



## Assessment of Knowledge, Attitude and Practices of Teachers Regarding Childhood Asthma in Rural School of Maharashtra, India.

### KEYWORDS

asthma, children, teachers, rural, school, attitude, practice

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**ABSTRACT** From the age of five years, children spend up to 30% of their day at school under the care and supervision of teacher acting in loco parentis. Asthma is the commonest chronic medical condition school teachers have to deal with in their pupils, affecting in excess of 10% of children. So, the aim of this study was to assess the knowledge of teachers about asthma and its triggers, to identify particular areas of limited understanding, and to investigate how teachers feel about managing asthmatic children in school. This study also examined the attitude and practices of school teachers regarding childhood asthma and its management, investigated the level of knowledge and anxiety teachers had about asthma, and teachers' opinions about the potential sources of further information about the disease in a rural school, Maharashtra. **Methods:** The sample comprised of 58 teachers. Information was collected by interview technique, using predesigned and pretested proforma during school hours at suitable timings convenient to them. **Results:** There were in all 58 teachers out of which 12(20.68%) were males and 46(79.31%) were females. Only 15(25.86%) teachers were <30 years of age. 27(25.86%) teachers were teaching primary classes. All the 58 teachers (100%) had heard/read about asthma the main source of information being television for 42(72.41%). Majority of teachers 33(71.74%) perceived that allergic reaction of the respiratory tract is the cause of asthma. Almost all the teachers 54(93.10%) said that difficulty in breathing is the common symptom of asthma

**Conclusion:** Knowledge of school teachers regarding childhood asthma is lacking in certain areas like causal and exacerbating factors. Knowledge regarding management of asthma is poor. Attitude of school teachers regarding childhood asthma is more or less positive and their practices are satisfactory irrespective of their age, gender and teaching cadre.

### INTRODUCTION

From the age of five years, children spend up to 30% of their day at school under the care and supervision of teacher acting in loco parentis. Asthma is the commonest chronic medical condition school teachers have to deal with in their pupils, affecting in excess of 10% of children. Teachers may need to supervise inhaler administration, decide on the need for extra treatment in acute attacks, consider whether children should take part in school games or go out in cold weather, and may have to send sick children home or to health care professionals.<sup>1</sup>

Regarding the fact that two thirds of child's life passes in school, it is important for teachers to have enough knowledge about asthma and how to encounter the disease. Teachers should identify asthmatic student as they are primarily responsible for supervising school children with asthma during school hours, and they take decisions regarding physical activities and both emergency and regular drug treatment. Few school teachers, however, receive instructions/training about asthma or how to manage asthmatic children.<sup>2</sup> So, the aim of this study was to assess the knowledge of teachers about asthma and its triggers, to identify particular areas of limited understanding, and to investigate how teachers feel about managing asthmatic children in school. This study also examined the attitude and practices of school teachers regarding childhood asthma and its management, investigated the level of knowledge and anxiety teachers had about asthma, and teachers' opinions about the potential sources of further information about the disease.<sup>3</sup>

**Methodology:** Approval from the Institutional Ethics Committee was obtained. The school was selected purposively for feasibility reasons. The necessary permission for carrying out the study was obtained from the Principal of the school after apprising her about the nature and the purpose of the study. There were 58 teachers in all and all of them were selected for the study. Verbal consent was sought and their co-operation was requested after explaining them the nature and the purpose of the study. A predesigned and pretested question-

naire was used to assess the knowledge, attitude and practices of the teachers regarding asthma. Data was collected by interview technique during school hours at suitable timings convenient to them. Each teacher required 15-20 min. About 10 teachers were interviewed in a day.

**Statistical Analysis:** Descriptive statistics (percentage) were used to summarize responses of the study subjects. Data was analyzed using STATA- 8 statistical software.

**Results :** There were in all 58 teachers out of which 12(20.68%) were males and 46(79.31%) were females. Only 15(25.86%) teachers were <30 years of age of which 1 was male and 14 were females while 43 teachers, 11 males and 32 females were >30 years of age. Of the 58 teachers 31(74.13%) were teaching the secondary classes and 27(25.86%) teachers were teaching primary classes. All the male teachers and 19 female teachers were teaching the secondary classes while 27 female teachers were teaching primary classes.

All the 58 teachers (100%) had heard/read about asthma. The main source of information was television for 42(72.41%) teachers followed by radio for 24(41.38%). Newspaper was the source of information for 17(29.31%) teachers and other printed literature for 16(27.59%) teachers. Other printed literature included magazines, journals, textbooks etc. Discussion with friends constituted the source of information for 21(36.21%) teachers followed by discussion with parents, relatives, medical personnel, neighbours, colleagues and children. Only one (1.72%) teacher reported that information regarding asthma is included as a part of their curriculum.

Majority of teachers 33(71.74%) perceived that allergic reaction of the respiratory tract is the cause of asthma. Heredity 20(43.48%), Infection of the respiratory tract 9(19.57%), stress / tension 7(15.22%), constriction of the respiratory tract 5(10.87%) and pollution 4(8.69%) were the other causes as enumerated by the teachers.

