**Tuberculosis in Baghdad, Iraq 2012-2016: Retrospective Study  
Tuberculosis in Baghdad, Iraq**

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**Abstract:**

**Objective:** The present study intended at examining the prevalence of tuberculosis in Baghdad City, Iraq for the period of 2012-2016.

**Methodology:** A descriptive “retrospective” design was applied throughout the present study from the period of November 12th 2017 to February 13th 2018 in order to detect the tuberculosis cases with regard to patients’ demographic characteristics in Baghdad City, Iraq for 2012-2016. A convenient sample of (11680) registered patients with tuberculosis in Baghdad, Iraq for the period of 2012-2016. These patients were males and females and they were one year to over than (65) year of age. An instrument was constructed for the purpose of the study. It was comprised of items that focused on patients’ demographic characteristics of gender, marital status, education, living place and type of Tuberculosis. A pilot study was carried out for the determination of the study instrument’s content validity, internal consistency reliability and adequacy. The study was carried out for the period of December 10th to 20th 2017. Content validity of the instrument was determined through panel of (15) experts. They were presented with copy of the study instrument and asked to review it and provide comments for its modification to be more appropriate measure of the study. They had reviewed the instrument and presented their comments with an agreement that the instrument is content valid. Internal consistency reliability was determined for the study instrument through the use of split-half technique and measurement of Cronbach alpha correlation coefficient. The result indicated that Cronbach alpha correlation coefficient was r=0.85 which adequately reliable measure for the problem underlying the present study. Data were collected from the health records at the National Tuberculosis Center, State TB center, and district TB center for the period of 2012 to 2016 with the use of the study instrument. Data were analyzed through the application of descriptive statistical data analysis approach of frequency, percent and total scores.

**Results:** The study findings revealed thatfemale patients were slightly larger than male ones. Patients living in the urban area were accounted for the most (91.85%). (41.92%, 18.53%, 31.05% and 8.50%) of the patients were married, single, divorced and patients with deceased spouses, and there was a significant difference among them pairwise from this point of view; i.e., the number of married people is more than single, more than divorced and more than a patient with a dead spouse. the literacy level of TB patients is significantly different, with (59.77%) of illiterate patients, (2.27%) of elementary education, (18.30%) of secondary education, (19.04%) of secondary education and diploma and (0.61%) university degree. Most of the patients had experienced Extra-pulmonary Tuberculosis (52.36%).

**Conclusion:** The study concluded thatthe gender ratio was accounted for the most (2.14:1) in the year of 2015. The urban zone the incidence rate was greater than that of the rural zone.

**Recommendations:** The study recommended that patients who were young males and females, married, illiterates and urban area residents can be provided with all means of treatment and preventive measures. Further research with a large sample size and wide range of variables can be conducted.

**Key Word: Tuberculosis, retrospective study, prevalence, Baghdad City, Iraq**

**Introduction:**

Tuberculosis, or TB, is a bacterial infection that can spread through the air. It is most often found in the lungs, but can exist in any organ in your body. When a person coughs or sneezes, they can transmit so-called “active” TB. However, many people are also infected with an inactive form of TB, known as latent TB. The bacillus that causes the disease is called Mycobacterium tuberculosis (M.tb). M.tb's unique cell wall, which has a waxy coating primarily composed of my colic acids, allows the bacillus to lie dormant for many years. The body's immune system may restrain the disease, but it does not destroy it. While some people with this latent infection will never develop active TB, five to ten percent of carriers will become sick in their lifetime (1).

The incidence of TB varies with age. In Africa, TB primarily affects adolescents and young adults (WHO, 2011a). However, in countries where TB has gone from high to low incidence, such as the United States, TB is mainly a disease of older people, or of the immuno-compromised(2,3).

The limited availability of data on health status is a major constraint in assessing the health situation in developing countries. Surveillance data are lacking for many major public health concerns. Estimates of prevalence and incidence are available for some diseases but are often unreliable and incomplete. National health authorities differ widely in capacity and willingness to collect or report information. To compensate for this and improve reliability and international comparability, the World Health Organization (WHO) prepares estimates in accordance with epidemiological models and statistical standards (4).

Based on the early stated facts, the present study ought to carry out a retrospective study to investigate the detected cases of tuberculosis in Baghdad, Iraq for 2012-2016 with respect to its demography.

