

Knowledge and Attitudes of Parents About Bronchial Asthma Among Their Children Whom Attending Karbala Teaching Hospital for Children

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ABSTRACT

Background : Asthma is one of the most common chronic diseases among children. Increases in asthma prevalence, morbidity and mortality have intensified public health concern. Childhood asthma carries a significant burden for patients, families and communities.

Asthma management includes monitoring, control of symptoms and the prevention of exacerbations. A wide gap exists between recommended and actual practice, owing to educational barriers and a lack of adequate asthma-related knowledge.

Aim : The aim of this study to assess the knowledge, attitudes of parents having children with asthma and to identify the factors associated with parents knowledge.

Method: A cross-sectional study with analytic elements enrolled two hundred and five parents of children with asthma between (six months – five years) , who attend the Karbala pediatric hospital between the 15th of February to the 30th of June 2018. A special questionnaire used which consists of four parts: involves socio-demographic questions, information about disease duration and the type of treatment , questions to assess the parent's knowledge, and questions to assess the parents attitudes.

Result: The largest number of participants were mothers with mean age 29 years and largest number of asthmatic children were males (69.3%) with mean age were 34.4 months. 48.8% of participants had poor knowledge score, while 61% of participants had poor attitude score. The most factors effect on knowledge score were residence, sequence of children in their family, duration of disease, age of onset of disease, age of participants and educational level of mothers.

Conclusions: generally, the parents had poor knowledge and attitudes about their children asthma so improving knowledge and attitudes may encourage better practices among parents of children with asthma.

1. INTRODUCTION

Bronchial asthma is a heterogeneous disease , usually characterized by chronic inflammatory disorder of the airways characterized by an obstruction of airflow, which may be completely or partially reversed with or without specific therapy^(1,2) .

Childhood asthma represents a significant burden, this not only in terms of morbidity and reduced quality of life but also in terms of healthcare costs, as reflected by the high rates of unscheduled emergency department visits, hospitalization, and school absenteeism⁽³⁾ . In Iraq the prevalence of asthma in (0-4) years was 4.7 per 1000 person according to most recent Iraq family health survey⁽⁴⁾ .The World Health Organization (WHO) has estimated that 15 million disability-adjusted life-years are lost and 250,000 asthma deaths are reported worldwide, Approximately 500,000 annual hospitalizations in (34.6% in individuals aged 18 year or younger) are due to asthma. ⁽⁵⁾

Increased knowledge of parents about asthma in their children was associated with improved lung function and self-efficacy, a reduction of restricted activity days, school absenteeism , visits to an emergency department and fewer nights disturbed by asthma⁽⁶⁾

Parents knowledge about asthma refer to knowledge about the right definition of disease, symptoms and stimulus of asthma , inhaled corticosteroid and the chronic nature of disease. While parents attitudes and beliefs are false fix ideas about the disease that assessed by knowing if the parents allowed their child to do every day activities like any apparently healthy child , the effectiveness of asthma medication in controlling the asthma attack and it's side effect and whether inhaled corticosteroid could hinder the child growth ⁽⁷⁾ . So asthma action plans should be provided for the family/careers of all children with asthma, including those aged 5 years and younger. Action plans, developed through collaboration between an asthma educator, the health care provider and the family, have been shown to be of value in older children, although they have not been extensively studied in children of 5 years and younger⁽¹⁾.

This study was conducted to investigate beliefs and knowledge of parents in Karbala city toward asthma in their children and to determine the factors that associated with the knowledge of parents about bronchial asthma.

2. Subjects and methods

The study was a cross- sectional study with analytic elements. The data collection was carried out in pediatric outpatient clinic, emergency unit and asthma clinic at Karbala

teaching hospital for children at Karbala city, Iraq. The data collection was done between the 15th of February to the 30th of June 2018.

Consentient and purposeful sample of two hundred and five parents(mother and/or father) whom have children(six months-five years) diagnosed with bronchial asthma for at least 3 months duration and attend the pediatric hospital. We excluded all asthmatic children who attend the hospital with relative other than his/her parents , and those with acute severe asthma attack.

The information were collected from the participants regarding selected variables by Self-constructed questionnaire form. The first part of the questionnaire included information about socio-demographic characteristics of child and his /her family, the second part of the questionnaire includes information about disease duration and type of treatment , the third part includes information about the participant's knowledge.

