

Review Article

Asthma burden among general population in Pakistan: a scoping review

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ABSTRACT

Asthma is recognized as one of the acute health concerns for the global population. It is a non-communicable disease categorized by narrowing airways that result in airflow congestion. The disease is a common health problem that has affected a sizeable portion of the population across the globe. There are various factors that significantly contribute to the escalation of several asthmatic cases. The crucial factors responsible for the prevalence of this disease such as air pollutants, cigarette smoke, and genetics. It is estimated that one in every 250 deaths worldwide is attributed to asthma. Pakistan as the fifth most populous country mired with economic constraints also carries a considerable burden of this disease. It is estimated that more than 20 million population in Pakistan suffering from asthmatic complications. According to a report published by the Global Burden of Asthma estimated the prevalence of asthma, in the country is 4.3%. Further, in a similar manner, there is also a notable prevalence of asthma among school-going children as results demonstrate due to such affliction, nighttime awakenings, and increased numbers of school days missed occur. The purpose of writing this paper is to highlight the significant factors that contribute to the prevalence of among the general population. Further, it is also aimed in the paper to postulate the existing guidelines for the mitigation of the disease and the impediments due to which timely diagnosis and treatment are halted.

Keywords: Asthma, Pakistan, Scoping review

INTRODUCTION

The asthmatic disease is prevalent among the masses regardless of gender, ethnicity, age, and geography. It has affected people of all races, geographical locations, and socioeconomic groups.¹ The asthmatic condition has the potential to be severely fatal for the patients and obstruct the affected to live a normal life. It is estimated that more than 330 million around the world have suffered from this affliction.² The severity of the ailment is significant to the extent, that additionally, 100 million will have to bear the upheaval of the disease by the inception of 2025. This burgeoning figure indicates and poses an alarming threat to the global health system and Pakistan is no exception in this regard. It is ranked as the fifth most populous country

in the world and considering the poor economic indicators and its densely packed urban hood, it is also evaluated to be a prime candidate to see the challenge of this chronic disorder in its general populace.³ There are various factors that contribute to the growing number of asthmatic cases in the country. Environmental pollution, a vast number of household members in congested residences, and overly crowded places as the major reasons for the growing number of patients with this non-communicable disease. One of the studies also suggests that cigarette smoking has been relatively high in the country as the number reveals that 36% of adult males and 9% of females are fond of smoking.⁴ Similarly, almost 20% pediatric population of Pakistan suffers from asthma. Further cigarette consumption per person in the country has also been

recorded as the highest in the region i.e., South Asia. In parallel, the studies also draw a considerable association of this ailment in the child with his/her parenting history.⁵ The staggering findings unfold that a parent's history of asthmatic conditions contributes innately in relation to developing asthma among children. In this context, that in-house factors in prevailing the asthmatic complications also cannot be denied such as parents smoking, pet ownership, and usage of air conditioning in the houses. On the other hand, the prevalence of asthma among school-going children causes absenteeism in school, depriving them of their intellectual ability and wit. The economic constraints further add misery to the injury and most of the children do not get the proper diagnoses and relevant treatment. Indeed, the prevalence rate of asthma is high in Pakistan, however more concerning is the fact is its diagnosis ratio which is doubtlessly low as 9.5%.⁵ Lack of proper treatment and awareness among primary health care providers has further troubled the situation and can be liable to create a worrisome health crisis.⁶

FACTORS THAT CONTRIBUTE TO THE PREVALENCE OF ASTHMA

Pakistan being an economically struggling country only manages to spend less than 1% of GDP on its healthcare. Further, the health condition of the people of the poor segment of society indicates the huge probability of further up-ticking of the cases in the time to come. Having said that, the very reason due to which Pakistan is considered at a very high level of infectious disease risk is because of its ranking in the global infectious disease vulnerability index as it ranks 32 out of 195 assessed countries in the global infectious disease vulnerability index.⁷ Indeed, inept municipal services delivery and a destitute faction of women in unprivileged and remote areas of the country further contribute to the rise in the number of cases. In addition, the limited healthcare capacity with the debilitated economic conditions, puts the masses and communities at a higher risk of this asthmatic chronic disorder.