Almost all the teachers 54(93.10%) said that difficulty in breathing is the common symptom of asthma followed by wheezing 21(36.21%), cough at night 22(37.93%) and tightness in the chest 18(31.03%). The other symptoms reported were tiredness 3(5.17%) and fever 1(1.72%).

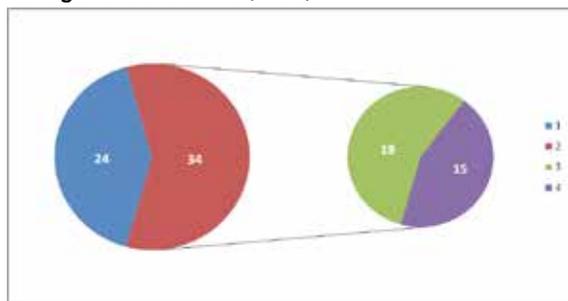
Allergies and playing in dusty area were the most frequently reported exacerbating factors/ triggers of asthma by 36(62.07%) teachers. Cold weather, house dust and smoke were next commonly reported factors by 33 (56.90%) teachers. Other factors as enumerated by teachers were cough and cold 27(46.55%), pets 12(20.69%), pollen 11(18.97%), stress/ tension 9(15.52%), dampness 7(12.07%), exercise 7(12.07%), anxiety / fear 7(12.07%), playing in the rain 5(8.62%) and excitement 3(5.17%).

All but three teachers 55(94.82%) stated breathlessness as feature of acute attack of asthma. The other commonly reported features were inability to speak 27(46.55%), heaving chest 28(48.28%), wheeze 21(36.21%), shallow noisy breathing 24(41.38%) and distress 3(5.17%). Only 1(1.72%) one teacher felt that discomfort in lying down position and blue lips are also features of acute attack of asthma.

10(17.24%) teachers felt that asthma causes retardation of growth, 52(89.66%) teachers were of the opinion that asthmatic student tires easily and is less active in sports. However only 2(3.45%) teachers had a misconception that asthma can spread to other students

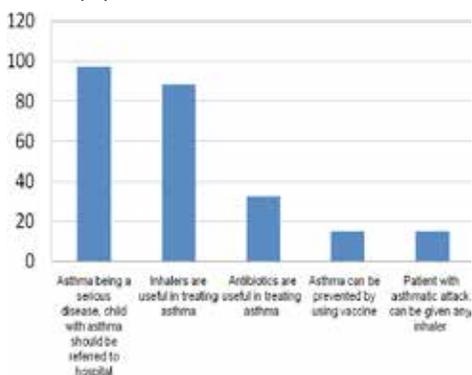
Only 8 teachers had actively managed acute asthma attack in students during school hours. Of these 7 had undergone training in first aid. All the teachers felt the need to have such training except two.

**Fig 1. Distribution of teachers who had heard / read about management of asthma (n=58)**



- 1) Teachers had not heard / read about management of asthma (24)
- 2) Teachers had heard / read about management of asthma (34)
- 3) Secondary teachers (19) and 4) Primary teachers (15)

**Fig 2. Teachers' knowledge regarding management of asthma(%)**



**Table 1. Attitude of school teachers regarding asthma**

Attitude	Teachers (n=58)					
	Agree		Disagree		No comments	
	No	%	No	%	No	%
I will not mind to have a child with asthma in my class.	26	44.83	25	43.10	7	12.07
I give /will give special physical and emotional care to a child with asthma.	56	96.55	0	0.00	2	3.45
I worry about objection from other parents if I have children with asthma in class.	9	15.52	35	60.34	14	24.14
If someone is going to have an attack of asthma, it will happen no matter what anyone does.	10	17.24	34	58.62	14	24.14
When someone has an attack of asthma at school, I feel it is usually because he / she has been careless.	6	10.34	48	82.76	4	6.90
Recovery from an asthma attack in school depends on the quality of care by teacher	30	51.72	14	24.14	14	24.14
Asthmatics are just as physically fit as non asthmatics	20	34.48	33	56.90	5	8.62
Asthmatics have similar intelligence level as other children.	50	86.21	6	10.34	2	3.45
Asthmatics are usually from socially disadvantaged homes	5	8.62	48	82.76	5	8.62
I am unhappy about my knowledge of asthma and ability to manage it	24	41.38	21	36.21	13	22.41

**Table 2. Practices\* of school teachers regarding asthma**

Practices	Teachers (n=58)					
	Yes		No		Not sure	
	No	%	No	%	No	%
Become panicky when the student gets an asthma attack	9	15.52	28	48.28	21	36.20
Have enough resources to manage asthma	12	20.68	39	67.25	7	12.07
Ensure that necessary drugs are taken before games if required.	29	50.00	29	50.00	0	0.00
Supervise asthmatic children using their inhaler	37	63.79	21	36.21	0	0.00

**Table 3. Practices of teachers in acute attack of asthma**

Practices	Teachers (n=46)	
	Number	Percentage
Locate inhaler	33	56.89
Ask him/her take long deep breaths	25	43.10
Ask him/her to stay calm	18	31.03
Make him/her sit up straight	15	25.86
Make him /her lie down	12	20.68
Others specify*	5	8.62

\*make him/her sit in open space without suffocation, take him to doctor, give warm water, give moral support.

