



## RESEARCH ARTICLE

### INCIDENCE OF CHRONIC DISEASE AMONG DISPLACED PEOPLE IN SULAYMANIYAH PROVINCE

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#### ABSTRACT

**Background:** A chronic condition is a human health condition or disease that is persistent or otherwise long-lasting in its effects or a disease that comes with time. The term chronic is often applied when the course of the disease lasts for more than three months. Chronic diseases constitute a major cause of mortality worldwide. **Objectives:** to determine the incidence of chronic diseases among displaced people in sulaymaniyah province. **Methods:** A study was performed on patients with chronic diseases register in the chronic disease center in sulaymaniyah province. During the period between 23<sup>th</sup> January 2016 to 10<sup>th</sup> October 2017. A total of 3546 patients, 1888 female and 1658 male constituted the study group. **Results:** there were ( 53.25%) females patients and ( 46.75%) males patients. the prevalence of chronic disease among displaced people in sulaymaniyah province was (10585) per million population The prevalence of the various causes of chronic disease in this study was ;hypertension (41.55 %), diabetes mellitus (25.12%), ischemic heart disease (17.11%), epilepsy (6.68%), thyroid disease (4.14%), asthma and chronic obstructive pulmonary disease (2.83%), chronic renal failure and renal transplant (1.77%), multiple sclerosis (0.52%), diabetes insipid us (0.28%). **Conclusions:** The incidence of chronic disease among displaced people in sulaymaniyah province is high .most of displaced people lives outside the camps. Hypertension and diabetes mellitus constituted the top of these diseases. There are a large number of displaced patients from Anbar and Ninawa governorate.

## INTRODUCTION

A chronic condition is a human health condition or disease that is persistent or otherwise long-lasting in its effects or a disease that comes with time. The term chronic is often applied when the course of the disease lasts for more than three months (Ward, 2016). Chronic diseases constitute a major cause of mortality, and the world health organization (WHO) attributes 38 million deaths a year to non-communicable diseases (Noncommunicable diseases, 2015).

**Types:-** Chronic conditions have often been used to describe the various health related states of the human body such as syndromes, physical impairments, disabilities as well as diseases. An important one that public health officials in the social science setting have begun highlighting is chronic poverty (Hulme, 2003). In 2015 the world health organization produced a report on non-communicable diseases, citing the four major types as (Noncommunicable diseases, 2016).

- Cancers
- Cardiovascular diseases, including cerebrovascular disease, heart failure, and ischemic cardiopathy

- Chronic respiratory diseases, such as asthma and chronic obstructive pulmonary disease (COPD)
- Diabetes mellitus
- Other examples of chronic diseases include (5):

Addiction, Alzheimer disease, Hypertension, Multiple sclerosis, osteoarthritis, rheumatoid arthritis, Depression, Epilepsy, HIV/AIDS. Autoimmune diseases, such as ulcerative colitis, lupus erythematosus, Crohn's disease coeliac disease. Cerebral palsy, Chronic kidney disease, Parkinson's disease and Thyroid disease. Risk factors:- While risk factors vary with age and gender, most of the common chronic diseases are caused by dietary, lifestyle and metabolic risk factors that are also responsible for the resulting mortality (Danaei, 2009). Therefore, these conditions might be prevented by behavioral changes, such as quitting smoking, adopting a healthy diet, and increasing physical activity. Social determinants are important risk factors for chronic diseases ( Braveman, 2010). Social factors, e.g., socioeconomic status, education level, and race/ethnicity, are a major cause for the disparities observed in the care of chronic disease. Lack of access and delay in receiving care result in worse outcomes for patients from minorities and underserved populations. Those barriers to medical care complicate patients monitoring and continuity in treatment.

Minorities and low-income populations are less likely to access and receive preventive services necessary to detect conditions at an early stage

**Prevention:** A growing body of evidence supports that prevention is effective in reducing the effect of chronic conditions; in particular, early detection results in less severe outcomes. Clinical preventive services include screening for the existence of the disease or predisposition to its development, counseling and immunizations against infectious agents. Despite their effectiveness, the utilization of preventive services is typically lower than for regular medical services. In contrast to their apparent cost in time and money, the benefits of preventive services are not directly perceived by patient because their effects are on the long term or might be greater for society as a whole than at the individual level (Mays, 2011). Therefore, public health programs are important in educating the public, and promoting healthy lifestyles and awareness about chronic diseases. While those programs can benefit from funding at different levels (state, federal, private) their implementation is mostly in charge of local agencies and community-based organizations.(8) Studies have shown that public health programs are effective in reducing mortality rates associated to cardiovascular disease, diabetes and cancer, but the results are somewhat heterogeneous depending on the type of condition and the type of programs involved (Mays, 2011).