The evidence also specifies that due to socio-economic instability, the substandard housing conditions persist in urban centers. As, one of the studies demonstrate the findings that 81% of asthmatics resided in congested houses with a large family living in ill-ventilated rooms.⁸ The higher probability of asthma among children is also witnessed in one of the papers if a mother smokes during pregnancy. However, studies suggest that early identification of children with an increased risk of asthma can help reduce the public health burden. One of the studies also gives evidence that exposure to cockroaches mites and allergens also contributes to prevailing asthmatic conditions among children.⁹ Among the prevalence of asthma, chronic obstructive pulmonary diseases (COPD) have been revealed as the most prevalent NCDs. It is estimated as 4% with an expected 5% annual increase. In this context, the results attained through the National Health Survey of Pakistan (NHSP) 1990-94 demonstrated

the prevalence of chronic bronchitis in patients who are over 65, as shown in 14% and 6% of rural females and males, accordingly.¹⁰

Notwithstanding, there are no specific stats and results available that could demonstrate the accuracy of the prevalence of asthmatic cases among children at the national level.¹¹ However, there is no sufficient data that supports the existence of any national-level school-based asthma intervention for school-going children. However, several findings which have been revealed through available literature indicates that asthma prevalence making school-based children cause absenteeism, weakens their academic performance and overall being.¹²

In the above-mentioned graphic image, the numbers indicated show that more than a 3% rise in asthma prevention is noticed among children from the period 1996-2002. Similarly, the image also demonstrates that significant asthmatic cases exist among tannery workers and rather it depicts they are at intensifying risk if they age and are illiterate. In the same manner, the assessment of the Pakistan Chest Society demonstrates the figure of a higher number of asthmatic cases with the worrisome prevalence rate in the country.

EXISTING GUIDELINES LINES AND THEIR IMPLEMENTATION IN THE PREVENTION OF ASTHMA

The country with a population of 220 million, with a deteriorated health care infrastructure and densely packed urban neighbourhoods, Pakistan is also assessed by many to be a key candidate to see the detrimental consequences of the prevalence of asthma. Lack of knowledge among primary care physicians (PCPs) and general physicians (GPs) has been an utmost cause for the country to see the worst of this disease.¹³ Apart from that, on the contrary, initially, the country established its own guideline in mitigating the impediment of asthma in 1995.¹⁵ The guidelines were based on recommendations of international guidelines by a global initiative for asthma. However, due to several factors such as lack of knowledge among healthcare practitioners, non-affordability of medications, absence of follow-ups, economic constraints, dearth of healthcare facilities, and incorrect perception of the use of inhalers, the guidelines could not be implemented. Thus, the initial guidelines remained uncoordinated let alone being implemented in true letter and spirit.

Similarly, in 1983 the chest physicians of the country put a considerable amount of effort into establishing the Pakistan Chest Society (PCS) however, this very endeavor was taken without any government collaboration.¹³ The basic aspiration behind this effort is to inculcate awareness and knowledge among doctors about public health including asthma. Resultantly, in 2001 the PCS with the joint effort of thirty-two chest specialists set forth the national clinical guidelines for asthma management.

However, despite these concerted efforts the guidelines were not modified and updated with the time, and later global initiative of asthma (GINA) guidelines were adopted.¹⁵ In addition, in 2003 the country launched an integrated national action plan with the purpose to avert the prevention of non-communicable diseases. Hence, in the designed strategy and plan it was proposed to form the apt mechanism that could help improve the quality of treatment for lung health. In the same manner, various extensive measures were taken with the formation and initiation of the global alliance against chronic respiratory diseases (GARD), having seen this all-national task force was created and a national coordinator was deployed to manage and control asthma management. However, the substantial and far-reaching outcomes couldn't be acquired from it as the relevant ministry was dissolved. Further, a lack of financial resources and a dearth of support from technical partners had hurt this very cause.

Furthermore, the Global Asthma Network conducted a brief survey in 2013 in 96 countries. The outcome of the survey extracted the findings that 40% of countries had established their own guidelines for the management of asthma. It further demonstrated that low and middle-income countries such as Ethiopia, India, Nigeria, and Palestine also had set forth their own guidelines. However, the results of the survey showed that Pakistan mostly implements GINA guidelines.¹⁷ The graphic image demonstrates the steps taken in the formation and implementation of Asthma prevention guidelines in the country. Since national asthma guidelines have not been modified thus its pragmatic implementation has not been possible as well. Although GINA guidelines have been mostly followed. However, its proper execution which requires a robust strategy coupled with effective vigilance also seemed to have been missed to a significant extent.