2.1. Scoring system of participants' knowledge: The total scores of parents' knowledge were 15 scores. The answer of each question was as the following: I don't know=0 score, incorrect answer=0 score and correct answer=1 scores. The total scores were categorized as the following: Score 0 to 8 indicates poor knowledge. Score 9 to 11 indicates fair knowledge. Score 12 to 15 indicates good knowledge.

2.2. Scoring system of participants' attitude: The total scores of participants' attitude were 8 scores. The answer of each question was as the following: I don't know=0 score, inaccurate answer=0 score and correct answer=1 scores. The total scores were categorized as the following: Score 0 to 4 indicates poor attitude. Score 5 to 6 indicates fair attitude. Score 7 to 8 indicates good attitude.

2.3. Statistical analysis: Data was analyzed using statistical package for the social sciences (spss version 23) computer software program. Descriptive statistics presented as frequency tables, Continuous variables were expressed as mean \pm standard deviation and categorical variables as numbers and percentages. Student –t test and ANOVA test used to find association between categorical variables and continuous variables. Linear regression model was used to identify the independent risk factors (as an outcome variable). The association was considered to be statistically significant when the P-value was found to be less than 0.05.

3. RESULT

3.1. Parents knowledge: Several questions were used to ascertain knowledge of responded parents about their childhood asthma ,49.8% of responding parents had don't know answer about asthma definition, about cause of asthma , 47.8% had right knowledge about allergic cause of asthma , 59.5% had right knowledge about genetic cause of asthma and 21.5% had right answer about environmental cause of asthma , 23.4% of responding parents don't know if their children had asthma or not, 64.4% know that asthma was chronic disease, 88.8% had right knowledge about symptoms of asthma and 65.9% of responding parents know that asthma was not contagious disease, all this showed in figure 1.

