A Descriptive Study for Asthmatic Toddler Children Associated with Weight in Maternal and Child Hospital

دراسة وصفية للأطفال الدارجين المصابين بالربو القصبي وعلاقته بالوزن في مستشفى الولادة والأطفال

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الخلاصة:-

اعتمد البحث أسلوب البحوث الوصفية لتقييم العلاقة بين الوزن والأطفال المصابين بالربو القصبي من فئة الدارجين من العمر ووزعت الاستبيانية على ذوي المرضى لأخذ المعلومات في مستشفى النسائية والأطفال في مدينة الحلة وأظهرت النتائج بوجود النسبة الطبيعية للأطفال ٤٢% والغير الطبيعية ٤٨%.

Abstract

Descriptive design study was conducted at maternal and child hospital Babylon city in order to assess the asthmatic children and its relationship with weight.

A purposive sample of (50) of children selected that including the toddler age group study questioner distributed.

The result concluded that (42%) of asthmatic children with normal weight and (48%) with abnormal weight (decrease weight (34%) and increase weight (24%).

Introduction:

Asthma is a chronic relapsing inflammatory disorder characterized by hyper reactive airways, leading to episodic ,reversible broncho constriction ,owing to increased responsiveness of the trancheoloronchial tree to varions stimuli. Some of these stimuli would have little or no effect on nonasthmatics with normal airways. Most *asthma* is associated with atopy, which represents' increased susceptibility to generate immunoglobulin E(lg E) in response to external allergens.

Between the attacks patients may be virtually asymptomatic, but in some persons chronic bronchitis or cor pulmonale supervenes verily a state of unremitting attacks (status asthmatics) proves fatal: usually such patients have had a long story of *asthma, (cotranran,etal,6th ed).*

Asthma primarily affects the small airway and involves three separate processes. Broncho spasm stimulation of the parasympathetic nervous system (cholinergic mediated system)which initiates smooth muscle constriction.

Inflammation and mucus production occur because of mast cell activation to release leukotrienes, histamine and prostaglandins once viewed as a long-term, properly controlled disorder newer therapy makes this a reversible or manageable disorder.(welters Kluwer,etal,6th ed).

Asthma is a disease that has been mentioned in medical history over and over again. So it can aptly be termed as an ancient disease. It is not right therefore to term it as a disease that is only a resultant of modern day lifestyle. But definitely there is an increase in number of *asthma* cases over the last few years. This is obviously attributed to the increase in number of pollutants in the atmosphere. The term *asthma* comes from Greek language, the original word panos meaning to pant or to breathe with an open mouth.

The Greek people respected the panes as they considered their condition to be a visit from Gods. In the first century AD Aretaeus, a Greek physician made an observation that the women were more susceptible to *asthma* than men. He said that the men had more chances of dying from it. And also, that the children had better chances of complete recovery from the disease. In the second century AD Galen, the consulting physician to many Roman emperors described *asthma* to be a seizure-like disease of the lungs. He also correctly observed that *asthma* was a disease caused by blockade of the bronchial tubes.

In 1552 Archbishop Hamilton of Saint Andrews, who was suffering with *asthma* for a long time was treated by a famous physician of his era. His name was Girolamo Cardano. He gave the Archbishop a complete new routine replete with exercise and diet. He also was known to have removed a leather pillow and

Large feather bed from the Archbishop's bedroom. All this gave immediate relief to the Archbishop from his lifelong illness and gave much fame and acclaim to the physician. This hugely popular success story was perhaps the first reported case of usage of environmental controls in the treatment of *asthma.*

Van Helmont, the famous physician who suffered from asthma was the doctor who established a clear link between *asthma* and smoke and irritants. He compared *asthma* to epilepsy like attacks. He also wrote that *asthma* originated in the pipes of the lungs. Thomas Siddenheim compared the *asthmatic* condition to be a disease of the lungs wherein the bronchial tubes were all stuffed up. In the year 1830 Eberle made an observation of *asthma* being associated with heredity and infection. Eberle

treated the patients with bloodletting, inducing vomiting with opium and instructing them to smoke stramonium leaves.

