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Research Article

### ASSESSMENT OF NURSES KNOWLEDGE AND PRACTICE REGARDING MANAGEMENT ACUTE SEVERE ASTHMA IN CHILDREN IN A TERTIARY CARE SETUP OF LAHORE, PAKISTAN

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**Abstract:**

*This is a descriptive type analytical cross-sectional study. it was conducted to assess the nurses knowledge and practice regarding care of acute severe asthmatic children. 50 nurses were enrolled in the study after thorough informed consent and approval from the ethical review board of the The Children's Hospital and Institute of Child Health Lahore, Pakistan. A pre-tested and pre-coded questionnaire consisting of 11 questions was handed over to the volunteers. their experience in paediatric unit ranged from below 5 year to more than 10 years; their qualification was graded accordingly. The study revealed that most of the nurses (70%) knew the definition of asthma and more than 3/4th (80%) of nurses have knowledge about giving oxygen therapy during severe acute asthma attack and (76%) of nurses knew the nutritional care of asthmatic patient; regarding performance of nursing skills of asthma most of nurses (56%) of nurses did not know to perform spirometry procedure, instead of (82%) of nurses know how to give oxygen to asthmatic patient, the study recommends that hospital administration, stake holders and policy makers should develop continues education programs and workshops for the health care providers to optimize the knowledge and practice of the nurses and boost the efficient skill development. Installation of educational posters and management flowcharts in nurse's office can prove to be a valuable interventional strategy to combat the dilemmas regarding asthmatic patient.*

**Keywords:** Asthmatic Child, Acute Severe Asthma, Nurses Knowledge, Child Health.

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**INTRODUCTION:**

Children are vulnerable to many health challenges from the time of their birth. Child health is a dedicated field which covers all the aspects of the ill health of the children from general childhood illnesses, diet and nutrition, hypersensitivity reactions to parenting advice (1).

Respiratory tract illnesses in children are broadly divided into the upper respiratory tract infection disease like respiratory syncytial virus (R S V), common cold, sinusitis, tonsillitis, otitis media, pharyngitis and laryngitis. The lower respiratory tract infections are usually caused by bacteria or fungi or viruses, respiratory tumors, T. B and asthma (2).

Asthma is a chronic inflammatory disease of the airways resulting in air way hyper responsiveness mucosal edema, mucus production and bronchospasm. Asthma is a common disease in the world affecting more than 15% of all age groups worldwide.

The cause and definite etiology of asthma is still not completely understood, symptoms included cough, wheeze, chest tightness and shortness of breath often worse at night. It has three characteristics:

- I. Air flow limitation which is usually reversible spontaneously or with treatment. In chronic asthma inflammation may led to irreversible air flow narrowing, air way hyper responsiveness to a wide range of stimuli.
- II. Inflammation of the bronchi with eosinophils, lymphocytes, basophils and mast cells with associated plasma exudation, edema, and smooth muscle hypertrophy mucus plugging and epithelial remodeling leading to bronchoconstriction.
- III. The underlying pathology in preschool children may be different in that they may demonstrate appreciable bronchial hypersensitivity.

No evidence has been reported that chronic inflammation is the basis for the periodic asthmatic attack associated with viral infections (3).

Asthma can present at any age group and is the most common chronic disease of childhood.

The mortality and morbidity associated with asthma is on the rise affecting schooling and job dynamics, creating occupational challenges, crippling quality of life in general. The prevalence of asthma is increasing

in both the developing and developed countries particularly in the twenties where this disease affects (10- 15) % of the population. (4).

In the Sudan the prevalence of asthma in Khartoum children is about 16 % and the data in Pakistan suggest it to be around 5%. (5). Asthma has many triggering factors most commonly allergy, stress or emotional up sets, dusts, weather change, exertion, smell, smoke and insects (6).

The nurses are the cornerstones for safeguarding the provision healthcare. Therefore they must possess a firm grip over the causative and risk factors upper respiratory tract infections in children.

