**Spirometric criteria for airway obstruction: use percentage of FEV1 ratio as a Pulmonary function test for asthmatic patients in Basrah , Iraq**

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Key words: Pulmonary function test, human bronchial asthma

**Summary:**

 **This study aimed to describe the clinical features of patients asthma in Basrah south in Iraq . The pulmonary function test result was recorded below (70%) in all age groups. The study of pulmonary function test includes study of parameter FEV1.0 showed that age group2 record (63%) for male only, other age groups recorded following rate for male and female respectively (61.17 and 65.85%) ,(61.88 and 49.50%)and (68.75 and 63.50 %) for age group 3,4 and 5 respectively according to statistical analysis.**

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**Introduction:**

 Asthma is a complex respiratory disease in which genetic predisposition, environmental and immunological influences interfere with each other **(Edwards ,et al., 2012).** It is considered one of the most prevalent chronic diseases, affecting approximately 300 million individuals **(Masoli, et al., 2004)** and causing an estimated 250,000 deaths each year **(Bateman, et al., 2008).** In addition, it is projected that by 2025, the global asthma burden will rise by 100 million people due to a growing Westernized lifestyle and urbanization in developing countries (Masoli, et al., 2004). The 'hygiene theory' was originally attributed to an increase in the prevalence of allergic diseases, including asthma, indicating that decreased exposure to microbes during the first years of life plays a role in the development of allergic diseases **(Strachan, 1989, 2000).** While this theory is generally accepted, studies have shown that the increased incidence of asthma, rhinitis, or Neurodermitis does not completely account for decreased microbial exposure (**Mallol, 2008**; **Brooks ,et al.,2013** and **Kramer et al., 2013**). Asthma is a widespread illness globally and affects individuals of all ages, This condition usually occurs in infancy and is characterized by variable symptoms of wheeze, dyspnea, and chest tightness caused by air flow obstruction (fully reversible) (**GINA, 2015** and **Bisgaard &** **Bonnelykke,2010**).

**Materials and methods**

**Samples**

 A total of (312) patients (149 males and 163 females) of various age groups were included in this Case –control study. The patient was examined, and diagnosed as asthma under supervision of the Physician. The study was carried out during a period from July 2018 to January 2020.

**The grouping of patient**

 Male& Female patients were divided into five groups according to (**Falk, 1993**; **Herd,et al.,1996** ; **Nishioka,1996** and **charman&Williams,2002**)

**Group 1: 1- 11 years**

**Group 2: 12 – 2o years**

**Group 3: 21- 3o years**

**Group 4: 31 – 4o years**

**Group 5: above 4o years**

**Control group**

 A total of (204) healthy individual (81 males and 123 females) with out any features of asthma or any allergic to be compared with asthmatic patient in genetic and immunological studies.

**Statistical analysis**

Statistical analysis is done by using statistical package for social sciences(SPSS) software version 11, the chi square test, univariate and multivariate logistic regression analysis, the ANOVA analysis were applied for correlation between each study parameter, and the difference between two proportion by T- tests were used to assess the significance of difference between groups,P-Value less than 0.05 was considered as Statistically significance(S). P-value < 0.01 as highly significant(HS).and P-value >0.001 as extremely significant(ES).

**THE RESULTS**

**Pulmonary function test**

The study of pulmonary function test includes study of parameter FEV1.0 illustrate in Fig (3-1) showed that age group2 record (63%) for male only, other age groups recorded following rate for male and female respectively (61.17 and 65.85%) ,(61.88 and 49.50%)and (68.75 and 63.50 %) for age group 3,4 and 5 respectively according to statistical analysis.

 Figure(3-1) Ratio of FEV1.0 for each male and female in various age group

P<0.05

**Discussion:**

Asthma is characterized by reversible airflow obstruction. FEV1 is considered the main parameter to evaluate bronchial obstruction. Beers M and Berkow R.(1999). In our study, there was a highly statistically significant decrease in the FEV1 values among the asthmatics group with a mean of 64.04 ± 17.096 (P-value < 0.05). Also, there was a negative correlation between FEV1 and the severity of asthma symptoms. the researcher believe this result may be in ability of the lung to do its job due to the presence of narrowing or blockage in the air way resulting as a reaction to allergens. Our results agreed with **Leskela *et al*.(2013).** who found that more than 50% of the patients with AR had impaired pulmonary function parameters. Similar results were reported by **(Jafari,M,2016; Tantilipikorn *et al*.,2016; Ciprandi *et al*.2011 and Anand *et al*.2016).**

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