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## Assessment of asthma inhalation Technique in community pharmacy in survey

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### KEYWORDS:-

Asthma, asthma education Programme, emergency department, inhaler, Patient knowledge

### ABSTRACT:

Control and monitoring of asthma remain a global challenge. Community pharmacists are rarely included in asthma management assessments, despite the fact that worldwide standards urge primary and secondary care facilities to work together as an effective disease control strategy. The goal of the current cross-sectional study was to provide a picture of the association between asthma control and severity in community pharmacies located in the Verona health district (Veneto Region, North-Eastern Italy).

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### INTRODUCTION:

A significant global health concern, asthma affects an estimated 300 million individuals across all age groups, with varying national prevalence rates of 1% to 18%. Asthma frequency has been rising in low-resource nations, although in Jordan there has been a concerning twofold increase over the previous ten years, there has been a concerning twofold increase in the prevalence of asthma. Achieving and then maintaining excellent asthma control is the ultimate aim of asthma treatment. Despite the availability of numerous efficient inhaled drugs, inadequate asthma management persists, with inadequate inhaler technique serving as a primary contributing factor. Because of their affordability, ease of use, and requirement for modest inspiratory flow rates in order to get sufficient drug deposition in the patient's lung, MDIs are the most widely utilized. ten DPIs including the turbuhaler (TH), are gaining popularity daily as a result of reducing side effects, achieving higher drug deposition in the lung, and overcoming the coordination challenge associated with utilizing MDIs. Furthermore, as a reflection of modern asthma care, combination medications in a single device have emerged as a key component in asthma therapy. However, in order to obtain an efficient fine particle dose with sufficient lung deposition, DPI users must breathe "as fast and as deep as they can" via their inhalers. Not every patient can inhale at the same rate as needed to get the desired therapeutic impact. Correct technique for both MDIs and DPIs requires training and certain skills and deep deposition of the medication into the lungs. Uncontrolled disease results from inadequate

information about asthma or inhaler technique. Patients' health-related quality of life is subsequently negatively impacted by inadequate asthma control. In contrast to urban areas, rural areas in Jordan are those that are not a part of the capital city and its environs. Despite the fact that asthma is less common in rural than in urban areas the asthma care given by rural primary health-care teams significantly improved all measures of the quality of asthma care given to patients, despite the fact that there are considerable obstacles for rural strategies for putting into practice evidence-based asthma care methods. From this vantage point, pharmacists are extremely important to supplying new inhaler users with both their initial training and ongoing, follow-up retraining. This study aims to evaluate the forced expiratory volume in the first one second (FEV1), asthma control by the Asthma Control Test (ACT), inhaler technique demonstration skills, and reliever use (puffs/day) by asthma patients residing in rural parts of Jordan. Second, the study sought to evaluate how patients' inhaler technique, ACT scores, FEV1%, and puffs/day of a reliever were affected by pharmacist-delivered inhaler technique teaching.

### MATERIALS AND METHODS:

In Jordan's rural areas, a pre-post interventional study was carried out over a 6-month period, from February to July 2017. A clearance for ethics was received from the Ministry of health and from the medical facilities where the research was carried out. Participants in the study were asthmatic patients from rural Jordan who visited respiratory clinics at three public hospitals: Princess

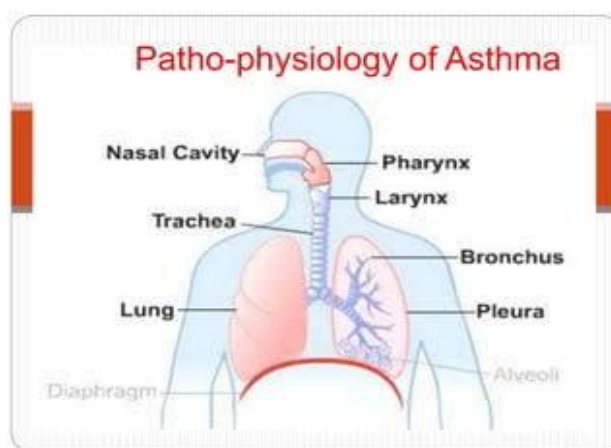


Basma Hospital in Irbid, Al-Salt Hospital in West Jordan, and Al-Basheer Hospital in Amman in the Middle of Jordan. The researcher approached patients who were taking controlled medications by MDI or TH at random and extended an invitation to take part in the trial. The Declaration of Helsinki was followed in the conduct of this investigation. After reading the information leaflet, patients who were willing to participate signed an informed permission form. A guardian or parent in law Granted written informed permission to any participant who is younger than eighteen years old. Only individuals with a medical diagnosis of asthma, those over the age of 14, those

taking inhaled corticosteroids with or without long-acting B2 antagonists via TH or MDI, and those who had been using the same asthma inhaler for at least a month prior to study enrollment were eligible for enrollment. Patients who did not take their medication on their own or who could not read or write Arabic were eliminated.

