INTRODUCTION
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In the untreated state, bronchial asthma is recognized by recurrent episodes of airflow limitation that are usually reversible either spontaneously or with appropriate treatment\(^1\). Depending on severity, the airflow limitation is accompanied by symptoms of breathlessness, wheezing, chest tightness, and cough. Production of sputum is also a feature in some patients with asthma, particularly following acute exacerbations and in its chronic persistent form. It is important to differentiate the underlying condition from the recurrent exacerbations. Asthma is a chronic disorder of the airway resulting in variable symptoms and airflow limitation over time. Exacerbations of asthma (attacks or worsening of asthma symptoms and lung function) are acute; they can be rapid in onset or occur gradually. However, under both circumstances exacerbations can be severe and even result in death in the absence of effective treatment. More often, presenting symptoms are less severe, and occasionally they may be totally absent.
Many attempts have been made to define asthma in terms of its impact on lung function – that is, airflow limitation, its reversibility, and airway hyperresponsiveness\(^1\). However, these attempts have been frustrated by a lack of understanding of the mechanisms involved in asthma. Appreciation of the key role of the underlying inflammatory response in asthma leads to a more complete definition of asthma\(^2\).

Based on the function consequences of airway inflammation, an operational description of asthma is that:

Asthma is a chronic inflammatory disorder of the airways in which many cells and cellular elements play a role. The chronic inflammation causes an associated increase in airway hyperresponsiveness that leads to recurrent episodes of wheezing, breathlessness, chest tightness, and coughing, particularly at night or in the early morning. These episodes are usually associated with widespread but variable airflow obstruction that is often reversible either spontaneously or with treatment.
The definition of asthma is based on the underlying pathology of airway inflammation and its relation to disorders lung function. This view of asthma has profound implications in terms of diagnosis, prevention, and management. A greater understanding of asthma management has been achieved by accepting the persistence of the chronic inflammatory response, with variations in the magnitude of the inflammation reflecting the clinical activity of asthma.

An important component of asthma underlying the instability of the airways is the presence of an exaggerated bronchoconstrictor response to a wide variety of exogenous and endogenous stimuli. Several mechanisms have been proposed to explain this airway hyperresponsiveness, but evidence suggests that airway inflammation is a key factor. The state of hyperresponsiveness in which the airways narrow too easily and too much in response to many different provoking stimuli is sometimes referred to as non specific, but in reality the stimuli often used to reveal it act by highly specific mechanisms. They may be classified as causing airflow limitation directly by stimulating airway smooth muscle (e.g., emthacholine and histamine); indirectly by releasing pharmacologically active substances
from mediator-secreting cells, such as mast cells (exercise hyper- and hypo-osmolar stimuli) or nonmyelinated sensory neurons (sulfur dioxide and bradykinin); or by a combination of both mechanisms.

Asthma ranks among the most common chronic diseases in the United States, affecting 10 to 12 million individuals with trends toward increasing prevalence and severity\(^2,4^7\). While the precise reasons for this trend are unclear, the task of identifying high risk subgroups remains an important focus in the evolving understanding of asthma and the management of patients with the disease. In India the prevalence of asthma is also on rise.

Sex differences may be an important determinant in the natural history of asthma\(^8\)\(^-\)\(^11\). While the prevalence of asthma prior to the onset of puberty is greater in male, females appear to “catch up” after puberty suggesting a possible influence of the onset of menstruation\(^12\). In general, the prognosis for asthma in women is worse than for men with increased asthma-associated hospitalization and morbidity after age 40 in women\(^13\). Women often experience changes in the character of asthma symptoms during early reproductive years, pregnancy, and
menopause. A subset of asthmatic women experience significant exacerbations of their asthma at or near the time of menses\textsuperscript{14-19}. Skobeloff et al\textsuperscript{20} recently reported a 4-fold increase in asthma presentations to an emergency room during the perimenstrual interval, when serum estradiol levels decrease sharply after a prolonged peak. Case reports of significant asthma morbidity and mortality in relation to the menstrual cycle provide additional evidence to suggest that asthma tends to be circamenstrual in some women\textsuperscript{21-24}.

Studies of the nature of perimenstrual asthma are generally inconclusive and suffer from retrospective study design, fail to demonstrate or examine objective changes in airway function, and inconsistently assess the association between asthma symptoms and the menstrual cycle\textsuperscript{14,15,17-20,25,26}. Several studies focus on the association between asthma symptoms or changes in airway reactivity during the menstrual cycle without regard to whether these women are symptomatic during the perimenstrual interval\textsuperscript{25,26}.

Menstrual Linked Asthma (MLA) is a clinical entity first described by Frank\textsuperscript{27} in 1931 and since then study has confirmed this
association. The reports of menstrual linked asthma as cause of repeated hospitalization recurrent respiratory failure and even deaths are there. Not much study is there on Indian females. In the present study, a prospective, exploratory examination of women with and without self-reported perimenstrual exacerbations of their asthma was conducted in order to determine whether there was evidence of a true association between asthma and the menstrual cycle in Indian females.