (SPSS) version 25. Significance testing was done using the chi-square test, and results were considered significant when the p-value was 0.05 or less. Ethical approval was obtained from the Institutional Review Board of Al Neelain University and the Khartoum State Ministry of Health. Permission was obtained from the hospital authorities, and informed consent was obtained from each nurse before the interview.

Results

Table (1): Socio demographic Characteristics

Characteristic	Frequency	Percentage %
Age groups		
20 – 30 years	19	65.5
31- 40 years	7	24.1
41-50 years	3	10.3
More than 50 years	0	0
Total	29	100.0
Gender		
Male	4	13.8
Female	25	86.2
Total	29	100.0
Marital status		
Single	18	62.1
Married	11	37.9
Divorce	0	0
Widowed	0	0
Total	29	100.0
Basic professional qualifications		
Diploma	2	6.9
BSc Nurse	22	75.9
Post graduate	5	17.2
Total	29	100.0
Years of experience		
less than 2 years	14	48.3
2-4 years	10	34.5
More than 5 years	5	17.2
Total	29	100.0

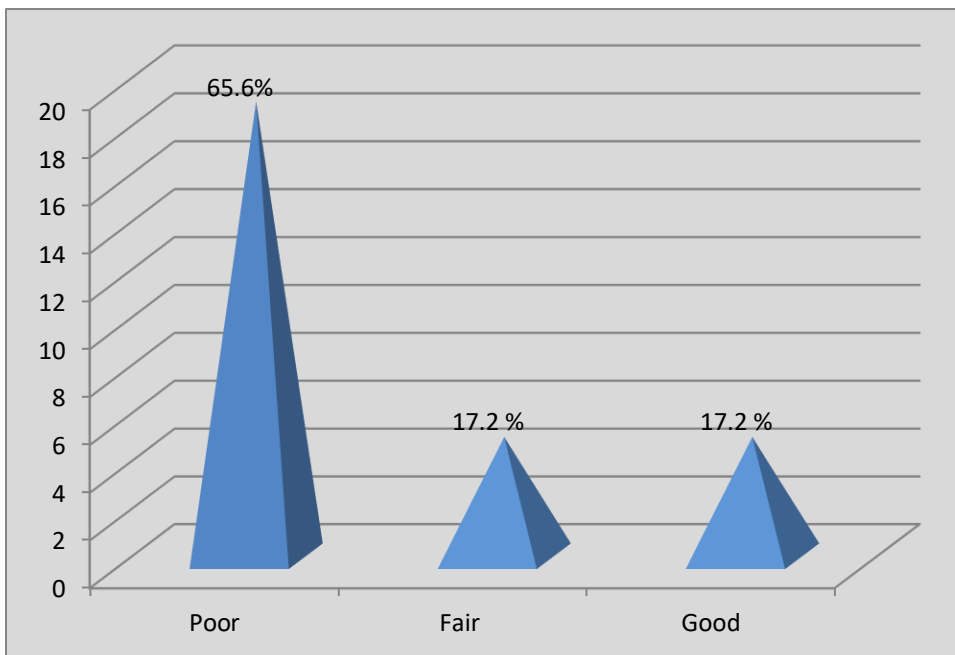| Receiving of in services training course related to asthma		
yes	5	17.2
No	24	82.8
Total	29	100.0
The nature of training related to asthma		
Theoretical	2	40
Practical	3	60
Both of them	0	0
Total	5	100.0

82.8 % of nurses had never attended training course related to asthma.

Figure 1: Knowledge of Nurses regarding definition of asthma

69%of nurses had a **good** Knowledge about definition of asthma.

Table (2): Knowledge of Nurses regarding the asthma triggers.

Level of Knowledge	Frequency	Percentage %
Poor	21	72.4
Fair	3	10.3
Good	5	17.2
Total	29	100.0

72.4% of nurses had a poor level of Knowledge regarding asthma triggers.