**Methodology:**

A descriptive “retrospective” design was employed throughout the present study from the period of November 12th 2017 to February 13th 2018 in order to detect the tuberculosis cases in Baghdad City, Iraq for 2012-2016. A convenient sample of (11680) registered patients with tuberculosis in Baghdad, Iraq for the period of 2012-2016. These patients were males and females and they were one year to over than 65 year of age. An instrument was constructed for the purpose of the study. It is comprised of items that focused on patients’ characteristics of age, gender and type of Tuberculosis. A pilot study was conducted for the determination of the study instrument’s content validity, internal consistency reliability and adequacy. The study was carried out for the period of December 10th -20th 2017. Content validity of the instrument was determined through panel of (15) experts. These experts were (5) faculty members at the College of Nursing University of Baghdad, (5) Faculty members at the College of Medicine University of Baghdad and (5) epidemiologists at the Ministry of Health and Environment. They were presented with copy of the study instrument and asked to review it and provide comments for its modification to be more appropriate measure of the study. They had reviewed the instrument and presented their comments with an agreement that the instrument is content valid. Internal consistency reliability was determined for the study instrument through the use of split-half technique and measurement of Cronbach alpha correlation coefficient. The result indicated that Cronbach alpha correlation coefficient was r=0.85 which adequately reliable measure for the problem underlying the present study. Data were collected from the health records at the National Tuberculosis Center, State TB center, and district TB center for the period of 2012 to 2016 with the use of the study instrument. Data were analyzed through the application of descriptive statistical data analysis approach of frequency, percent and total scores.

**Results:**

**Table (1). Distribution of Demographic Characteristics of Tuberculosis Patients Referred to**

**Baghdad Health Centers**

**a. Gender**

|  |  |  |  |
| --- | --- | --- | --- |
| **Demographic Characteristic** | | **Frequency** | **Percent** |
| **Gender** | **Male**  **Female** | **5747**  **5933** | **49.5**  **50.5** |

This table presents that female patients were slightly larger than male ones.

**b. Living place**

|  |  |  |  |
| --- | --- | --- | --- |
| **Demographic Characteristic** | | **Frequency** | **Percent** |
| **Living place** | **Urban**  **Rural** | **10729**  **951** | **91.85**  **8.15** |

Relative to the living place, this table depicts that patients living in the urban area were accounted for the most (91.85%).

**c. Marital Status**

|  |  |  |  |
| --- | --- | --- | --- |
| **Demographic Characteristic** | | **Frequency** | **Percent** |
| **Marital**  **Status** | **Married**  **Single**  **Divorced**  **Other**  **Total** | **4897**  **2165**  **3627**  **991**  **11680** | **41.92**  **18.53**  **31.05**  **8.50** |

The results reveal that 41.92%, 18.53%, 31.05% and 8.50% of the patients were married, single, divorced and patients with deceased spouses, and there was a significant difference among them pairwise from this point of view; i.e., the number of married people is more than single, more than divorced and more than a patient with a dead spouse.

**d. Education**

|  |  |  |  |
| --- | --- | --- | --- |
| **Demographic Characteristic** | | **Frequency** | **Percent** |
| **Education** | **Illiterate**  **Primary**  **Secondary**  **Diploma**  **University**  **Total** | **6980**  **266**  **2137**  **2225**  **72**  **11680** | **59.77**  **2.27**  **18.30**  **19.04**  **0.61** |

The data show that the literacy level of TB patients is significantly different, with 59.77% of illiterate patients, 2.27% of elementary education, 18.30% of secondary education, 19.04% of secondary education and diploma and 0.61% university degree.

**e. Tuberculosis Type**

|  |  |  |  |
| --- | --- | --- | --- |
| **Demographic Characteristic** | | **Frequency** | **Percent** |
| **TB type** | **Exta-pulmonary TB**  **Pulmonary TB** | **4539**  **4129** | **52.36**  **47.64** |

This table indicates that most of the patients had experienced Extra-pulmonary Tuberculosis (52.36%).

**Table (2). IR or TB in Iraq Baghdad during (2012-2016) by Urban and Rural Areas**

|  |  |  |
| --- | --- | --- |
| **IR/100000/Year** | | |
| **Years** | **Rural** | **Urban** |
| **2012** | **619** | **1649** |
| **2013** | **631** | **1576** |
| **2014** | **671** | **1708** |
| **2015** | **712** | **1860** |
| **2016** | **699** | **1555** |

This Table reveals that reported incidence rate of TB cases according to the geographically in Baghdad during 2012-2016. The rural area incidence rate was 66/100,000 per year and Urban area 166/100,000 per year. The incidence rate of rural area was almost same since 2012 to 2016. Among the urban zone the incidence rate was slightly decreasing during 2012- 2016.

**Conclusion:**

Based on the interpretation of the study findings, the study can conclude that:

1. Female patients were slightly larger than male ones.

2. Most of the patients were married, urban area residents, illiterate and having

Extra Pulmonary Tuberculosis.

3. The gender ratio was accounted for the most (2.14:1) in the year of 2015.

4. The urban zone the incidence rate was greater than that of the rural zone.

**Recommendations:**

Based on the early stated conclusion, the present study can recommend that:

1. Patients who were young males and females, married, illiterates and urban area residents can be

provided with all means of treatment and preventive measures.

4. Further research with a large sample size and wide range of variables can be

conducted.

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