



## PREDICTING THE PRESENCE OF OCCUPATION INDUCED BRONCHIAL ASTHMA ON MANIFESTATION BASED QUESTIONNAIRE IN TIRUPUR CITY

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### ARTICLE INFO

#### Article History:

Received 5<sup>th</sup> February, 2017

Received in revised form 2<sup>nd</sup> March, 2017

Accepted 27<sup>th</sup> April, 2017

Published online 28<sup>th</sup> May, 2017

#### Key words:

Asthma Knowledge, Occupation, attitude and Drug Adherence

### ABSTRACT

**Background:** Drug adherence to occupation induced bronchial asthma is one the key drivers long term controller medications to improve prevention and management among persistent asthmatic patients. **Objectives:** To evaluate occupation induced bronchial asthma on new manifestation questionnaire based clinical study conducted by tertiary care clinic in rural area in Tirupur. **Methods:** This study was to assess medication adherence by self-report method to understand various determinants of medication non-adherence, and to enhance adherence using the strategies of counseling, education, and interviewing the patient. **Results:** A total of 57 of participants answered all the questionnaire. 64.91% of the patients was male and 35.08% were female. 12.28% of the participants were vegetarian and 88.71% were non-vegetarian. 47.36% of participants were having the habit of smoking/alcoholic or tobacco consumption and 52.63% were not having. 49.12% of participants were predicted the presence of asthma. **Conclusion:** A significant difference was observed between the mean manifestation based asthma screening questionnaire scores of asthmatic participants. The most commonly used measures of asthma in epidemiological and clinical studies are symptoms data, specifically cough, wheeze, shortness of breath, and chest tightness. The manifestation based asthma screening questionnaire addresses the above 4 symptoms with specific triggers, although these triggers have yet to be validated.

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### INTRODUCTION

Bronchial asthma is a major public health problem affecting a large number of individuals of all ages. Globally, 100 to 150 million peoples are suffering from work related asthma (Gajanan S *et al* 2011). Estimates indicate that, India has 20 to 28 million asthmatics and the prevalence amongst children (5 to 11 ears) is in between 10% to 15%. Being a chronic medical condition, management of bronchial asthma requires continuous medical care. Modern management of asthma requires prolonged medications (Ajay R Fugate *et al* 2015). Medications for bronchial asthma reverse and prevent symptoms and airflow limitations. A key issue in proper prevention and management of bronchial asthma is adherence to treatment (Sultan K *et al* 2015, Chetna A. Shamkuwar1 *et al* 2016). It affects lungs, characterized by narrowing of the airways resulting in recurring episodes or attacks of cough, wheezing, shortness of breath and chest tightness. The exact cause or causes of asthma are not yet known; however, there is no question that genetic, industrial asthmagens and environmental factors can exacerbate symptoms and lead to an asthma episode or attack. Factors that can trigger an

asthma attack include allergies (such as pet dander, dust mites, mold, pollen, and food allergies), secondhand tobacco smoke, exercise, strong odors and cold weather (Rand Cs, Wise Ra *et al* 2012, George J, Kong Dc *et al* 2009, Mahendra Kumar, Jimmy Jose, *et al* 2011, Tatiana Makhinova, Ms; Jamie *et al* 2015) The term drug adherence means, “sticking to a plan” for perceived benefit. This concept is applied for the patients, who have adopted and integrated a plan given by the physician. Non-adherence to asthma treatment leads to increased emergency care and mortality. The effect of medications depends on the efficacy and the patient adherence to the intended regimen. Patient adherence with medication regimens is essential for attaining maximal therapeutic benefits (Rajinder Singh Bedi *et al* 2007, Gajanan, JyothiHattiholi *et al* 2012, Animesh Jain1, H. VinodBhat *et al* 2010). Asthma education program (AEP), a common concept in western medical literature, is rarely discussed or practiced in our country. The western countries have a well-developed health care system. Because of excellent medical facilities, socio-economic advantages, nearly 100% literacy and other factors, asthma management in the west is intimately associated with patient education. However, despite all these advantages, even the developed countries have not been able to achieve uniform success in the implementation of their