**Table 4. Training status of school teachers regarding childhood asthma**

Practices	Teachers (n=58)			
	Yes		No	
	No	%	No	%
Ever had any training on childhood asthma	5	8.62	53	91.38
Ever demanded any such training on childhood asthma	7	12.06	51	87.94

**Discussion :** From the age of five years, children spend up to 30% of their day at school under the care and supervision of teacher acting in loco parentis. Asthma is the commonest chronic medical condition school teachers have to deal with in their pupils, affecting in excess of 10% of children. Teachers may need to supervise inhaler administration, decide on the need for extra treatment in acute attacks, consider whether children should take part in school games or go out in cold weather, and may have to send sick children home or to health care professionals.<sup>8</sup>

Regarding the fact that two thirds of child's life passes in school, it is important for teachers to have enough knowledge about asthma and how to encounter the disease. Teachers should identify asthmatic student as they are primarily responsible for supervising school children with asthma during school hours, and they take decisions regarding physical activities and both emergency and regular drug treatment. Obviously teachers' knowledge, attitude towards children with illness have a huge influence on these concerns. It appears appropriate to investigate the perception of school teachers<sup>67</sup>. As there was hardly any study on teachers' knowledge, attitude and practices regarding childhood asthma in India we conducted the study on all the teachers of the school selected for the study. All the 58 teachers were interviewed for the assessment of knowledge attitude and practices regarding childhood asthma. Teachers' responses to the statements on causes of asthma were relatively satisfactory, however there were some areas of misconceptions. Many teachers have a good knowledge of the symptomatology of asthma despite lack of training. It is interesting to find that teachers believed that asthmatic children do not tire easily and should be encouraged to be involved in sports. This may reflect personal observation of asthmatic children since more than

60% of teachers said they had students with asthma in their class. On average there was a relatively higher percentage of teachers who answered "don't know" under matters concerning asthma management indicating limited understanding on this subject compared to causes and symptomatology of asthma.<sup>65</sup> Similar findings have been reported by others. It is clear from this study that, in general, the teachers in this sample had limited knowledge and understanding of asthma and furthermore- were aware of this fact. There are likely to be four to six children with asthma in any class of 60 children. Their management should benefit from optimal understanding of the condition, and of the care necessary for their well being. Our findings are similar to those of Storr et al, who found that the teachers that they studied were also aware of the paucity of their knowledge.<sup>66</sup> We found that teachers had particularly limited understanding of the treatment of asthma, Class teachers clearly have concerns about their asthmatic pupils and on the whole seem keen to remedy their lack of knowledge concerning asthma. The fact that 7(12%) of teachers mentioned anxiety as a trigger factor for an asthma attack and only 27(46%) mentioned viral infections, demonstrates that teachers have misconceptions about the nature of the disease. Teachers' understanding about asthma and sports and games was not ideal. Only 56% of teachers knew that playing games in a cold wind can provoke exacerbations of asthma. Furthermore, although 7(12%) mentioned exercise as a trigger factor, few teachers understood the potential importance of treatment before exercise and made appropriate provisions – 23 (50%) made children to take necessary drugs before games if required. Thus, many asthmatic pupils did not have their activities curtailed unnecessarily.<sup>8</sup> It is highly desirable that asthmatic children should be encouraged to take full part in school sports and activities, using the appropriate medication if necessary.<sup>66</sup>

In-service training appears to be required on two different levels. First, headteachers need to be made aware of the problem of asthma in schools and more importantly avenues for remedying the difficulties that are highlighted. Secondly, class teachers need to be given enough information to both alleviate their concerns and allow them to deal with emergencies and help administer treatment where necessary. Leaflets and television or video programmes were suggested by teachers as possible methods of providing education about asthma but the effectiveness of these in the absence of personal contact with health professionals is doubtful.<sup>8</sup> The teachers performed rather better on the more psychosocial statements-for example, 'asthma is influenced by emotional factors' (true), and 'asthmatic children usually come from socially disadvantaged families' (false). This is likely to reflect the widespread belief, confirmed in this study, that asthmatic children are no different from other children or come from socially disadvantaged backgrounds but, like other children, they may be influenced by emotional factors. All the teachers questioned believed that asthmatic children should be educated in normal schools. A small proportion (10%), however, believed that asthmatic children were different from other children. The reasons given included apprehension about children with asthma indulging in strenuous physical activity, lack of confidence, nervousness, and physical characteristics. This probably reflects the teachers' experience of individual children; an educational programme might provide a broader view.<sup>13</sup> Teachers in our study responded favorably to having education training on asthma in their teaching curriculum.<sup>65</sup>

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