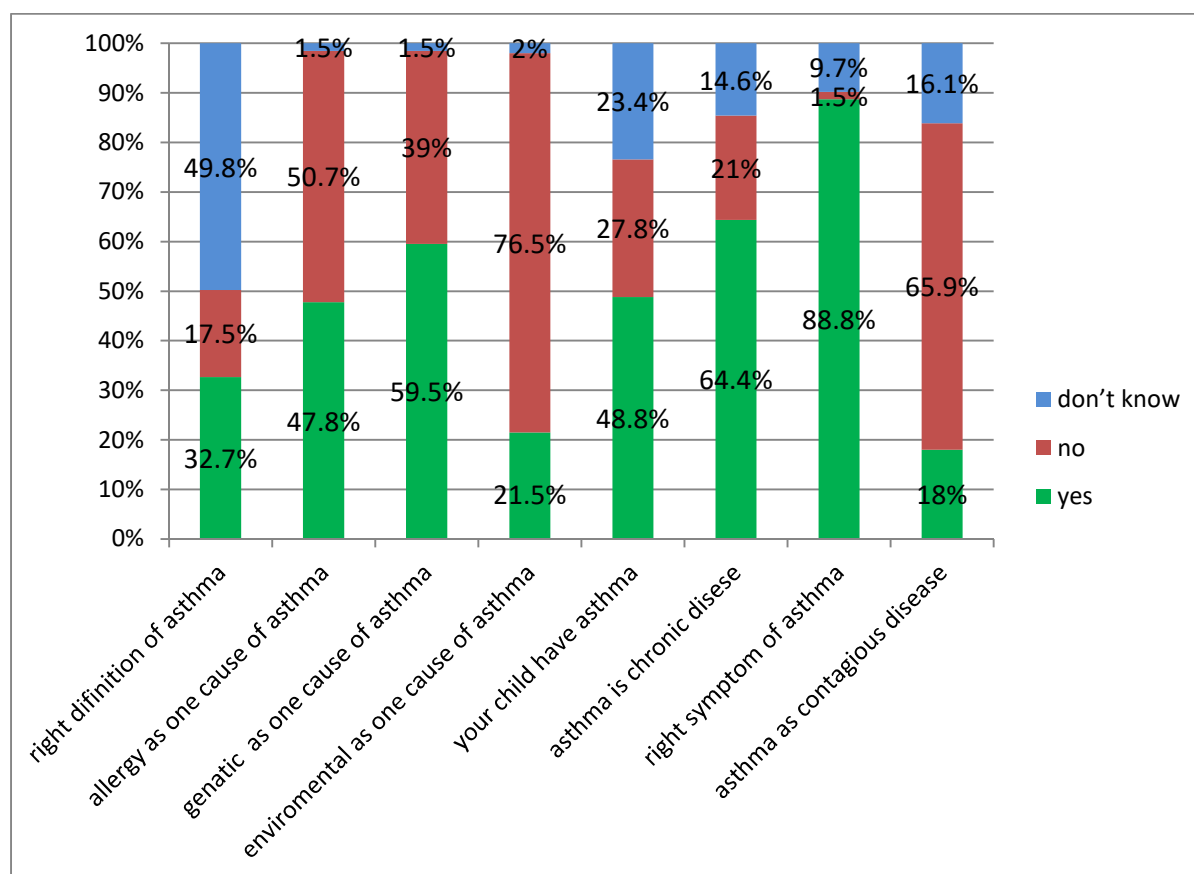


Figure1: Bar chart for response to knowledge questions (First part).

About parent knowledge regarding stimulant of asthma , 86.3% , 84.9% ,36.6%, 59.5% and 43.4% of parents know that the cold, irritants, psychology factors, seasonal changes and some types of foods may stimulate asthma attack ,respectively.

The percentage of parents that know about inhalers medication were 88.3% of parents and 61% of parents know about the use the inhaler medication , all this showed in figure 2.

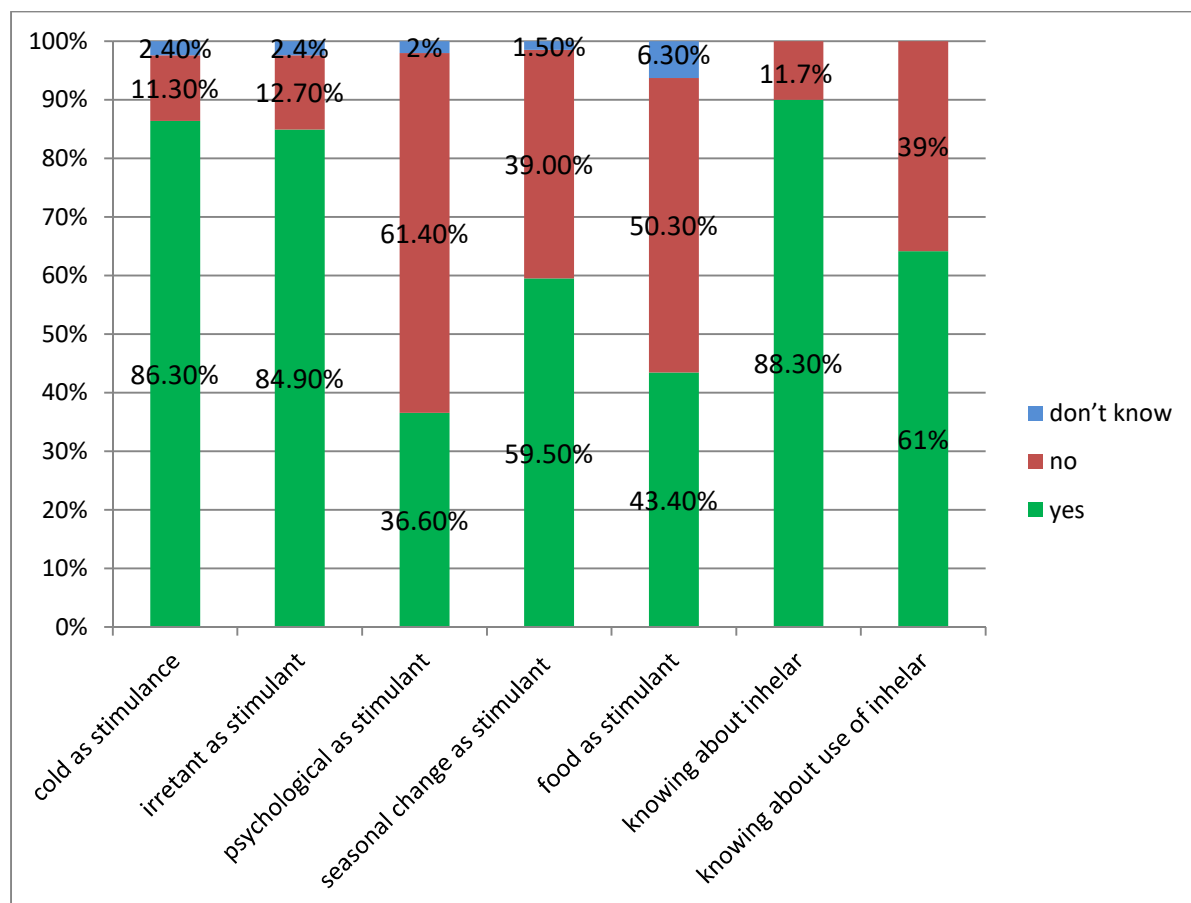


Figure 2 : Bar chart for response to knowledge questions (second part).