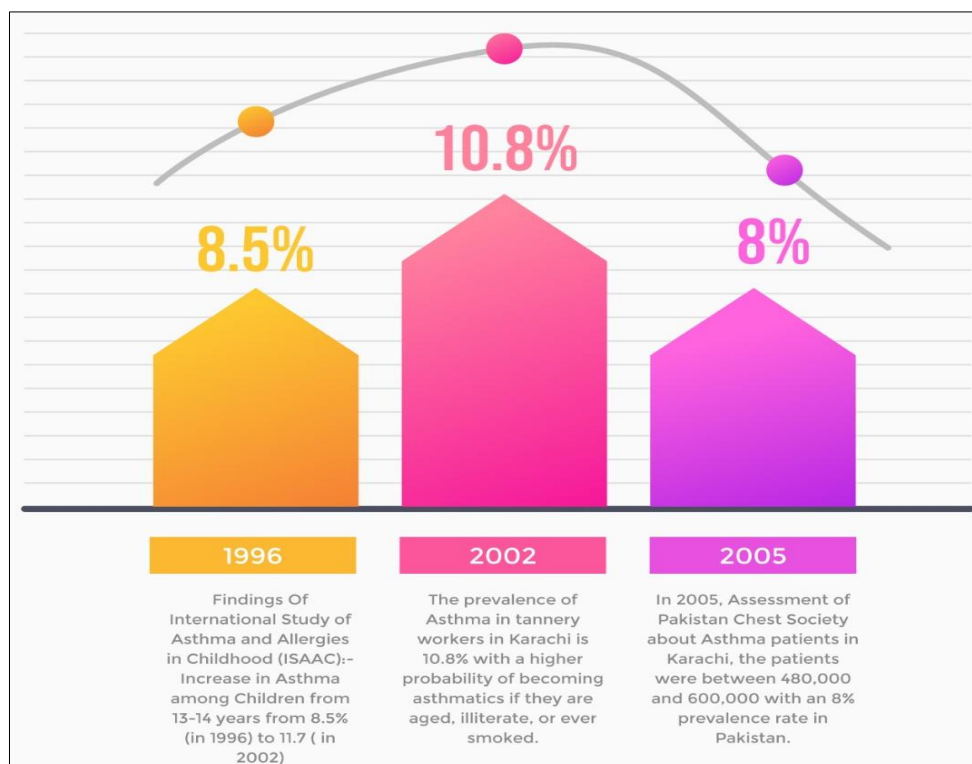


Figure 1: Asthma burden in historical perspective in Pakistan.

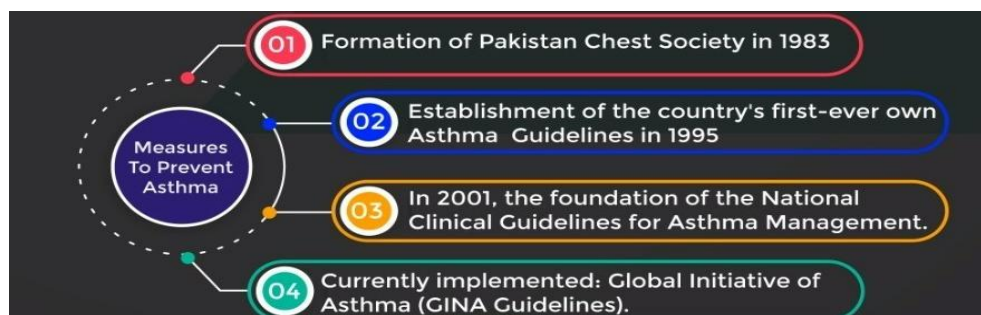


Figure 2: Asthma preventing measures and guidelines at national in Pakistan.