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guideline (Michael C. Sokol, Md *et al* 2005). Out of nearly 300million asthmatics world over, approximately 15millions are in India. Though prevalence rates vary in different studies, the prevalence of bronchial asthma is over 2.5% in adults and over 5% in children in our country and the burden is constantly increasing. Out/patient service is our hospital are usually are crowded and due to lack of time and man power, it is virtually possible to carry out any asthma education activity in such a scenario. Poorly controlled asthma is associated with significant morbidity and socio-economic problems like absenteeism from school or work, loss of productivity and wages and a poor quality of life. Poorly controlled and undiagnosed asthma can also be potentially fatal. Therefore, there is urgent need for an Asthma Education Programme (AEP) for better asthma management (GajananGaude, JyothiHattiholi *et al* 2014).

**MATERIALS AND METHODS**

This study was to assess medication adherence by self-report method to understand various determinants of medication non-adherence, and to enhance adherence using the strategies of counseling, education, and interviewing the patient. The prospective study was conducted for period of three months; assessed medication and inhaler adherence by administering morisky self-reported questionnaires and inhaler technique were assessed by the standard checklist (R K Kandane-Rathnayake *et al* 2016).

**Study Type**

A prospective survey on predicting the presence of occupation induced bronchial asthma by manifestation based on questionnaire in rural area.

**Study Location**

This survey was conducted at various tertiary care hospitals in Tirupur.

**Duration of survey**

This study was carried out minimum 03 months of duration.

**Study Source**

Informed consent form,

Predicting The Presence of occupation induced Bronchial Asthma on Manifestation Based Questionnaire in Rural Area. This survey will be carried out as per recommended asthma guidelines of Global Initiative for Asthma (GINA 2002) and National Asthma Education and Prevention Programme (NAEPP2007).

**Inclusion Criteria**

- Age criteria considered for sample is 40+.
- Both male and female are considered for sample.
- People who are already worked in garment factory

**Exclusion Criteria**

- Pregnant or lactating women
- peoples with respiratory diseases like tuberculosis and pneumonia
- peoples with cardio vascular disease

**Statistical Analysis**

Statistical Analysis Done by Prism 5 for Windows Version 5.04. 1992-2010 Graphpad Software, Inc.

**Symbol Meaning**

- ns P > 0.05
- \* P ≤ 0.05
- \*\* P ≤ 0.01
- \*\*\* P ≤ 0.001
- \*\*\*\* P ≤ 0.0001

Up to three asterisks, this is fairly standard, but not completely. Four asterisks for tiny P values were not entirely standard. Up until Prism 5.04 (Windows) and 5.0d (Mac), Prism never reported more than three asterisks, any P value less than 0.001 was designated with three (\*\*\*) asterisks. With Prism 5.04 and 5.0d, P values between 0.0001 and 0.001 are shown with three asterisks, and P values less than 0.0001 are shown with four (\*\*\*\*) asterisks.

**RESULTS AND DISCUSSION**

During this survey in rural area, all the required information (manifestation based questionnaire) will be carried out 57 participants yielding response rate of 100%. The majority of participants 70.17% were in age group of 40-70 years. The ratio of male and female was 2:1. The demographical details enrolled participants where as in table-1. Percentage of participant’s responded manifestation based questionnaire regarding asthma where as in (Table -2). The scoring system of predicting asthma questionnaire, <10 served as control. > 10 predicting asthma symptoms in the participants.

**Table 1** Demographic Details of Participants

Age in years	Number of participants	Percentage
30-50	40	70.17%
50-60	17	29.82%
Sex		
Male	37	64.91%
Female	20	35.08%
Veg/non-veg		
Veg	7	12.28%
Non-veg	50	88.71%
Smoking/Alcoholic/Tobacco consumption		
Users	27	47.36%
Non-users	30	52.63%
Control/presence of Asthma		
Predicted		
>10 (Presence of Asthma)	28	49.12%
<10 (Control)	29	50.87%

Assessment of knowledge and the analysis of knowledge result was assessed by the percentage of participants answered each item is show in (Table 1). A total of 57 of participants answered all the questionnaire.64.91% of the participants were male and 35.08% were female. 12.28% of the participants were vegetarian and 88.71% were non-vegetarian. 47.36% of participants were having the habit of smocking/alcoholic or tobacco consumption and 52.63% were not having. 49.12% of participants were predicted the presence of asthma and 50.87% were in control. These data shows that the manifestation based asthma screening is a simple and effective questionnaire to predict which individuals are more likely to have undiagnosed asthma. It is reproducibile whether it is self-administered (George J, Kong Dc *et al* 2009, Mahendra Kumar Bj, Jose *et al* 2011). A

significant difference was observed between the mean manifestation based asthma screening questionnaire scores of asthmatic participants (Tatiana Makhinova, Ms; Jamie C *et al* 2015, Gajanan, JyothiHattiholi *et al* 2012).