In 1835 when Laennec invented the stethoscope the research on *asthma* took a giant leap. The doctors could now clearly hear the classic symptom of wheezing. In 1850 Gerhardt mentioned in his writings that *asthma* can be triggered by chemical odours, strong perfumes and changes in temperature and humidity. Now the physicians were really making headway into the right directions in diagnosing and treating *asthma*. There were clear indications of the disease having a clear connection with allergens.

In 1864 Dr. H. Salter discovered that animal dander could trigger *asthma*. There were many more researches in this field of establishing *asthma* to be closely related to certain allergens. For many years then *asthma* was still an enigma for the doctors because sometimes it was evident that it had a clear genetic connectivity and on other occasions it was clearly indicative of being allergic in nature.

By 1900 it was also established that *asthma* and hay fever were closely related disorders. Since the confusion regarding the disease was still heavily prevailing, many doctors also started predicting the disease to be purely a psychosomatic disorder. Many of the studies of the earlier twentieth century
were focussed on this. This kind of mindset was actually very hampering to the advancement in researches in the field. The discoveries that happened also were sidetracked because of this popular belief. It was much later that it was finally proved beyond all doubt that *asthma* was a physical illness that was totally governed by physical reasons and was not really a disease having its origin in the mind.

In the later part of the twentieth century there was considerable advancement in the field of research pertaining to *asthma*. This was possible because of multiple advancements in science and technology, including the progress in the field of genetics. With major discoveries in the field of allergies it was clearly established that *asthma* was triggered off in many allergic people because of allergens and not heredity.

The field of *asthma* research was finally reaching new horizons and various hoaxes associated with the disease were broken one after the other. Also with the advancement in technology came many more lifestyle diseases and some kinds of *asthma* were also established to be associated with the hazards of modern day living and occupational exposure to many kind of allergens.

Now the doctors have varied knowledge about *asthma* and can very effectively diagnose, treat and control the disorders in people from all age groups.(Poste0, 2007)

Asthma is a chronic condition in the lung that has two main components we have asthma, two thing happen inside the lung constriction , the tightening muscles surrounding the airway, and inflammation the swelling and irritation airway. constriction and inflammation causes narrowing of the air ways , which result in symptoms such as wheezing , coughing , chest tightness , or shortness of furthermore , there is increasing evidence that , if left untreated , asthma can cause term lose of lung function. (hptt:www.healthcarsouth.com).

Interaction of the parent with the disease

The onset of asthma frequently follow traumatic emotional experience. In addition , the parents may have un conscious feeling of rejection of the child.Chronic emotional tension in the child's family and environment may cause him to have reported attacks. In turn , repeated attacks of severe asthma may become the focus of parental anxiety and set up a containing struggle between the parents and the child.(Marlow ,1977,5th ed.).

Management:

A specific, customized plan for proactively monitoring and managing symptoms should be created. Someone who has *asthma* should understand the importance of reducing exposure to allergens, testing to assess the severity of symptoms, and the usage of medications. The treatment plan should be written down and adjusted according to changes in symptoms.

The most effective treatment for *asthma* is identifying triggers, such as cigarette smoke, pets, or aspirin, and eliminating exposure to them. If trigger avoidance is insufficient, medical treatment is recommended. Medical treatments used depends on the severity of illness and the frequency of symptoms. Specific medications for asthma are broadly classified in to fast acting and long acting. Bronchodilators are recommended for short-term relief of symptoms. In those with occasional attacks, no other medication is needed. If mild persistent disease is present (more than two attacks a week), low-dose inhaled glucocorticoids or alternatively, an oral leukotrienes antagonist or a mast cell stabilizer is recommended. For those who suffer daily attacks, a higher dose of

inhaled glucocorticoid is used. In a severe asthma exacerbation, oral glucocorticoids are added to these treatments.

Medications:

Medications used to treat *asthma* are divided into two general classes: quick-relief medications used to treat acute symptoms; and long-term control medications used to prevent further exacerbation.

Long term control Fast acting

Salbutamol metered dose inhaler commonly used to treat ***asthma*** attacks.

- Short acting beta$_2$-adrenoceptor agonists (SABA), such as salbutamol (*albuterol* USAN) are the first line treatment for ***asthma*** symptoms.
- Anticholinergic medications, such as ipratropium bromide provide addition benefit when used in combination with SABA in those with moderate or severe symptoms[2] Anticholinergic bronchodilators can also be used if a person cannot tolerate a SABA.
- Older, less selective adrenergic agonists, such as inhaled epinephrine, have similar efficacy to SABAs. They are however not recommended due to concerns regarding excessive cardiac stimulation.