It is advocated that the child must avoid contacts with infected persons, and receive immunization. The nurse should also strongly endorse that the child must take antibiotic cover as prescribed if sputum becomes yellow or green for the super added bacterial infection and avoid potential triggers. The rationale of this study is that asthma is very important and common problem in pediatric patients. Even though the understanding of the pathophysiology of asthma has increased from the past few years. The morbidity and mortality associated with these chronic conditions continue to comprise a major health burden and psychosocioeconomic challenge.

**METHODOLOGY:****Study design:**

The design used for this study was descriptive, cross-sectional facility based it was aiming to assess the nurse's knowledge and practice regarding management of acute severe asthma in children in a tertiary care setup of Lahore Pakistan.

**Study area:**

This study was conducted in inpatient departments of *The Children's Hospital and Institute of Child Health Lahore, Pakistan*

**Study Time Frame:**

This study was carried out during the period which extends from August to November 2019.

**Study population and sample:**

The study interviewed 50 volunteers through convenient sampling composing nurses who were working in the in-patient pediatric units at *The Children's Hospital and Institute of Child Health Lahore, Pakistan*.

**Data collection tools:**

Structured interviewed schedule that was developed by the researcher after a thorough review of literatures to collected data about assessment of nurses knowledge and practice regarding management of acute severe asthma in children at *The Children's Hospital and Institute of Child Health Lahore, Pakistan*.

**Ethical consideration:****RESULTS:**

The study was undertaken after proper informed and written consents from all the volunteers of the study and formal approval from the ethical review board of *The Children's Hospital and Institute of Child Health Lahore, Pakistan*. The privacy and confidentiality of all the participants was maintained.

**Data analysis technique:**

The data was analyzed by computer using software program SPSS version 17 and presented in forms of tables and figures.

**Table 1. Demographic Data of the Nurses**

Variable	Frequency (n=50)	Percentage %
Gender		
Male	18	36
Female	32	64
Qualification		
Diploma	24	48
Graduate	16	32
Post Graduate	10	20
Experience		
<5 years	16	32
>5-9 years	28	56
>10 years	06	12

**Table.2 Nurses Knowledge Regarding Clinical Signs and Symptoms of Asthma**

Items	Frequency (n=50)	Percentage %
Wheeze	34	68
Chest Tightness	07	14
Cyanosis	04	08
Shortness of Breath	03	06
Frothy Cough	02	04

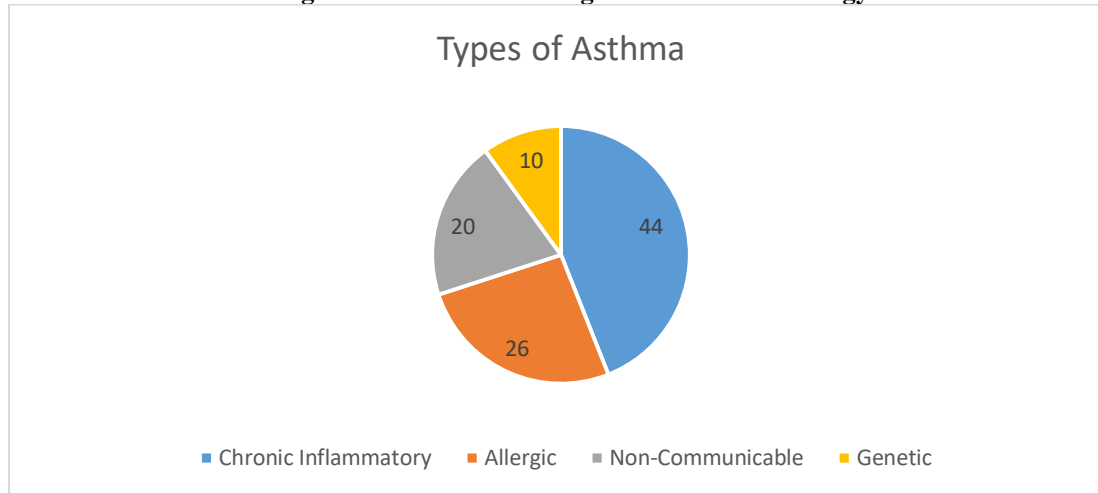
**Table.3 Nurses Knowledge Regarding Relevant Investigation for the diagnosis of Asthma**