3.2. Parents attitude: Several questions were used to ascertain attitudes of responded parents about their childhood asthma, 60% of responder parents think that asthma medication will cause dependence (addiction) , 59% of parents think that the child with asthma cannot play like normal child, 12.2% of parents don't know that regular medication can control asthma attack, 44.9% of parents think that the medication of asthma affect child growth, about side effect of asthma medication 65.4%,13.2% and 17.5% of parents think that medication cause decrease immunity, decrease intelligent and damage the heart,respectively.69.2% of parents don't think that alternative medication can treat asthma, figure 3.

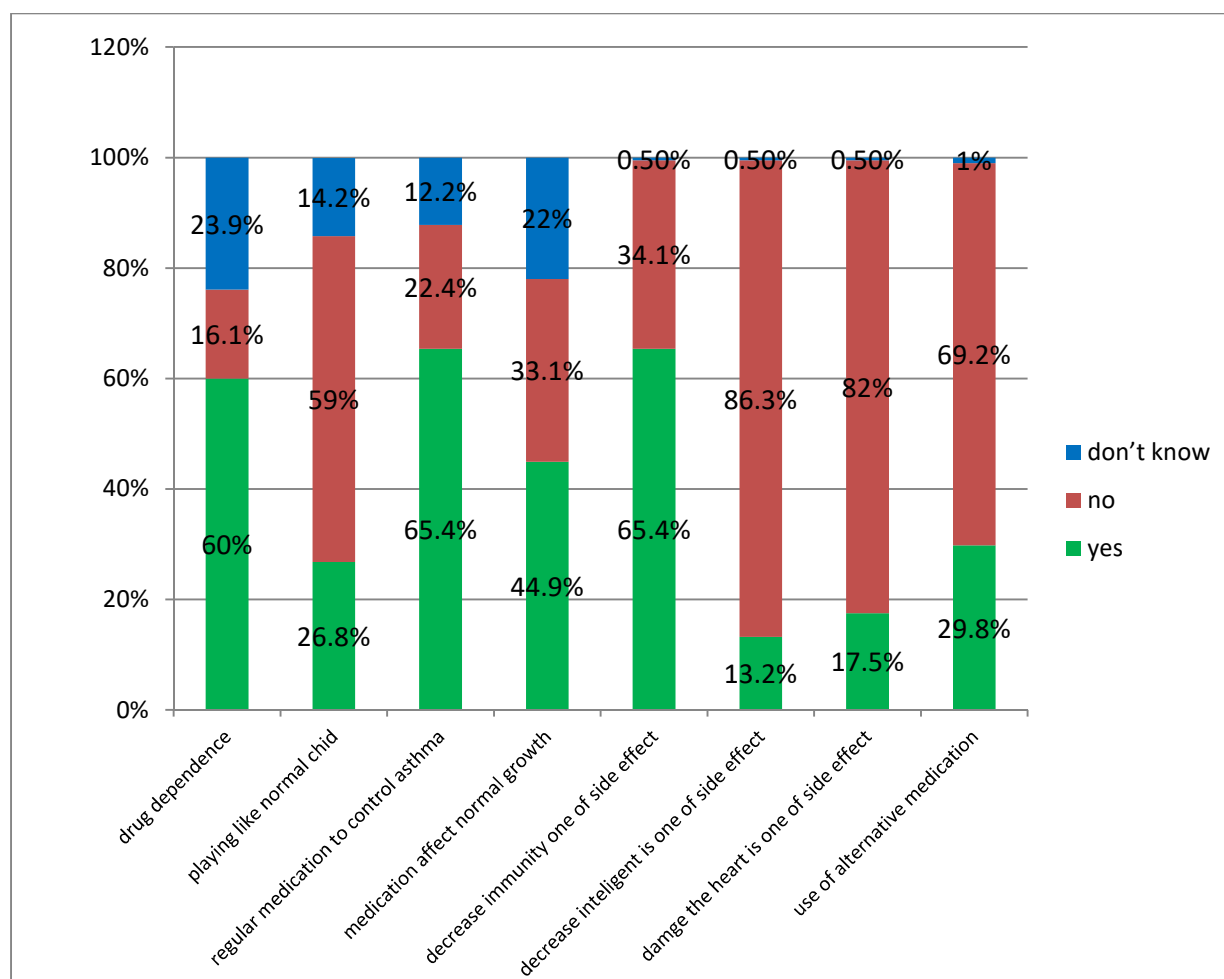


Figure 3: Bar chart for response to attitude questions.

3.3. Knowledge score: Regard the knowledge score, the parents who had poor knowledge score were 100(48.8%), the parents who had fair knowledge score were 90(43.9%) and only 15(7.3%) parents had good knowledge score. The total mean score was 8.6(\pm 2), standard error of mean was 0.124 and 95% confidence interval was 8.41-8.91 , table 1.

Table 1: Distribution of parents according to knowledge score.

knowledge score	SE=0.124		95% C.I.=8.41- 8.91	
	No.(%)	Mean(\pm SD)	Mean percentage	Median
Poor	100(48.8%)	6.9(\pm 1)	46%	7
Fair	90(43.9%)	9.9(\pm 0.8)	66%	10
Good	15(7.3%)	12.4(\pm 0.6)	82.6%	12
Total	205	Mean of total No. 8.6(\pm 2)	mean % of total No. 57.3%	9

3.4. Attitude score: Majority of parents had weak attitude score 125(61%) of parents while only 8(3.9%) of parents had good attitude score about childhood asthma. The total mean attitude score was 4.1(\pm 1.4), standard error of mean was 0.09 and 95% confidence interval was 3.9-4.3, table 2.

Table 2: Distribution of parents according to attitude score.

Attitude score	SE=0.09 95% C.I =3.9- 4.3			
	No. (%)	Mean(\pm SD)	Mean percent	Median
Weak	125(61%)	3.1(\pm 0.8)	38.7%	3
Fair	72(35.1%)	5.5(0.5)	68.7%	5
Good	8(3.9%)	7.1(\pm 0.3)	88.7%	7
Total	205	Total mean 4.1(\pm 1.4)	Total mean% 51.2%	4

