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Research Article

Understanding Childhood Asthma: A Study on Knowledge Among School Teachers

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Abstract: ***Introduction:*** Asthma is a major global health concern, affecting nearly 262 million people worldwide and causing approximately 455,000 deaths annually. India contributes significantly to this burden, with an estimated 15–20 million individuals living with asthma. The economic impact of asthma surpasses that of diseases such as Tuberculosis and HIV/AIDS combined. It is the most prevalent chronic disease among children and is associated with considerable school absenteeism, hospital admissions, and reduced quality of life. A large proportion of asthma-related deaths occur in low- and middle-income countries, highlighting disparities in healthcare access and awareness.**Aim:**To evaluate the level of knowledge among high school teachers regarding childhood asthma.**Material and Methods:**A prospective, cross-sectional observational study was carried out among 200 school teachers from government and private institutions.The study was conducted over two years after approval from the Institutional Ethics Committee. Data were collected using a structured and pretested questionnaire assessing knowledge, attitude, and practices (KAP). Schools were selected through random sampling, and informed consent was obtained from all participants. Data analysis was performed using Microsoft Excel 2019 and SPSS version 26, applying descriptive statistics and Chi-square tests, with $p < 0.05$ considered significant.**Results:**Out of 200 participants, 108 (54%) demonstrated good KAP scores (13–19), while 92 (46%) showed average knowledge (7–12). A statistically significant association was observed between KAP scores and type of school as well as teaching experience ($p < 0.05$).**Conclusion:**Teachers exhibited generally good knowledge and positive attitudes toward asthma, though variations existed based on institutional type and experience level.

Keywords: Childhood asthma, Knowledge, Attitude, Practices, School teacher

INTRODUCTION

Asthma remains a significant public health issue worldwide, affecting millions and contributing to substantial mortality.[1] In India, the disease burden is particularly high, with millions affected and a notable impact on healthcare systems. [2]The financial burden associated with asthma exceeds that of Tuberculosis and HIV/AIDS combined, largely due to treatment costs, hospitalizations, and productivity loss.[3]

Among children, asthma is the most common chronic illness and has far-reaching effects on daily life and education.[4] The condition is especially challenging in low-resource settings, where limited awareness, delayed diagnosis, and inadequate treatment contribute to poor outcomes. According to the World Health Organization, most asthma-related deaths occur in low- and middle-income countries.[5]

Asthma significantly disrupts children's education, leading to frequent absenteeism and hospital admissions.[6] Studies indicate that a large proportion of children experience recurrent symptoms severe enough to interfere with routine activities. [7,8] These findings underscore the importance of improving awareness and management strategies, particularly in school environments where teachers play a crucial role in early identification and support.

Aim

To assess the level of knowledge of high school teachers regarding asthma in children.

MATERIALS AND METHODS

This study was designed as a cross-sectional observational study conducted over a period of two years in schools at Karjat. A total of 200 teachers from both government and private schools were included. The sample size was expanded to 200 to improve study reliability. Participants were selected through random sampling, and only those who provided informed consent were included. Data collection was carried out using a structured questionnaire that assessed demographic details along with knowledge, attitude, and practices related to asthma.

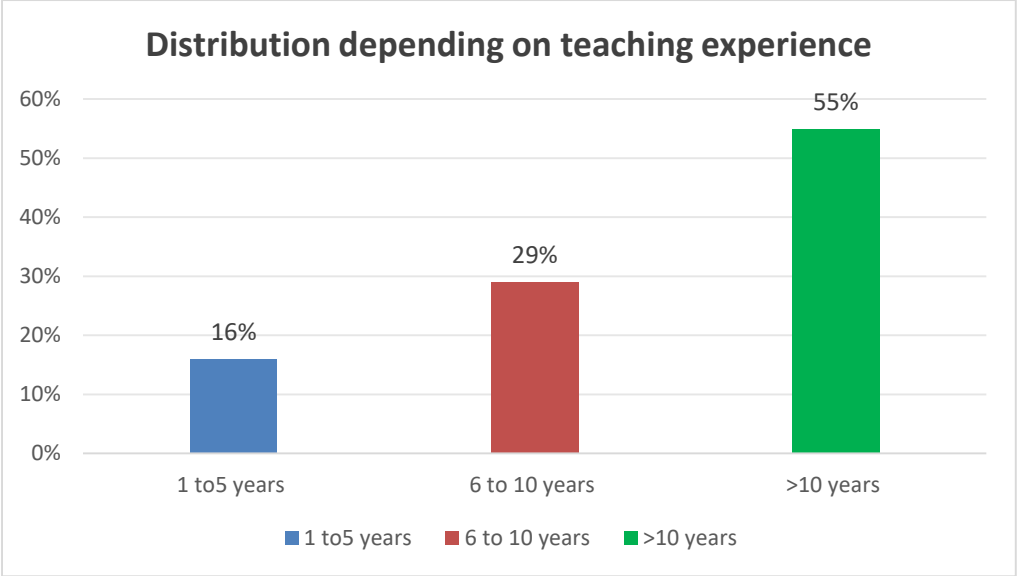
Each correct response was assigned one point, and incorrect responses were scored zero. Data were analyzed using Microsoft Excel 2019 and SPSS version

26. Statistical analysis included descriptive statistics and Chi-square tests, with significance set at $p < 0.05$. Ethical approval was obtained prior to study initiation.