**Table 2** Evaluation of occupation induced Respiratory Challenges in Retirement Home Patients

Questionnaire	Participant Responded		P value
	“YES” (n=57)	“NO” (n=57)	
More cough than average	32	25	0.01*
Cough from chest	39	18	0.02*
Lying down to sleep			
Cough	32	25	0.01*
Chest tightness	27	30	0.007**
Wheeze	17	40	0.003**
Shortness of breath	26	31	0.006**
Exercise or physical activity			
Cough	35	22	0.01*
Chest tightness	18	39	0.003**
Wheeze	09	48	0.002**
Shortness of breath	40	17	0.02*
Laughing or crying			
Cough	28	29	0.008**
Chest tightness	24	33	0.005**
Wheeze	14	43	0.003**
Shortness of breath	32	25	0.01*
Talking on the phone			
Cough	26	31	0.006**
Chest tightness	10	47	0.002**
Wheeze	10	47	0.002**
Shortness of breath	25	32	0.006**

The most commonly used measures of asthma in epidemiologic and clinical studies are symptoms data, specifically cough, wheeze, shortness of breath, and chest tightness (Michael C. Sokol, Md *et al* 2005). The manifestation based asthma screening questionnaire addresses the above 4 symptoms with specific triggers, although these triggers have yet to be validated. The manifestation based asthma screening questionnaire symptoms score was weighted more on cough than the other symptoms, because cough seems to be an earlier and more recognizable symptom in newly diagnosed asthma (Gajanan Gaude *et al* 2014). Dyspnea or chest tightness is more likely to be caused by cardiopulmonary conditions: however, it is considered less reliable because of the greater dependence on participant perception. Manifestation based questionnaire also differentiated between participant with cough originating from the chest and those with “ticklish” cough, posed by upper respiratory conditions such as upper airway disease or gastro esophageal reflux disease (Victor AniediUmoh *et al* 2012). There is increasing demand for asthma to be diagnosed as early as possible. Our studies suggest that treatment of asthma should be initiated quickly, before any permanent lung developed abnormality functions (B Shin, SL Cole *et al* 2010). In a busy clinical practice, a simple scoring system that reliably identifies asthmatic patients needing further review is highly desirable. The asthma screening questionnaire is an efficient screening tool for suspected undiagnosed asthma patients in that it is simple, inexpensive, and quick (Williams Lk, Joseph Cl *et al* 2007). In populations with limited knowledge of asthma symptoms or low literacy, there may be even greater advantages in using the asthma screening questionnaire (R.Prasad, S.K. Verma *et al* 2007).

## SUMMARY AND CONCLUSION

In conclusion, this survey shows that the new manifestation based questionnaire is a simple and inexpensive approach to predicting the asthma which individuals are most likely to be diagnosed with asthma and for efficient pre-interview of suspected to the retired home in participants. The present study established that the participant specific knowledge on predicting asthma is low therefore, predicting the asthma education strategies are recommended depending on the educational level of predicting the asthmatic individuals, it was also towards their disease. However, substantial numbers of people with predicting the asthma did not have the necessary attitude to contribute effectively to their disease state management. This study also demonstrated that the predicting the asthmatics participants had poor adherence to medications due to different factors may modulate adherence to predicting the asthmatic treatment.

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**How to cite this article:**

Muthukumar A and Sundara Ganapathy R (2017) ' Predicting The Presence Of Occupation Induced Bronchial Asthma On Manifestation Based Questionnaire In Tirupur City', *International Journal of Current Advanced Research*, 06(05), pp. 3876-3879.DOI: <http://dx.doi.org/10.24327/ijcar.2017.3879.0386>

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