

Nurses' knowledge regarding management of chronic bronchial asthma in Rajshahi Medical College Hospital.

Hasan Mahfuz Reza^{1*} and Ashees Kumar Saha²

¹(Urban Primary Health Care Services Delivery Project -II, Kushtia Municipality, Kushtia, Bangladesh)

²(Upazilla Health Complex, Bagha, Rajshahi, Bangladesh)

*Corresponding author: Hasan Mahfuz Reza, Urban Primary Health Care Services Delivery Project-II, Kushtia Municipality, Kushtia, Bangladesh.

Abstract: Asthma is a chronic inflammatory disease of the air way resulting in air way hyper responsiveness mucosal edema, and mucus productive. It is a common disease in the world affects more than 15% all over the world of the population. The main objective of this study was to exhibit nurses' knowledge regarding management of chronic bronchial asthma. This cross-sectional study was conducted in Rajshahi Medical college Hospital, Bangladesh from October 2019 to January 2020. A total of 50 nurses were included in the study and their socio demographic data were collected. The result shows that most of the nurses 72.0% were diploma in nursing. All of them 100.0% were known about chronic bronchial asthma and how to manage it. Most of the nurses 96.0% were known the complication and prevention of chronic bronchial asthma.

Keywords: Chronic Bronchial Asthma, Nurses knowledge, Socio-demographic status of nurses.

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I. Introduction

Asthma is a common chronic inflammatory condition of the lung air way whose cause is in completely understood, symptoms are cough, wheeze chest tightness and shortness of breath often worse at night. It has three characteristics: 1). Air flow limitation which is usually reversible spontaneously or with treatment. In chronic asthma inflammation may lead to irreversible air flow limitation, Air way hyper responsiveness to a wide range of stimuli. 2). Inflammation of the bronchi with eosinophils, lymphocytes and mast cells with associated plasma exudation, Edema, smooth muscle hypertrophy mucus plugging and epithelial changes. 3). the underlying pathology in preschool children may be different in they may exhibit appreciable bronchial hyper activity. There is no evidence that chronic inflammation is the basis for the episodic asthma associated with viral infections¹. In a word, bronchial asthma is heterogeneous pulmonary disorder characterized by recurrent episodes of cough, breathlessness and wheezing, which may resolve spontaneously or after the use of bronchodilator medication². The global prevalence of asthma is anticipated to be approximately 4.5 per cent^{3,4}. There are about 334 million patients with asthma affecting all age groups, across the world⁵. The prevalence of asthma has increased over time and an additional 100 million people worldwide are expected to develop asthma by the year 2025⁵. Asthma is a T-helper-2 (Th2)-cell-dependent, IgE-mediated allergic disease. Both non-modifiable (advancing age, female gender, history of atopy, polymorphism of GSTM1, GSTT 1, MBL2 and others) and modifiable (tobacco smoke, biomass smoke exposure, infections, occupation, diet and others)^{6,7,8} risk factors are considered to play a role in the development of asthma. Asthma may present predominantly with cough, often nocturnal, and the diagnosis is supported by reversible airflow limitation and bronchial hyperresponsiveness.⁹ This condition is often referred to as 'cough-variant' asthma which is a common type of asthma in children. Elderly asthmatics may give a history of cough prior to a diagnosis of asthma made on the basis of episodic wheeze.¹⁰ Cough may also occur as a sign of worsening of asthma usually presenting first at night, associated with other symptoms such as wheeze and shortness of breath with falls in early morning peak flows.¹¹ On the other hand, some patients with asthma develop a persistent dry cough despite good control of their asthma with anti-asthma therapy. There may be another associated cause for the cough such as post-nasal drip or gastro-oesophageal reflux. Twenty-four hour ambulatory monitoring of cough in such patients reveals a wide range of cough counts (45 to 1577 coughs), with very few coughs occurring during the sleeping hours.¹² Patients with asthma do not usually have an enhanced cough reflex, apart from a subgroup with a persistent cough.^{12,13} In these patients, cough receptors may be sensitised by inflammatory mediators such as bradykinin, tachykinins and prostaglandins. Induction of sputum by inhalation of hypertonic saline often reveals a predominance of eosinophils, and bronchial hyperresponsiveness is invariably present. A condition of eosinophilic bronchitis in patients with chronic cough associated with eosinophils in sputum but without bronchial hyperresponsiveness has been described.¹⁴ However, the cough and sputum production is responsive

to steroids. It is not clear whether this condition is associated with an enhanced cough reflex. Treatment of cough occurring with asthma is similar to that for 'typical' asthma, with maintenance inhaled corticosteroid therapy and bronchodilators such as f,-adrenergic agonists. Often, a trial of oral corticosteroids (eg, prednisolone 40 mg daily for two weeks) is recommended. Treatment with nedocromil sodium can be a useful addition¹⁵ So, the goals of asthma management include relief of patient's current symptoms and prevention of further disease progression.

II. Material and Methods

This cross-sectional study was carried out among 50 senior staff nurses on Rajshahi Medical College Hospital, Rajshahi, Bangladesh from October 2019 to January 2020.

Study Design: Comparative cross-sectional study.

Study Location: Rajshahi Medical College Hospital, Rajshahi, Bangladesh.

Study Duration: October 2019 to January 2020.

Sample size: 50 senior staff nurses.

Subjects and selection method: This observational study was carried out to exhibit the socio-demographic characteristics of nurses and their knowledge regarding management on chronic bronchial asthma on Rajshahi Medical College Hospital during the period from October 2019 to January 2020. Total 50 senior staff nurses from both sexes were selected for the study by using Simple Random Sampling Technique.