Figure 2: Knowledge of Nurses regarding the nursing management of the asthma

65.6% of nurses had poor level of knowledge regarding the nursing management of the asthma

Table (3):   The overall Knowledge: according to the likert scale

Knowledge score	Frequency	Percentage %
Poor	181	62.4
Fair	62	21.4
Good	47	16.2
Total	290	100

The **overall level** of knowledge for nurses regarded asthma was **poor** (62.4%).

Table (4):   The association between overall knowledge of nurses and attendance of in-services training course related to asthma

			Overall knowledge			Total
			Poor	Fair	Good	
Training courses	yes	Count	1	2	2	5
		% of Total	3.4%	6.9%	6.9%	17.2%
	No	Count	18	3	3	24
		% of Total	62.1%	10.3%	10.3%	82.8%
Total		Count	19	5	5	29
		% of Total	65.5%	17.2%	17.2%	100.0%

P value   0.03

There was significant association between the overall knowledge of nurses and attendance of in- service training course related to asthma.

Discussion

The study participants aged between 20-30 years. The highest proportion level of basic professional qualification was BSc in Nursing. Less than half of the studied nurses had experience of less than two years since qualifying. This may be due to the high prevalence of migration among experienced senior nurses, and highly qualified nurses preferring to work at universities and academic institutions rather than hospitals. This may negatively affect the total nurse competence scale. The result is lower than the result of the study conducted at Sohag University Hospitals by Hassan A. et al., and another study done by Reza (1, 6).

Regarding the attendance of training courses, the majority of nurses in the study had never attended training courses related to bronchial asthma. This is indicative that the hospital authority did not address capacity building of the nursing staff. Training is the most important component of employee development after indoctrination (1). The result is similar to the result of the study conducted at Sohag University Hospitals by Hassan A., which revealed

that the majority of nurses had received no in-service training courses in asthma and chest disease (6).

Concerning the relation between total knowledge and attendance of in-service training courses, the current study found that there was a statistically significant association between the level of nurses' knowledge and attendance of in-service training courses related to asthma, with a P value of 0.03. The findings suggested that nurses' education programs and strategies to improve asthma care should be based on the level of knowledge. The staff's level of knowledge and capabilities are major factors in determining which type of training is required to carry out unit goals (7). This finding is inconsistent with another study conducted in Gaza by Khadoura K.J. et al. (8).

When nurses were asked about the definition of asthma, more than two-thirds of the nurses in the study had a good level of knowledge. This indicates that nurses had good basic knowledge related to asthma. The current results are inconsistent with those from another

study conducted by Ahmed S.E. at El-Mak Nimir Hospital (9) and another study conducted by Hoskins, G. (10).

Distribution of nurses by knowledge of asthma triggers showed that 72.4% had poor knowledge. This may be because most nurses have not attended any training sessions on asthma. The finding is inconsistent with other studies conducted at Al-Shaab Teaching Hospital and El-Mak Nimir Hospitals (5, 9). However, there is a clear difference between the two studies in the demographic characteristics of the sample (especially in qualification and years of experience).

A high percentage of participants had poor knowledge of nursing management for asthma patients. According to the literature, the nurse is responsible and accountable for the quality of nursing care provided to patients (11). The single most important protective strategy for the nurse is to be a knowledgeable and safe practitioner of nursing and to meet the standards of care with all patients to ensure quality care (12). This finding is inconsistent with the study done by Al-Zain N.M. at Al-Shaab Teaching Hospital, which revealed that 70.5% of the nurses had good knowledge regarding nursing care (5).

The overall level of participants' knowledge regarding the management of asthmatic patients was poor, with a percentage of 62.4%. The reason is that the majority of participants did not attend special training programs for asthma patient care and do not have sufficient experience in asthma care. This finding differs from a study conducted by Hassan A. et al. at Sohag University in Egypt, which showed that 70% of nurses had good knowledge regarding the nursing care of asthma. The difference could be explained by differences in years of experience and training courses (6).

Conclusion

Nurses need basic knowledge and skills to gain core competencies for asthma assessment and management. The majority of nurses have poor knowledge about asthma triggers and nursing management, but the majority have good knowledge regarding asthma definitions. Attendance at in-service training courses

related to asthma had a significant statistical association with the overall knowledge of nurses.

Acknowledgement

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