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## RESEARCH ARTICLE

### A SURVEY OF KNOWLEDGE OF ASTHMA AND ITS MANAGEMENT DURING PREGNANCY

<sup>\*</sup><sup>1</sup>Sandeep Krishna Nalabothu, <sup>2</sup>Pajanivel, R., <sup>3</sup>Surendra Menon, K. and  
<sup>4</sup>Varunn Malathy Dhanapal

<sup>1</sup>Department of Pulmonary Medicine, Mamata Medical College, Khammam, Telangana, India, Pin code: 507002

<sup>2,3,4</sup>Department of Pulmonary Medicine, Sri Balaji Vidyapeeth University, Puducherry, India, Pin code- 607402

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#### ABSTRACT

**Introduction:** Suboptimal management of asthma during pregnancy by medical professionals can lead to poor health outcomes. The present study was done to assess knowledge of asthma and its management during pregnancy among general practitioners and obstetricians.

**Methodology:** A cross-sectional survey was conducted between march and may 2014 among general practitioners and obstetricians in and around puducherry. A simple questionnaire was designed and handed over to participants in their clinics through medical representatives and were requested to hand over the answered questionnaire on the same visit.

**Results:** A total of 130 participants returned the questionnaire, out of which 79(60.7%) were general practitioners and 51(39.3%) were obstetricians. In 130 participants including both general practitioners and obstetricians 25(19%) participants answered less than 50% answers correctly, 69(53%) answered 51-75% answers correctly and the rest 36(28%) answered more than 75% answers correctly. Among general practitioners 16(20%) answered less than 50% answers correctly, 47(60%) answered 51-75% answers correctly and the rest 16(20%) answered more than 75% answers correctly. In obstetricians 9(18%) answered less than 50% answers correctly, 22(43%) answered 51-75% answers correctly and the rest 20(39%) answered more than 75% answers correctly. Out of 130 participants only 56(43%) are following GINA guidelines for management of asthma in pregnancy. In case of deteriorating asthma in pregnancy only 55(42%) of participants have answered that they will refer to pulmonary physician for expert opinion.

**Conclusion:** In spite of participants having adequate knowledge and attitude towards asthma in pregnancy, when it comes to the point of practice, only less than 50% are practicing GINA guidelines for management.

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#### INTRODUCTION

According to the Global Initiative for Asthma (GINA), Asthma is a chronic inflammatory disorder of the airways in which many cells and cellular elements play a major role. The chronic inflammation causes an associated increase in airway hyperresponsiveness that leads to recurrent episodes of coughing, breathlessness, wheezing and chest tightness, particularly at night or early in the morning. These episodes usually are associated with widespread but variable airflow obstruction that is often reversible either spontaneously or with treatment (O'Byrne, 2004). According to the World Health Organization (WHO), almost 300 million people suffer from asthma worldwide (World Health Organization, 2010). Nearly 50 million people with asthma are known to reside in Southern and Central Asia.

**\*Corresponding author: Sandeep Krishna Nalabothu**

Department of Pulmonary Medicine, Mamata Medical College,  
Khammam, Telangana, India, Pin code: 507002

Asthma affects around 3% -12% of pregnant women. Course of asthma in pregnancy is unpredictable, studies suggest that about 1/3rd have exacerbation, 1/3rd improve and rest of 1/3rd show no change in symptoms. Poorly controlled asthma increases the risk of pre-term birth, low birth weight, caesarean section, stillbirth, intrauterine growth restriction (IUGR), congenital malformations (e.g. spina bifida, ventricular and atrial septal defects), small for gestational age infants (SGAI), chorioamnionitis, pre-eclampsia, gestational diabetes and low APGAR scores (Murphy *et al.*, 2011). Fetal hypoxia, as a result of poorly controlled asthma during pregnancy, can lead to neonatal respiratory difficulties, fetal brain ischemia and cerebral palsy (Whincup *et al.*, 1995). Fetal growth restriction has been associated with the development of type 2 diabetes, ischemic heart disease and hypertension in adulthood (Levine *et al.*, 1994). Asthma management during pregnancy should follow the stepwise management of asthma in adults. The British Thoracic Society (BTS), Global Initiative for Asthma (GINA), recommend continuing pregnant women on the same asthma therapy used prior to the pregnancy, if their asthma is well controlled. Inhaled Corticosteroids are the recommended

first line agents for the treatment of mild to moderate persistent asthma (Global Initiative for Asthma. Special considerations-pregnancy, 2008). Health care providers should not hesitate to increase doses or introduce additional medications when ever needed. Selection of controller medications for asthma management during pregnancy should be based on an assessment of the risks and benefits of medication use versus the risks of poorly controlled asthma (Lim *et al.*, 2011). Recent studies have demonstrated that two-thirds of pregnant asthmatic women were under-treated for asthma at primary care level. Various local and international studies have been performed to assess the knowledge and practices of general practitioners with regard to asthma management, and have shown that General Practitioners have inadequate knowledge of asthma itself and its management (Kryj-Radziszewska *et al.*, 2008; Hussain *et al.*, 2004; Braido *et al.*, 2010). This study was planned to assess knowledge of asthma and its management during pregnancy among general practitioners and obstetricians.