Procedure methodology: After written informed consent was obtained, a well-designed questionnaire was used to collect the data of the recruited nurses. The questionnaire included socio-demographic characteristics of the nurses and their knowledge regarding management on chronic bronchial asthma on Rajshahi Medical College Hospital, Rajshahi.

Statistical Analysis: Manually by master sheet and descriptive statistics were calculated from, Microsoft Excel.

III. Result and Discussion

This study is a descriptive analytic based cross-sectional study, conducted to assess the nurses' knowledge regarding management on chronic bronchial asthma on Rajshahi Medical College Hospital, as were included in 50 nurses this study, in the period from October 2019 to January 2020.

Table no 1 shows the percentage distribution of demographic characteristics of senior staff nurses on Rajshahi Medical college Hospital. A total of 92% of the subjects were females whereas only 08% were males. Most of the nurses (52%) were in age range of 31-40 years, 26% nurses were in 41-50 years and only 6% were more than 50 years. A total of 66% of the nurses had secondary education and 32% had intermediate education. Only 02% of the nurses were Graduate/postgraduate. Majority of the nurses 72% having diploma in nursing, while 26% have BSc in nursing and only 02% have MSc degree/ MPH. About 54% nurses duration of service were between 0 – 10 years, 32% and 14% nurses service duration were between 11-15 and 16-20 years respectively.

Table no 1: Shows distribution of socio-demographic characteristics of the nurses

Q. No	Variable	Parameter	Frequency (N=50)	Percentage (%)
01	Gender	Male	04	08
		Female	46	92
02	Age Range (years)	21 – 30	08	16
		31 – 40	26	52
		41 – 50	13	26
		>50	03	06
03	Academic Qualification	SSC	33	66
		HSC	16	32
		Graduate/Post graduate	01	02
04	Professional Qualification	Diploma in nursing	36	72
		BSc in nursing	13	26
		Masters/ MPH	01	02
05	Duration of Service (years)	0 - 10	27	54
		11 – 15	16	32
		16 – 20	07	14

Table no2 presents information regarding knowledge of the nurses on management of chronic bronchial asthma. In response to the yes / no question according the concept on the management of chronic bronchial asthma, 100% of the respondent knew about chronic bronchial asthma and how to manage it. All

respondents received chronic bronchial asthma patient cordially, took disease history confidentially, checked patient's condition regularly and taught them about home care. Most of the nurses 96.0% were known the complication and prevention of chronic bronchial asthma. Study shows that about 16% respondents did not know about criteria of chronic bronchial asthma.

Table no 2: Shows information regarding knowledge on management of chronic bronchial asthma

Q. No	Question	Yes		No	
		N=50	%	N=50	%
01	Do you know about chronic bronchial asthma?	50	100	00	00
02	Do you know about the risk factor of chronic bronchial asthma?	46	92	04	08
03	Do you know about criteria of chronic bronchial asthma?	42	84	08	16
04	Do you know how to manage chronic bronchial asthma patient?	50	100	00	00
05	Do you know about the technique to use inhaler?	49	98	01	02
06	Do you know the side effect of steroid inhalation?	45	90	05	10
07	Do you know the complication of chronic bronchial asthma?	48	96	02	04
08	Do you know about prevention of bronchial asthma?	48	96	02	04
09	Do you receive bronchial asthma patient cordially?	50	100	00	00
10	Do you taking patients history confidentially?	50	100	00	00
11	Do you check the patient's condition regularly?	50	100	00	00
12	Do you know how to give the patient emotional or psychological support?	46	92	04	08
13	After discharge do you know how to teach the patient about home care?	50	100	00	00
14	Result		98		02

Table no 3 present's multiple choice questions for nurses' knowledge regarding management of chronic bronchial asthma. Most of the nurses 92% answered that chronic bronchial asthma patient kept in propped up position and fresh environment is necessary for prevention of recurrent attack. About 84% and 12% nurses answered that recurrent respiratory tract infection and H/O allergic rhinitis are the criteria of chronic bronchial asthma respectively. About 86% and 12% nurses answered that salmeterol and antihistamine are the drugs used in chronic bronchial asthma respectively. Most of the nurses 72% answered that oral candidacies is the side effect of steroid inhaler used in chronic bronchial asthma.

Table no 3: Shows multiple choice questions for nurses' knowledge regarding management of chronic bronchial asthma

Variable	Parameter	N=50	%
Chronic bronchial asthma patient kept in -	A Lithotomy position	00	00
	B Lateral position	01	02
	C Propped up position	46	92
	D Sitting position	03	06
Criteria of chronic bronchial asthma are -	A Sudden onset	02	04
	B H/O allergic rhinitis	06	12
	C Recurrent respiratory infection	42	84
	D Skin hypersensitivity test (+ve)	00	00
Drug used in chronic bronchial asthma -	A Salmeterol	43	86
	B Paracetamol	01	02
	C Antihistamine	06	12
	D Analgesics	00	00
Prevention of recurrent attack -	A Fresh environment	46	92
	B Hot environment	01	02
	C Cold environment	03	06
	D Dark room	00	00
Side effect of steroid inhaler -	A Oral cancer	03	06
	B Oral candidacies	36	72
	C Laryngeal irritation	04	08
	D Respiratory tract infection	07	14

IV. Conclusion

Based on the findings of the study, it could be concluded that most of the nurses 72.0% were diploma in nursing. All of them 100.0% were known about chronic bronchial asthma and how to manage it. Most of the nurses 96.0% were known the complication and prevention of chronic bronchial asthma. Most of the nurses

92% were known that chronic bronchial asthma patient kept in propped up position and fresh environment is necessary for prevention of recurrent attack.

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