Items	Frequency (n=50)	Percentage %
Arterial Blood Gases	24	48
Chest X- Ray	20	40
Peak Expiratory Flow Rate	03	06
Pulmonary Function Test	03	06

**Table.4 Nurses Knowledge regarding correct positioning of the asthmatic patient**

Items	Frequency (n=50)	Percentage %
Semi Sitting	37	74
Sitting	06	12
Supine	04	08
Lateral	03	06

Figure 1. Nurses Knowledge on the basis of etiology of asthma



### DISCUSSION:

*This is a descriptive type analytical cross-sectional study. it was conducted to assess the nurses knowledge and practice regarding care of acute severe asthmatic children. 50 nurses were enrolled in the study after thorough informed consent and approval from the ethical review board of the The Children's Hospital and Institute of Child Health Lahore, Pakistan. A pre-tested and pre-coded questionnaire consisting of 11 questions was handed over to the volunteers. their experience in paediatric unit ranged from below 5 year to more than 10 years; their qualifications were graded accordingly.*

The study revealed most of the study group was female (64%), most of them were diploma holders (48%), (56%) of them had years of experience between (5-9) years as in table no (1).

Near 2/3<sup>rd</sup> of the participants knew the operational definition of asthma (70%) that agrees with Praveen Kumar in year 1999 that asthma is chronic disease. Most half of nurses (68%) knew the major sign of asthma is audible wheeze that agrees with Praveen Kumar in year (1999) a (2). About one quarter of the results (26%) showed that the trigger factors are weather and (24%) are allergens and exercise (22%) that evidence by Jenkins c, lostelloj &Hodge in year (2004) . More than half of the result (80%) given Oxygen therapy during severe acute attack of asthma that agree with Charles v. man in year (1995). More than half of the result (64%) the repeated attack of asthma can cause barrel chest as supported to Charles

v. man in year (1995). Less than two third (64%) of nurses were aware of the delayed complications such as pneumothorax that is supported with Josef (2008). More than 3/4<sup>th</sup> of the nurses (76%) knew the fluid therapy for the asthmatic child that is I.V infusion as appropriate rate that agree with Praveen Kumar in year (1999). Chest physiotherapy comprised of 4 excercises. The study clarified that more than half of nurses (64%) is doing good abdominal or diaphragmatic breathing procedure. In doing deep breathing and coughing exercise less than two third (62%) of nurses is doing well (10).

In doing pursed lip breathing less than 3/4<sup>th</sup> (74%) is doing well (12). But the practice of nurses in doing spirometry more than 1/3<sup>rd</sup> (36%) (11). In administering oxygen by mask more than two third (82%) is doing good and about 3/4<sup>th</sup> (78%) was good at administering ventolin nebs. The statistics for the correct performance of the spirometry lag behind owing to the complexity and less common utilization of the skill in day care routine the nurses is doing good because the skill.

### CONCLUSION:

Based on the observations of the current study, it is concluded that more than half of nurses have a good knowledge about asthma (definition, triggers, disease nature and course, risk factors and complications) , and more than half of nurses have a good awareness regarding management of severe acute asthma in admitted children.

**Recommendation:**

The study recommends that hospital administration, stake holders and policy makers should develop continues education programs and workshops for the health care providers to optimize the knowledge and practice of the nurses and boost the efficient skill development. Installation of educational posters and management flowcharts in nurse's office can prove to be a valuable interventional strategy to combat the dilemmas regarding asthmatic patient.

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