**MATERIALS AND METHODS**

A cross-sectional survey was conducted between march and may 2014 among general practitioners and obstetricians in and around puducherry. A simple questionnaire was designed consisting of four sections, pertaining to participant's demographic profile, knowledge, attitude and practice along with a case scenario of asthma in pregnancy. The questionnaire were handed over to participants in their clinics through medical representatives and were requested to hand over the answered questionnaire on the same visit.

**RESULTS**

A total of 130 participants returned the questionnaire, out of which 79(60.7%) were general practitioners and 51(39.3%) were obstetricians (Figure-I).

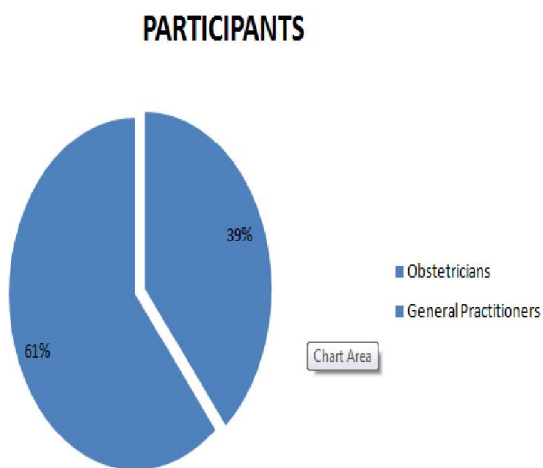


Figure I. Participant details

In 130 participants including both general practitioners and obstetricians 25(19%) participants answered less than 50% answers correctly, 69(53%) answered 51-75% answers correctly and the rest 36(28%) answered more than 75%

answers correctly (Figure-II). Among general practitioners 16(20%) answered less than 50% answers correctly, 47(60%)

**Correct Response From Obstetricians & General Practitioners**

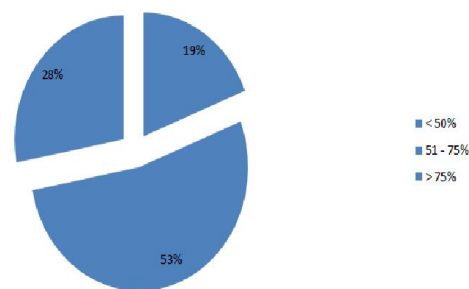


Figure II. Distribution of positive responses among Obstetricians and General Practitioners

**Correct Response from General Practitioners**

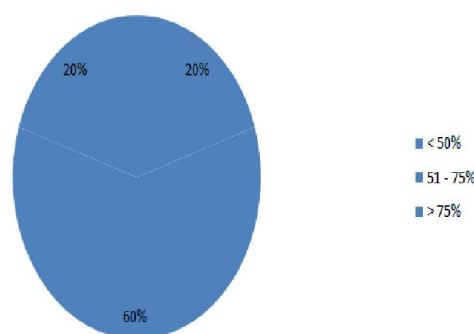


Figure III. Distribution of positive responses among General Practitioners

answered 51-75% answers correctly and the rest 16(20%) answered more than 75% answers correctly (Figure-III). In obstetricians 9(18%) answered less than 50% answers correctly, 22(43%) answered 51-75% answers correctly and the rest 20(39%) answered more than 75% answers correctly (Figure-IV). Out of 130 participants only 56(43%) are following GINA guidelines for management of asthma in pregnancy (Figure-V). In case of deteriorating asthma in pregnancy only 55(42%) of participants have answered that

