



# Asthma care during pregnancy in South Asia

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## ABSTRACT

Bronchial asthma is among the commonest chronic inflammatory respiratory diseases affecting women of reproductive age group. Adequate attention has not been given to the diagnosis and the management of asthma in countries of South Asia. Management of asthma in pregnant women is more or less same as that of in non-pregnant women and stepwise approach is recommended. To confirm the diagnosis of asthma during pregnancy, spirometry can be used. Patients suffering from very severe asthma or difficult-to-control asthma are more prone to develop exacerbations during pregnancy needs hospitalization for care. Well-controlled asthma during pregnancy prevents complications of pregnancy and results in better pregnancy outcomes. It better to follow the guidelines for management of asthma during pregnancy. The pregnant women must be educated regarding the care of asthma during pregnancy, delivery, in postpartum period and thereafter.

**Keywords:** Asthma care, Pregnancy



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## BRONCHIAL ASTHMA

Bronchial asthma, a heterogeneous chronic pulmonary disorder is characterized by chronic bronchial inflammation. It is prevalent all over the world, seen in all age groups affecting 1-29% of people in different countries of a globe.<sup>1</sup> Its prevalence in Asian countries varies from 0.7 to 11.9%.<sup>2</sup> The reported prevalence of Asthma in South Asian countries varies; it is 6.3% in India, 10.7% in Bangladesh and 4.2% in Nepal<sup>3</sup> while in Pakistan varying from 4.3% to 31.58%.<sup>4</sup>

## BRONCHIAL ASTHMA IN PREGNANT WOMEN

Bronchial asthma is among the commonest chronic diseases affecting ladies of reproductive age group.<sup>5-6</sup> The reported prevalence is upto 14%, varies from region to region and countries of regions.<sup>5</sup> The percentage of prevalence of asthma is reported to be higher in women than man during adulthood.<sup>4</sup> During woman's reproductive age where asthma care needs more attention are periods of conception and pregnancy and post-partum period.<sup>5</sup>

Bronchial asthma is amongst the common respiratory diseases encountered during pregnancy reported in 3-8% of pregnant ladies.<sup>7</sup> It was observed that when patients with asthma get pregnant, one third have no change in status, symptoms of one-third worsen while one-third of them improve.<sup>7-8</sup> But recent study documented no improvement in asthma during pregnancy while symptoms of 60% remain unchanged and of 40% worsen.<sup>8</sup> There is increase in rate of the

complications related to pregnancy in pregnant women with asthma compared to the pregnant women having no asthma.<sup>7</sup> An increased risk of adverse perinatal outcomes has been documented in pregnant women with uncontrolled asthma than pregnant women with controlled asthma.<sup>1,7</sup> Management of asthma during pregnancy is challenging because of effects of disease and its treatment on the developing fetus.<sup>7</sup>

## STATUS OF ASTHMA CARE DURING PREGNANCY IN SOUTH ASIA

In most of the countries of South Asia adequate attention has not been given to the diagnosis and the management of asthma both by health care providers and patients; care of asthma during pregnancy has often been ignored.<sup>4</sup> In South Asia, obstetric care is mainly provided by female doctors. The young female doctors have suboptimal knowledge about asthma and management of asthma in pregnancy.<sup>7</sup>

Indian Medical Association developed Guidelines Recommendation on Management of Asthma in Primary Care in 2020 and briefly mentioned about the management of asthma during pregnancy in these guidelines.<sup>9</sup> Pakistan

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Chest Society developed Clinical Practice Guidelines for Management of Asthma in 2020 but nothing specific is mentioned about the management of asthma during pregnancy in these guidelines.<sup>10</sup> But there is no recent update on the guidelines for the management of asthma from other South Asian countries. All of South Asian Countries are likely referring the Global Initiative for Asthma (GINA) Guidelines “the Global Strategy for Asthma Management and Prevention”. The updated strategy published in 2023 has comprehensively mentioned about care of asthma during pregnancy.<sup>1</sup> But implementation of these guidelines seems to be far from reality in countries of South Asia.

## MANAGEMENT OF BRONCHIAL ASTHMA DURING PREGNANCY

To confirm the diagnosis of asthma during pregnancy, spirometry can be used as diagnosis of asthma in pregnant women can be complicated by conditions mimicking asthma. Chest X-ray is recommended if alternate diagnosis is strongly suspected. Ventilation and perfusion scan can be advised if there is strong suspicion of pulmonary embolism. Laboratory tests may help guide treatment<sup>1,8</sup>

Management of asthma in pregnant women is more or less same as that of in non-pregnant women and stepwise approach is recommended. Most of the medication used for the treatment of asthma are comparably safe for treating asthma during pregnancy, it is documented in the literature based on retrospective studies and long-term use of medicine in population.<sup>1,8,11</sup>

The pharmacologic treatment of asthma during pregnancy is similar that of in non-pregnant patients while non-pharmacologic management include avoidance of allergen, stress management, and breathing exercises.<sup>1,8</sup> For the management of asthma during pregnancy, inhaled medications are essentially required. A fixed dose combination of long-acting beta agonist (LABA) with fast onset of action and low-dose inhaled corticosteroid (ICS) for example formoterol and budesonide, is recommended for as needed use, a step one asthma therapy. A fixed dose combination of Salmeterol with ICS (ICS/LABA) is recommended as maintenance therapy.<sup>5</sup>

Patients suffering from very severe asthma or difficult-to-control asthma are more prone to develop exacerbations during pregnancy. Treatment includes hospitalization in severe cases, oxygen administration as needed to maintain acceptable oxygen saturation, the use of short-acting bronchodilators, and ICSs and oral corticosteroids in combination. Intravenous magnesium, inhaled magnesium, or both can also be used in severe cases.<sup>1,8</sup>

Timely antenatal checkup and monthly visits to doctor treating her for asthma may be beneficial to patients during pregnancy.<sup>5,8</sup> Pulmonary function tests and validated questionnaires to assess asthma control during pregnancy

at monthly interval is recommended generally. Symptom diaries and peak expiratory flows may be beneficial for self-monitoring of pregnant women having asthma while for the assessment of severity of asthma and its control, spirometry and fraction of exhaled nitric oxide (FeNO) are used.<sup>8</sup>

Because of concern for their child, pregnant ladies with asthma are hesitant to start or continue medications, so, health education of the patients is essential for the adherence to asthma medications.<sup>8</sup> Generally, the objective of adherence with asthma medication is to attain and sustain the best possible asthma control during pregnancy as optimal asthma control is the key in preventing complications during pregnancy and subsequently during delivery and postpartum phase.<sup>5</sup> The care of asthma during pregnancy needs collaborative approach involving midwife, family physician, obstetrician and pulmonologist.

## CONCLUSION

Adequate attention has not been given to the diagnosis and the management of asthma in countries of South Asia. Management of asthma in pregnant ladies suffering from asthma is comparably the same as that of management of asthma in non-pregnant ladies. The optimal control of asthma during entire period of pregnancy is the key in preventing complications during pregnancy. Well-controlled asthma during pregnancy results in better pregnancy outcomes. It's better to follow the guidelines for management of asthma during pregnancy. The pregnant women must be educated regarding the care of asthma during pregnancy, delivery, in postpartum period and thereafter.

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