Fluticasone propionate metered dose inhaler commonly used for long term control.

- Glucocorticoids are the most effective treatment available for long term control.Inhaled forms are usually used except in the case of severe persistent disease, in which oral steroids may be needed.Inhaled formulations may be used once or twice daily, depending on the severity of symptoms.
- Long acting beta-adrenoceptor agonists (LABA) have at least a 12-hour effect. They are however not to be used without a steroid due to an increased risk of severe symptoms. In December 2008, members of the FDA's drug-safety office recommended withdrawing approval for these medications in children. Discussion is ongoing about their use in adults.
- Leukotriene antagonists (such as zafirlukast) are an alternative to inhaled glucocorticoids, but are not preferred. They may also be used in addition to inhaled glucocorticoids but in this role are second line to LABA.
- Mast cell stabilizers (such as cromolyn sodium) are another non-preferred alternative to glucocorticoids.(Articles base).

Prognosis:

The prognosis for ***asthma*** is good, especially for children with mild disease Of ***asthma*** diagnosed during childhood, 54% of cases will no longer carry the diagnosis after a decade. The extent of permanent lung damage in people with ***asthma*** is unclear. Airway remodeling is observed, but it is unknown whether these represent harmful or beneficial changes. Although conclusions from studies are mixed, most studies show that early treatment with glucocorticoids prevents or ameliorates decline in lung function as measured by several parameters. For those who continue to suffer from mild symptoms, corticosteroids can help most to live their lives with few disabilities**.** It is more likely to consider immediate medication of inhaled corticosteroids as soon as ***asthma*** attacks occur.

According to studies conducted, patients with relatively mild ***asthma*** who have received inhaled corticosteroids within 12 months of their first ***asthma*** symptoms achieved good functional control of ***asthma*** after 10 years of individualized therapy as compared to patients who received this medication after 2 years (or more) from their first attacks.[*citation needed*] Though they (delayed) also had good functional control of ***asthma***, they were observed to exhibit slightly less optimal disease control and more signs of airway inflammation.(Articles base).

Methodology

Place of study:

Maternal and child Babylon hospital

Measurement tools for the study:

1. Tape measurement
2. Weight balance
3. Questioners paper & pen

Sample collection method:

A purposive sample 50 of toddler children how admission in maternal and child Babylon hospital.

4.1 Results:

This chapter deals with the results that obtained out of the data analysis produced through the application of statistical procedures.

Table 4-1 Distribution of study sample according to gender.

Gender	Frequency	%
Male	28	56
Female	22	44
Total	50	100

This table shows male 28 (56%) effected with asthma more than female 22 (44%). that show in many of study that say: the male sex exposure to risk of asthma more than female.(Journal,2009).

Table (4-2)Distribution of study sample according to occupation of father.

Occupation of father	Frequency	%
Not work	3	6
Free bossiness	35	70
Employed	12	24
Total	50	100

Table (2) showed the cases of children they suffer from ***asthma*** in our study were in higher rate in those which belong to free work father 35 cases 70% , 3 cases 6% for not work father , and 12 case 24 %for employed father.

Table (4-3)Distribution of study sample according to occupation of mother.

Occupation of mother	Frequency	%
House wife	49	98
Employed	1	2
Others	0	0
Total	50	100

In the (3) table showed the cases of children they suffer from ***asthma*** in this study is higher rate in those which belong to house wife mother 49 cases 98% comparison with those which belong to mother that employed 1 case 2%.

Table (4-4) Distribution of study sample according to level of education(for the father).

Level of education of father	Frequency	%
Not written and not read	5	10
Primary	26	52
Secondary	13	26
College	6	12
Total	50	100

For the education of father. primary education were record 26 (52 %)and 13 (26%)for secondary, 5 (10 %) for poor, and 6 (12 %) for college.

Table (4-5)Distribution of study sample according to level of education(for the mother).

Level of education of Mother	Frequency	%
Not written and not read	4	8
Primary	36	72
Secondary	9	18
College	1	2
Total	50	100

The level of education to the mother of child also affected on the rate of children they were suffer from ***asthma***. The cases of primary education to the mother is 36 case 72% , 4 case 8% for poor education mother , 9 case 18% for secondary education mother , and 1 case 2% for college education mother. All this information showed in table (5).