**Correct Response from Obstetricians**

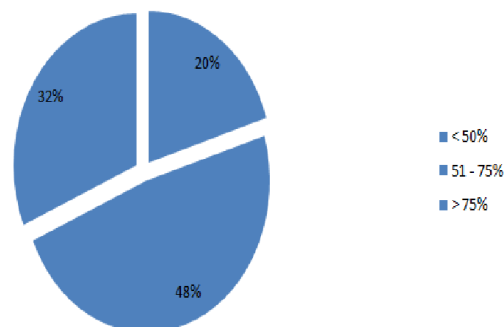


Figure IV. Distribution of positive responses among Obstetricians

### Following GINA guidelines

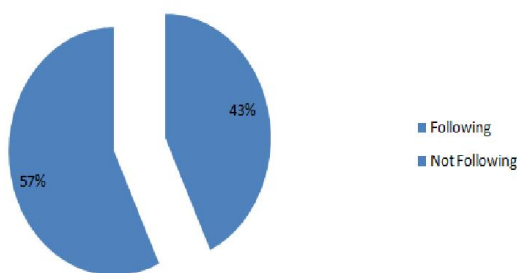


Figure V. Percentage of Participants following GINA guidelines

### Referral to Pulmonary Physician

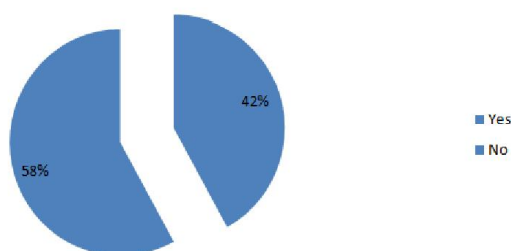


Figure VI. Percentage of participants referring to Pulmonary Physician for expert opinion

they will refer to pulmonary physician for expert opinion (Figure-VI). This study signifies that, with increase in duration of practice there is decline in knowledge of asthma and its management during pregnancy among general practitioners compared to obstetricians (Figure-VII).

### > 75% General Practitioners vs Obstetricians

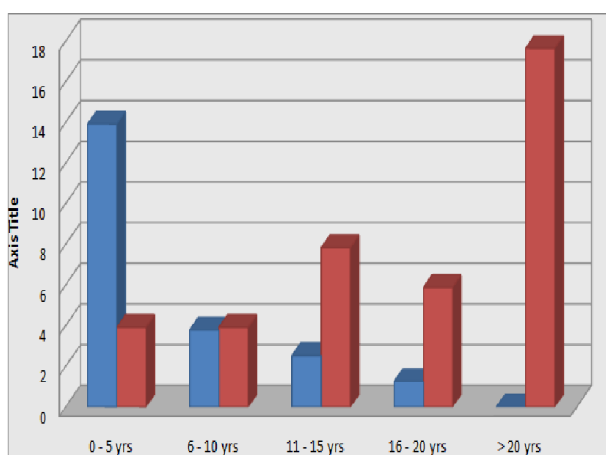


Figure VII. Comparison of knowledge of asthma and its management during pregnancy among general practitioners and Obstetricians with increase in duration of practice

## DISCUSSION

This study was carried out in the department of Pulmonary Medicine Mahatma Gandhi Medical College and Research Institute (MGMC&RI), pillayarkuppam, Puducherry. This study was carried out between march and may 2014 among general practitioners and obstetricians in and around puducherry. Asthma, a heterogeneous condition, is an inflammatory disease of the airways associated with reversible airflow obstruction that causes significant morbidity worldwide and results in increased patient suffering, particularly in developing countries where socioeconomic factors, limited accessibility to high quality medical care, and poor environmental conditions adversely affect overall outcome of disease (Morgan *et al.*, 2004). In developing countries most cases of asthma in pregnancy are managed at the primary health care level by general practitioners and obstetricians, So, this study was carried out to assess knowledge of asthma and its management during pregnancy. In our study 130 participants returned the questionnaire, out of which 79(60.7%) were general practitioners and 51(39.3%) were obstetricians. In 130 participants including both general practitioners and obstetricians 25(19%) participants answered less than 50% answers correctly, 69(53%) answered 51-75% answers correctly and the rest 36(28%) answered more than 75% answers correctly. Out of 130 participants only 56(43%) are following GINA guidelines for management of asthma in pregnancy. In case of deteriorating asthma in pregnancy only 55(42%) of participants have answered that they will refer to pulmonary physician. The results of this study are in concordance with other studies done by Angelina S Lim *et al* in 2011 and S Cimbollek *et al* in 2013. Through this study, point to ponder is most of the cases of asthma in pregnancy in developing countries are managed at the primary health care level, So knowledge and it's management of asthma in pregnancy has to be updated by practicing physician.

### Limitations

Our study had some limitations. Include, Questionnaire not previously validated, Modest response rate, Groups not uniform, Short study duration, Limited sample size.

### Conclusion

In spite of participants having adequate knowledge and attitude towards asthma in pregnancy, when it comes to the point of practice, only less than 50% are practicing GINA guidelines for management.

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