DISCUSSION

The review highlights about noticeable inadequacy and lack of interest among general practitioners in participating in any asthma educational program and also depicts a concern and cause behind the prevailing disease. Having said that, one of the studies indicates a compelling finding that participation of primary care doctors involved in asthma management programs exhibits a low turnout of 29%.¹³ However, substantial improvement is noticed in this very figure once they consulted guidelines, as up to 40% of doctors had modified their treatment preferences as they consulted with guidelines documents. Besides this, persisting reliance on cough syrups, antihistamines, and antibiotics by practicing doctors has also been the prime cause of this constant ailment.¹⁸ As, the latter prescription results in increasing the cost of treatment, produce worrisome side effects, and impede the process of appropriate therapy. In this context, the GINA Asthma guidelines recommend the use of short acting 2-agonists for intermittent symptoms.

While one of the studies suggests, that a great majority of physicians in one of the surveys avoided using long acting 2-agonists.¹⁶ And most of the doctors mainly relied on short-acting 2-agonist. Such uncommon use of an inhaled long-acting 2-agonist was more likely due to the meagerness of knowledge and understanding among doctors rather than to its excessive cost.¹⁹ In continuation, further, one of the studies put forth the revealing findings that only 10.4% of primary care physicians have adequate knowledge of asthma management.¹⁴ Additionally, one of the studies also demonstrates the serious deficiencies in the knowledge and attitude of GPs.¹⁶ As their prescribing practices did not confirm and carter the caliber of national asthma guidelines. Indeed, in addition, poor disease management and pervasive western lifestyles have further intensified and contributed to the prevalence of the disease.²⁰ And indoor and outdoor air pollution alongside increasing urbanization has significantly increased the asthmatic admission in hospitals. Apart from that, one of the studies also suggests that cigarette smoking has been relatively high in the country as the number reveals that 36% of adult males and 9% of females are fond of smoking.⁴ Similarly, almost 20% pediatric population of Pakistan suffers from asthma. Further cigarette consumption per person in the country has also been recorded as the highest in the region i.e., South Asia. In parallel, the studies also draw a considerable association of this ailment in the child with his/her parenting history.⁵ The staggering findings unfold that a parent's history of asthmatic conditions contributes innately in relation to developing asthma among children. On top of it, the lack of adequate therapy has further intensified the situation which could be mitigated by paying heed to national level and policy level interventions as the rise raising from 5% to almost 20% of the pediatric population in Pakistan.¹³

CONCLUSION

Asthma is assessed to be a serious health adversity for people of all ages and groups. Thus, keeping in view the prevalence rate of the disease in the country can constitute a huge challenge to our already frail health system. The magnitude of the challenge doesn't not only seem to be limited to patients rather the disease has an equal potential to further undermine the struggling economy, and bereft poor segment of the society from resources as economic instability is also a major barrier for the masses to acquire appropriate treatment and required medical therapy. It is also pertinent to mention, that necessary skill and knowledge of the disease is the need of an hour among primary health providers as denial of putting it on priority can only lead to further intensifying the problem and escalate the number of cases. Hence, it is highly postulated that the formation of comprehensive policymaking should be thought seriously as it can help reduce the number of respiratory patients to come. Furthermore, it is mandatory for any future policy development to formulate a vigorous public health system, right from developing the national agenda for asthma prevention to establishing the rigorous vigilance of prevention of asthmatic cases to timely mitigate any untoward adversity. It is inevitable for those who reign to come forward and endeavor with all the relevant stakeholders at the federal, provincial, and local community levels to generate capacity and take measures to tackle environmental and health issues which could only be possible through the collective effort of building the potent healthcare infrastructure and surveillance.

Recommendations

Undoubtedly, international asthma management guidelines cater to all the important aspects of the disease. However, the need for awareness campaigns and relevant training programs for general practitioners is inevitable to reduce the burden of disease.

To address the myriad of challenges related to asthma prevention a policy-level intervention with a pragmatic strategy on the government level would be helpful in curtailing the alarming threat posed by the disease.

To alleviate the concern about asthma prevention, extensive media campaigns would be useful in prevailing the awareness among the masses. It will assist them to get rid of the misperceptions and taboos associated with the ailment.

Inadequate compliance with guidelines is one of the acute barriers to the treatment of asthma and a lack of knowledge and insight about the disease is the prominent cause of poor compliance. Surely, an extensive effort on the government level is mandatory to lessen the number of asthmatics in Pakistan.

To deter the detrimental challenge of the disease, it is highly recommended that young practitioners should be

taught to adapt to modern strategies to combat the concern caused by this affliction.

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