**Epidemiology:** According to research by the centers for disease control and prevention, chronic disease is also especially a concern in the elderly population in America (Centers for Disease Control and Prevention, 2007) it is estimated that at least 80% of the elderly are currently living with some form of a chronic condition, with 50% of this population having two or more chronic conditions (Centers for Disease Control and Prevention, 2007). The two most common chronic conditions in the elderly are high blood pressure and arthritis, with diabetes, coronary heart disease, and cancer also being reported among the elder population (Parent Giving), while The most common chronic conditions between the ages of 18 and 64, are high blood pressure, arthritis, respiratory diseases, and high cholesterol (Centers for Disease Control and Prevention, 2007). Chronic illnesses cause about 70% of deaths and (heart disease, cancers, stroke, chronic respiratory diseases, diabetes, Alzheimer's disease, mental illness and kidney diseases) were 6 of the top ten causes of mortality in the general population (National Center for Health Statistics., 2004). Chronic diseases are a major factor in the continuous growth of medical care spending. In addition to direct costs in health care, chronic diseases are a significant burden to the economy, through limitations in daily activities and loss in productivity.

**Aim of Study:** to determine the incidence of chronic diseases among displaced population in sulaymaniyah province.

## MATERIALS AND METHODS

This study was performed on chronic disease patients which are register in the chronic disease center in sulaymaniyah province. During the period between 23th January 2016 to 10th October 2017. A total of 3546 patients, 1888 female and 1658 male constituted the study group. Data were collected directly from the patients during registration to emission the chronic disease card which including: name, age, sex, residence (previous and recent one), duration of disease, chronic drugs

(name and dose) and if patient complain from single or multiple chronic disease. During that period I am manager of that center and monitoring all the patients during that period. Each patient have special sheets and code number on computer containing full information( medical and non-medical) which monthly collect and according to it drugs supply to the chronic patients from popular clinic in sulaymaniyah province. For statistical analysis SPSS \_20 (statistical package for social sciences- version 20) and CHI \_square test was used to analysis the group .percentage in addition to statistical figure a P \_value >0.05 was consider to be not significant and P \_value <0.05 consider to be significant.

## RESULTS

Among the (3546) patients studied (1888) of them were females and (1658) were male and female to male ratio was to be 1.13 : 1 chi-square was significant( P \_value < 0.05).

**Table 1. Frequency of chronic disease**

Chronic Disease	Total No.	Frequency
Hypertension	1525	41.55%
Diabetes Mellitus	922	25.12%
Ischemic Heart Disease	628	17.11%
Epilepsy	245	6.68%
Thyroid Disease	152	4.14%
Asthma and COPD	104	2.83%
Chronic renal failure and renal transplant	65	1.77%
Multiple sclerosis	19	0.52%
Diabetes Insipidus	10	0.28%
Total No.	3670	100%

**Table 2. distribution of the displaced population according to previous residence**

Province	Number Family	Population Size
Anbar	18603	111618
Diayala	13016	78096
Salahudin	11265	67590
Ninawa	6601	39606
Baghdad	4238	25428
Babylon	2110	12660
Total No.	55833	334998

**Table 3. Distribution of the patients according to new residence**

District	Total No.	Frequency
Sulaymaniyah	2229	62.85%
Darbandikhan	275	7.75%
Chamghamal	258	7.27%
Ranya	156	4.39%
Peramagroun	145	4.08%
Dukan	125	3.52%
Halabja	110	3.10%
Kalar	99	2.80%
Arabit	75	2.11%
Kifri	35	0.99%
Pishdar	21	0.60%
Said Sadiq	18	0.50%
Total No.	3546	100%

In this study hypertension, diabetes mellitus and ischemic heart disease were noticed in a higher percentage among displaced patients in both sexes Table 2: with respect to the distribution of displaced population according to previous residence, the most frequent group was from alanbar and diayala governorate as shown in table below.