3.5.Factors that influenced parents knowledge: The most significant factors that influenced the level of parents knowledge about asthma were resident(parents who lived in urban region had higher knowledge score than those lived in rural region), sequence of child in the family(the knowledge score increase with increase chance of being the last asthmatic baby in family),duration of disease(there was a significant association between duration of asthma in children and score of knowledge), age of onset of asthma(the knowledge score for parents who had child developed asthma in age equal or less than one year was higher than those parents who had child developed asthma in age more than one year age), age of participant(significant association between age of participants parents and score of knowledge), and educational level of mother (associated significantly with knowledge score of participants parent was found in the mother with highest educational level (university) table 3.

Table 3:Linear regression for some variables in relation to knowledge score.

Variable	OR	P value
Resident	3.39	0.001
Sequence of child	2.63	0.009
Duration of disease	2.14	0.017
Age of onset of asthma	-2.2	0.029
Past family history	-0.85	0.39
Age of participant	3.13	0.002
Educational level of mother	2.74	0.007

OR= Odd ratio, significant P value ≤ 0.05 .

4. DISCUSSION

4.1. Participant's knowledge:

In the current study, participants with poor knowledge were 48.8% of total participants, in compare with other study that done on same objective like Indian study at 2014 that showed The knowledge regarding asthma was inadequate among (32.5%) of mothers⁽⁸⁾, while other study done in Saudi Arabia at 2018 that show poor knowledge on 55.3% of parents⁽⁹⁾. in another study that done in china that involve 29 city at 2013 done on 2960 parents with asthmatic child (0-14 years) which showed 81.69% of parents had poor knowledge on asthma ⁽¹⁰⁾. That also in other Brazilian study at 2005 that includes 93 parents with asthmatic children aged between 29 days and 18 years old and found that 93.1% of parent had poor knowledge ⁽¹¹⁾. In other study that done in Egypt at 2014 that show 97.1% of participant had poor knowledge score, the cause of this high percentage in Egypt may because small sample size (70) and the low percentage of high education of participants (4.3%) ⁽¹²⁾.

