Prevalence of breathing difficulty and evaluating the use of inhaler among public in rural area

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ABSTRACT

Asthma and COPD are common diseases of the airways and lungs that have a major impact on the health of the population. Major limitation to the effective use of inhaled medications is the inability of many patients to use various inhaler devices correctly. Patients require appropriate education in the correct handling of inhaled medications. Objective of the study is the prevalence of breathing difficulty and evaluating the use of inhaler among public in rural area. Methodology includes a cross sectional questionnaire study carried out among 35 people in rural area. The study is mainly based on the use of inhaler techniques among peoples leave in a particular locality and taken there duration of disease, medications, frequency of using the inhaler to determine the correct way of using the inhaler. Result includes about 35 patients were responded. Among them 36.5% were female patients and 23.5% were males. Most of the patients have asthma 24%. most often people have correct knowledge about inhaler use. 59.3% people using meter dose inhaler and 37% people use rotahaler. about 63% people use inhaler whenever necessary, 25.9% people use inhaler twice a day, 3.7% use after a long journey and 7.4% use all of the above. The opportunity for technological innovation and educational interventions to reduce errors is highlighted, as well as the specific challenges faced by children.

Keywords: Asthma; COPD; Inhaler technique.

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INTRODUCTION

Drug inhalation is an important and a common mode of administration of drugs used in the management of

Asthma and other obstructive airway diseases. These medications are often administered as pressurized metered dose inhalers (pMDI), dry powder inhalers (DPI), or with nebulizers. The pressurized metered dose and the DPI devices are the preferred pulmonary drugs delivery methods as the patients are able to use them on their own with minimal assistance if they are taught well^[1]. Asthma imposes a growing burden on society in terms of morbidity, quality of life, and healthcare costs. Asthma affects 300 million people, and is estimated to increase to 400 million by 2025. This expected incline is most likely because of increased urbanization and atopic disorders^[2]. Factors affecting this disease include urbanization, air pollution, passive smoking, and also allergens. Passive smoking has potentially serious risks especially in children and people exposed chronically to it with increase in risks of 10% to 43% in adults with COPD. This study was designed to evaluate patients' knowledge on asthma and COPD diseases and their inhalation techniques^[3]. Incorrect and improper inhaler use is a significant problem for both asthma and COPD management because it may result in diminished therapeutic effect, leading to poor control of symptoms and lacunae in

management of these diseases^[4-8]. A proper drug delivery is crucial for effective pharmacological treatment. Proper technique and coordination is required for efficient MDI use. Numerous patients with chronic obstructive pulmonary disease (COPD) and asthma do not use inhaler devices properly, which can contribute to poor disease control^[9]. Risk factors for inhaler misuse include older age, the use of multiple inhalers, and low health literacy. Patients require appropriate education in the correct handling of inhaled medications. Respiratory inhalers are commonly used to deliver long-acting bronchodilators to control symptoms and prevent exacerbations in patients with COPD.

Objective: This study is to conduct a survey based on prevalence of breathing difficulty and evaluating the use of inhaler among public in rural area. The objective of this study is to assess the prevalence of breathing difficulty and evaluating the use of inhaler among public in rural area. The prevalence of inhaler use among males and females, To evaluate the knowledge about people cleaning their Inhaler. To determine the prescribing pattern of anti-hypertensive drugs in the department of general medicine & to find out the most prescribed anti-hypertensive drugs.

METHODOLOGY

A cross-sectional Questionnaire survey was conducted by online survey forms among public in rural area of Neyyattinkara, accepted by the Institutional Ethical Committee. The study is mainly aimed to evaluate the knowledge of inhaler techniques among people living in a particular locality and taken their duration of disease, medications, frequency of using the inhaler and their knowledge of using the inhaler was collected and analysed properly. Responses were collected during a time period of 1 month and was recorded. The questionnaire consisted of 13 prevalidated questions. The questionnaire was tested for ease of comprehension and readability among staff members of the department and necessary modifications carried out.

The questionnaire included multiple choice questions and the questionnaire was developed and employed to collect data from public in rural area of Neyyattinkara. It was prepared in Google form and distributed through social media.

Data collection : Data collection was done with the self-filled online forms. Data were collected during the month, October 2018. Willing participants were only chosen for study. Questionnaires were filled by 50 subjects. 35 responded to the questions. The study was descriptive and data was summarized as counts and percentages.

Statistical analysis: All data collected were statistically analyses and performed. All statistical assessments were 2-tailed, and the level of significance was set at $p < 0.05$.

RESULT

35 people participated in this study of which 9 were males and 26 were females. From the 35 responses, all of them knew about the correct knowledge about the inhaler technique. Most of the patients had asthma (25) among which 16 people used meter dose inhaler, 10 used Rotahaler and 1 of them used dry powder inhaler. About 17 people used inhaler whenever necessary, 7 used it twice a day, 1 of them used after a long journey.

Figure 1: Genders use inhalers

Among 35 response 76.5% ($n=26$) females and 23.5% ($n=8$) males use inhaler.

Figure 2: Respiratory problems

About 68.5% ($n=24$) has Asthma, 2.85% ($n=1$) has COPD and remaining 28.5% ($n=10$) has breathing difficulty and using the inhaler.

Figure 3: Types of inhaler used

About 59.3% (n=16) using meter dose inhaler, 37% (n=10) using Rotahaler and 3.7% (n=1) using dry powder inhaler.

Figure 4: Frequency of using inhalers

About 63% (n=17) using inhaler whenever necessary, 25.9% (n=7) using inhaler twice a day, 3.7% (n=1) using inhaler after a long journey and 7.4% (n=2) using inhaler all the above.

The P-Value is <0.00001. The level of significance was set at $p < 0.05$

DISCUSSION

It is a cross sectional questionnaire study carried out among 35 people in rural area. The study is mainly based on the use of inhaler techniques among peoples live in a particular locality and taken their duration of disease, medications, frequency of using the inhaler to determine the correct way of using the inhaler. About 35 patients were responded. Among them 76.5% were female patients and 23.5% were males. Most of the patients have asthma (68.5%). Most often people have correct knowledge about Inhaler use. 59.3% people using meter dose inhaler, 37% people use Rotahaler and 3.7% people use dry powder inhaler. About 63% people use inhaler whenever necessary, 25.9% people use inhaler twice a day, 3.7% use after a long journey and 7.4% use all of the above. Most of the patients clean their inhaler (55.6%) weekly, (25.9%) every use and (18.5%) Monthly. It was observed that most patients have asthma.

CONCLUSION

Inhaled route is the first line administration method in the management of asthma, it is well documented that patients can have problems adopting the correct inhaler technique and thus receiving adequate medication. The opportunity for technological innovation and educational interventions to reduce errors is highlighted, as well as the specific challenges faced by children.

CONFLICTS OF INTEREST: None

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