### **PATHOPHYSIOLOGY OF ASTHMA:**

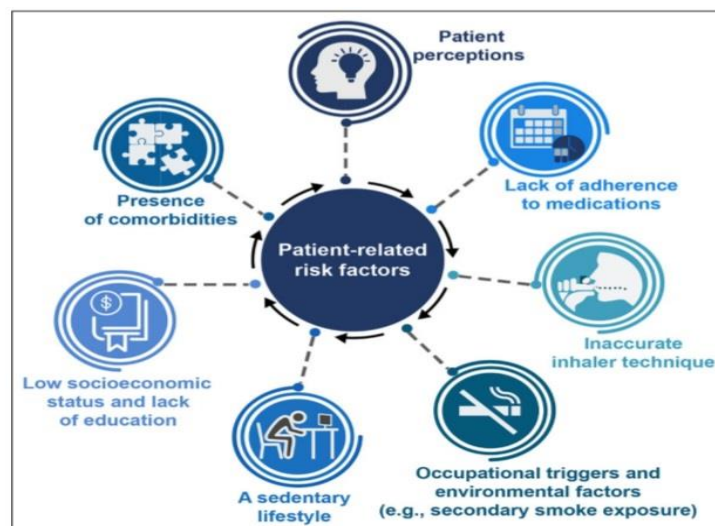
The varied illness known as asthma is typified by reversible airflow restriction, bronchial hyperresponsiveness, and persistent airway



inflammation. The typical asthma phenomenon Types of asthma include obesity associated asthma, late-onset asthma, allergic asthma, nonallergic asthma, and asthma with fixed airflow limitation. Strong inflammatory reactions are linked to asthma, with the bigger conducting airways being the main target. Based on their characteristics, different cell types such as T cells, mast cells, eosinophils, basophils, neutrophils, and

lymphocytes are involved in different forms of inflammation. Asthma fluctuations symptoms of wheezing, chest tightness, shortness of breath, and cough as well as spirometry-confirmed variable expiratory airflow limitation. Asthma severity is categorized as mild, moderate, or severe based on the amount of treatment needed to control symptoms and exacerbations.

### **FACTORS INFLUENCED CLINICAL OUTCOMES OF ASTHMA:**



## RESULTS:

Sixty-seven (69%) of the ninety-seven subjects who satisfied the inclusion requirements, consented to follow-up, and took part in the education program finished it all. Every effort was made to persuade patients to attend the educational sessions in order to attain a modest participation rate. Despite phone calls and three letters reminding them of their scheduled visits with the physician, 30 (31%) people failed to show up. The demographic profile of the 97 research participants is displayed in Table I, and the reasons for defaulting are listed in Table II. Gender, highest level of education, history of childhood asthma, frequency of symptoms in the six months before the inpatient admission, and years of current asthma symptoms did not differ between the non-defaulters and defaulters.

## DISCUSSION:

According to our findings, no patient could properly utilize their inhalers without making at least one mistake, whether they were taking MDIs with or without a spacer device. In our study, the percentage of patients who did not use their inhalers correctly among outpatient asthmatics was higher than in previous studies. According to other research, the rate of usage varied between 79% and 88% for outpatients, 1, 10, 11, 14, and 27% to 89% for inpatients, 16, 17, and 79% for asthmatic patients who visited the emergency room. In our study, the most frequent error made by MDI users without a spacer was to not tilt the head back and exhale to the remaining volume (step 3; 85%). The similar error was frequently made in other research. Incomplete exhalation may reduce the bioavailability of the medication. According to breathing slowly, holding one's breath for ten seconds after inhaling, and gradually expelling to the residual volume before inhaling can all boost bioavailability. In our study, 66% of the patients had trouble breathing in gently while operating the inhaler,

making it difficult for them to synchronize their breathing with the device. This issue also arose in other investigations.

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