Table (4-6)Distribution of study sample according to number of Childs in family.

Number of Childs in family	Frequency	%
1	6	12
2	9	18
3	21	42
≥4	14	28
Total	50	100

The result show in table 13 the rate of children they suffer from asthma in first grade in the family is 6 case 12 % , 9 case 13 % for second grade , 21 case 42% for third grade and 14 cases 28% for four or above grade.

Table (4-7) Distribution of study sample according to weight at birth.

Weight at birth\Kg	Frequency	%
1.5-2.5	18	36
3-4	32	64
Total	50	100

This table show that the weight of toddler children at birth with ***asthma*** were 18(36%) for 1.5-2.5 kg and 32(64%) for 3-4 kg.. ***that disagree with the study that say (34%) of children with (≥3kg) have asthma disease while (66%) of children with (≤2kg) have the same disease.(leonard,etal,2000).***

Table (4-8) Distribution of study sample according to weight.

Weight of the child	Frequency	%persanteg
Normal weight	21	42
Low weight	17	34
High weight	12	24
Total	50	100

In this table the result show the rate of normal weight to the Childs is 21 cases 42%, the low weight is 17 cases 34% , the high weight is 12 cases 24%.that seen in the study that 48% with normal weight and 52% abnormal weight between high and low weight of toddler child, (Ian M.panl , etal , 2005).

Table (4-9) Distribution of study sample according to type of lactation

Type of lactation	Frequency	%
Breast feeding	31	62
Artificial feeding	12	24
Mix	7	14
Total	50	100

The results show in table (9) that the childs with breast feeding were more effected by ***asthma*** than other childs with artificial feeding and mixed feeding , so we were found the number of cases is (31, 12 , 7) case (62% , 24% , 14%)

Table (4-10) Distribution of study sample according to age.

Age \ month	Frequency	%

12_23	30	60
24_36	20	40
Total	50	100

This table illustrate that the age group 12-23 months 30(60%) from all cases suffer from ***asthma*** more than the 24-36 months 20(40%). This show in the study that show the (1-6) years more effected from other age group and in toddler age the (1-2)years old of child have (70%) & (2-3) have (30%) from asthmatic toddler children (mogensen,etal,2011).

Table(4-11) Distribution of study sample according the severity of the asthmatic patients.

Type of disease	Frequency	%
Acute	19	38
Chronic	31	62
Total	50	100

This table show that 19 (38%) suffer from acute ***asthma*** and 31 (62%) chronic ***asthma*** for both gender.

Table(4-12) Distribution of study sample according to duration of disease of the asthmatic patients.

Duration of disease	Frequency	%
6 months≤	34	68
> 6 months	16	32
Total	50	100

This table show that the duration of effected with asthma equal or less than 6 month 34(68%) and more than 6 month 16 (32%).

Discussion

A descriptive study for asthmatic toddler children with weight in maternal and child hospital. Asthma is a chronic condition in the lung.

Measurement tools for the study tap Measurement , weight balance and questioners, percentage.

Sample collection for (50) of toddler children. Result and discussion:-Gender , male (28) more than female (22).

Occupation of father free bossiness (35) more than employed (12) and not work (3).

Occupation of mother house wife (49) more than employed (1) and other (o).

Level of education for father primary (26) more than secondary (13) , college (6) , nor writing and not read (5).

Level of education for mother primary (36) more than secondary (9) , not writing and not read (4).

Number of child in family (3) (21) more than ≥4 (14) , (2) (9) and (1) (6).

Weight at birth \ kg (3-4) (32) more than (1-5 , 2-5) (18).

Weight of the child normal (21) more than low weight (17) , high weight (12).

Type of location breast feeding (31) more than artificial feeding (12) , mix (7).

Age \ month (12-23) (30) more than (24-36) (20).

Type of disease chronic (31) more than acute (19).

6 months (34) more than > 6 months (16). ≤ Duration of disease

Recommendations

1- Established (MCH) clinic center for treatment asthmatic patients.

2- Produced health caring for the individual and his \ her families as well as following their conditions.

3- Advice student in the 4th class to produce advanced and wide research in the best condition in the further instead of the current research.

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