Increasing Age of participant and educational level of mothers associated significantly with knowledge score this might be because they get more experience and cognition through social media learning in order to understand the disease better

and to seek information about it, and it compatible to Saudi study in 2008⁽¹³⁾. While other study that done in south India at 2014 revealed that there was no statistically significant association between level of knowledge with age or educational status of mother ⁽⁸⁾.

The place of living in the current study also effect on knowledge about asthma, families that lived on urban area had higher knowledge than families lived in rural area. Also there was a study done in Lebanon at 2011 show that parents from rural area had poor knowledge than those parents from urban area ⁽¹⁴⁾ this may be due to parents who lived in urban area had more educational level and had easily access to hospital and had more chance to get information about asthma than parents who lived in far and difficult to access area like rural area.

The history of disease (age at onset and duration of asthma) associated with level of knowledge on parents, this probably attributed the longer the disease lasts the more experience and how to deal with it , this similar to study done in Khartoum 2003⁽¹⁵⁾ , while other study that done on Malaysia 2002 showed there were no association between knowledge and duration of disease ⁽¹⁶⁾.

The sequence of child also effect on level of parents knowledge, the reason for this may be with increase the number of children the parents will get more experience on medical condition. While other study that done in Egypt at 2014 on 70 convenient mothers had children between 1-5 years, showed no association with number of sibling. The cause of that difference may be due to different sample size and majority of mothers had poor knowledge (97.1%) ⁽¹²⁾.

4.2. Participant's attitude:

In current study 61% of participants had poor attitude score . This study show only 26.8% of parent's belief that their children can play as normal children, this indicates that there was doubt among parents about whether children with asthma can participate in sport, and this result nearly the same result in china study that show only 33.6% of parents allow their children to participate in minor sport only ⁽¹⁰⁾ and study in Philippine heart center at 2012 that showed majority of parents had false beliefs , (90%) were still anxious involving their kids to rigorous physical activity, while more than half (58%) prohibit them to go outdoor ⁽¹⁷⁾.

In items related to treatments, only 22.4% beliefs that regular medication cannot control asthma attack and this wrong belief may be the cause of the majority of children came to hospital because of exacerbation of asthma attack, 60% worried about drug dependence (addiction) on inhaler, 44.9% believed medication effect on normal growth, 65.4% believed medication effect on immunity, 13.2% and 17.5% believed medication effect on intelligent and heart, respectively. This indicate that the parents had poor attitudes and strongest fears regarding medication are related to side effects, the result similar to study done in Lebanon at 2011 that show (48%) of parents worried that inhaler may cause dependence , (56%) worried about the side effects of inhaler⁽¹⁴⁾, while other study done in India 2016 that show a very positive attitude among the parents toward bronchial asthma in their children⁽⁷⁾.

This study shows that 29.8% of parents use alternative medication for asthma treatment and this may be underestimated because the study in hospital base and in urban area in compare to other study done in other country like in India at 2016 that show 72% of parents use alternative medicine in asthma management ⁽¹⁸⁾.

The cause of this is the presence of inherited fix false ideas about chronic diseases that made a wide gap between the recommended (wanted) attitudes and actual attitudes, human attitudes are complex and involve psychological, social and cultural factors studies.

5. Conclusions:

- The parents of asthmatic child had inadequate knowledge and attitude for childhood asthma.
- The low knowledge of parents mostly affected by residence (rural), low educational level of mother, sequence of child in family (being 1st child), less duration of asthma, delay onset age of asthma and younger age of participants.
- The majority of parents had false beliefs about childhood asthma, and asthma medication.

6. Recommendations:

- Improve the knowledge and attitudes of parents by provide adequate education to parents about asthma cause, signs and symptoms, triggering

factors of asthma, treatment and important of compliance on treatment by encourage the role of media, nongovernmental organization and health workers in health education regard asthma.

- Asthma action plans should be provided for the family/careers of all children with asthma . Action plans, developed through collaboration between an asthma educator, the health care provider and the family.
- Educational training programs about asthma should be conducted at primary health care and hospitals for parents to understand and know how to deal with asthma as a chronic disease in order to overcome challenges of asthma control.
- Simple educational pamphlets and posters about asthma should be provided for all parents in outpatient clinics.
- Similar studies should be conducted on a larger sample of children with different age and region.

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