RESULTS

The majority of participants (68%) were aged between 31–45 years, followed by 20% in the 46–60 age group and 12% between 20–30 years.

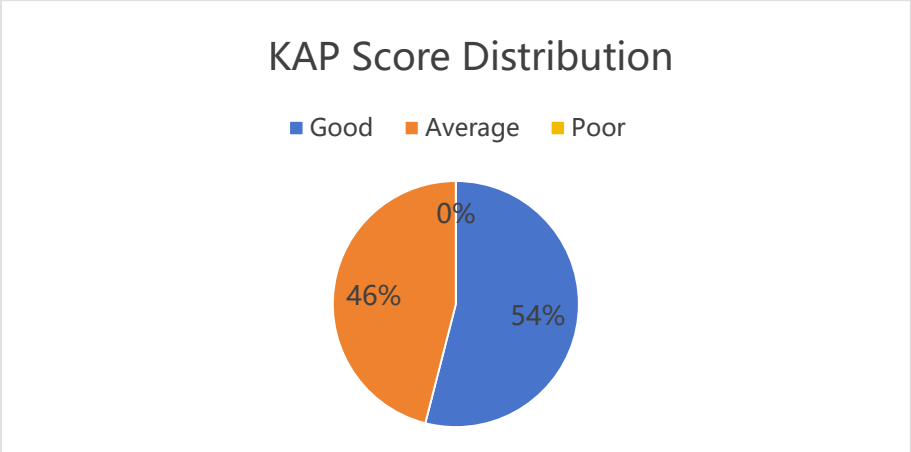
Teaching Experience Distribution:



The distribution of teaching experience among participants shows that a majority (55%) had more than 10 years of experience, indicating a predominantly experienced workforce. This was followed by 29% of teachers with 6–10 years of experience and 16% with 1–5 years of experience. The pattern suggests strong retention within the teaching profession and a higher representation of long-serving educators, which may contribute to greater classroom exposure and familiarity with managing student health conditions such as Asthma.

Most teachers (96%) were aware of asthma as a disease, while 4% had no prior knowledge.

KAP Score Distribution:



Score interpretation	KAP Score	Frequency	Percentage
Good	13 to 19	108	54%
Average	7 to 12	92	46%
Poor	1 to 6	0	0%

The KAP score distribution shows that 54% of participants had good knowledge, attitude, and practices (scores 13–19), while 46% demonstrated an average level (scores 7–12), and none fell into the poor category (scores 1–6). This indicates

an overall satisfactory level of awareness and understanding of Asthma among the teachers.The findings indicate that more than half of the participants had good knowledge and appropriate attitudes toward asthma. Statistically significant associations were observed between KAP scores and both teaching experience and type of school.

DISCUSSION

The age distribution observed in the present study is consistent with earlier research conducted by Zahra Nizar Alkhamis[9], Muhannad R M Salih[10], Nuzhath Alam Piyare Jan[11], and Bashir Abu-Hamour[12], where the majority of teachers were aged 30 years and above. This pattern may be attributed to the typical career trajectory in teaching, where individuals enter the profession after completing higher education and continue for many years, resulting in a workforce largely composed of experienced educators.

In terms of professional experience, most participants had more than 10 years of teaching experience, followed by those with 6–10 years and 1–5 years. This trend aligns with findings reported by Zahra Nizar Alkhamis[9] and may reflect both institutional preference for experienced teachers and long-term retention within the profession.

Awareness of Asthma was notably high among participants, with 96% reporting prior knowledge of the condition. This level of awareness is comparable to findings from studies conducted by M. B. Bahari[13], Kuyinu YA[14], and Ilesanmi[15], all of whom documented similarly high awareness levels. Such consistency across studies may be explained by increased public health education, media influence, and frequent teacher exposure to children with asthma in school environments.

Regarding knowledge, attitude, and practices (KAP), more than half of the participants (54%) demonstrated good scores, while the remaining showed average levels of understanding. These findings suggest that although teachers are generally well-informed about asthma, including its triggers and symptoms, there remains room for improvement. The presence of a considerable proportion with average knowledge highlights the importance of targeted educational interventions.

Interestingly, teachers with fewer years of experience showed comparatively better KAP scores, which may be due to more recent training, updated academic exposure, and familiarity with current health education practices. Overall, the results indicate that teachers maintain a positive and supportive approach toward students with asthma, contributing to a safe and inclusive school environment. However, further strengthening of structured training programs could enhance their ability to effectively manage asthma in school settings.

CONCLUSION

The findings of this study suggest that teachers from both public and private schools possess generally adequate knowledge, attitudes, and practices regarding Asthma in children. However, comparatively better understanding and practices were observed among teachers in public schools. Additionally, those with 1–5 years of teaching experience demonstrated relatively higher competency, possibly reflecting more recent training and updated knowledge.

Despite the overall satisfactory awareness, variations based on school type and teaching experience highlight existing gaps. Strengthening teacher-focused training programs and awareness initiatives could further enhance asthma management in school settings and improve health outcomes for affected children.

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