**Table 4. Distributions of chronic patients according to the original residence**

Province	Number	Population Size	Prevalence / 10000
Anbar	2131	111618	190.91
Ninawa	405	39606	102.25
Diayala	312	67590	46.16
Salahudin	303	78096	38.79
Baghdad	220	25428	86.51
Babylon	175	12660	138.23
Total No.	3546	334998	105.85

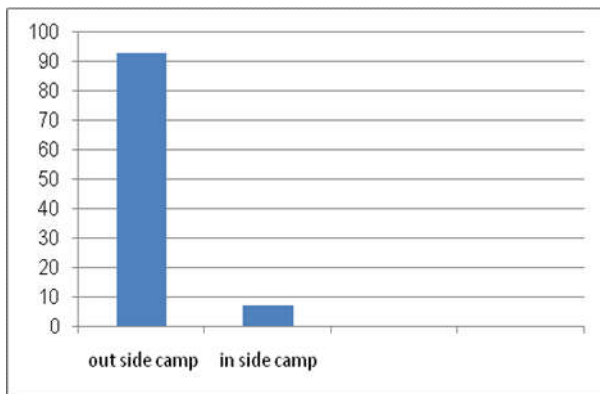
**Figure 1. Habitation of displaced population.**

Table 3: Distribution of chronic patients according to their residence in sulaymaniyah province show that most of them lives in sulaymaniyah city and about one third lives in different districts of the province as table below. Table 4: shows that most chronic patients in the current study were from Anbar and Ninawa province were high percentage rate observed. The prevalence of chronic disease among displaced population in this study was (10585) patient per million population ( PMP). Figure 1: show that (55833) family of displaced people with a total number of (334998)person lives outside the camps which represent (92.81%) of group study in different part of sulaymaniyah province .While the total number of family lives inside the sixth camps in sulaymaniyah was (4322) with a total number of (25932)person and represent(7.19%) of displaced population.

## DISCUSSION

After attach of isis during 2014 and due to unstable security environment people from different province in Iraq leaves their houses and migrate to other places. Large number of displaced people about (60%) reach to Kurdistan region and the number was ( 1341450) person with a total number of (38) camps (<https://www.rudaw.net/15/10/2018>) .in sulaymaniyah province ministry of health in Baghdad and with cooperation with sulaymaniyah health directorate start a program of registration of chronic patients and supply them with his medication and I am become manager of chronic disease center in sulaymaniyah province.

In this study, hypertension (HTN) responsible for 41.55% of cases, while the second cause was diabetes mellitus (DM) in 25.12% and ischemic heart disease( IHD) thirdly in 17.11% (Chronic disease center, 2017) . Which are compatible with high prevalence of these diseases in our population associated with natural history and bad control and higher complication of these diseases especially during disaster. These result are similar to that present in United States of America (Centers for

Disease Control and Prevention, 2007) . Regarding distributions of chronic patients according to the original residence. Table (4) shows that most chronic patient in the current study were from Alanbar (2131) patient and Ninawa (405) patient province were high percentage rate observed (Chronic disease center). And this run with stabilization of huge number of family from these province in the different part of sulaymaniyah province. The prevalence of chronic disease among displaced population in this study was (10585) patient per million population ( PMP). Distribution of chronic patients according to their residence in sulaymaniyah province show that most of them lives in sulaymaniyah city (2229) and about one third lives in different districts of the province (1317) as in Table (3). And this may due to both medical reason represented by availability of specialized center for diabetic, renal, cardiac and respiratory diseases and the need of chronic patients for continues checking and fallow up. The none medical reason represented by availability of education organization and shopping center and large number of apartment and other services.

Figure (1) show that the total number of displaced family was (60155) with a total number of (360930) person according to the registration of the ministry of migration and displace in sulaymaniyah province branch and counting of human organization till August 2017. (55833) family of displaced people with a total number of (334998)person lives outside the camps which represent (92.81%) of group study in different part of sulaymaniyah province .While the total number of family lives inside the sixth camps in sulaymaniyah was (4322) with a total number of (25932)person and represent(7.19%) of displaced population (<https://www.alghadpress.com/30/6/2018>) . This mostly related to different factor including social and educational level and lifestyle of the family and gross income and the time at which family reach sulaymaniyah province. The current study show no big differences between female and male regarding the incidence as 53,25%female (1888) while male was 46,75%(1658) ( Chronic disease center ;monthly report; October 2017.) High number of female partly due to the structure of our population in Iraq which is due to multiple reason (recurrent wars and migration outside). 124 of our patients have combined diseases (two or three) for example, HTN and DM, HTN and IHD, DM and CRF, DM and IHD.

## Conclusion

The incidence of chronic disease among displaced people in sulaymaniyah province is high .Most of displaced people lives outside the camps. Hypertension, diabetes mellitus and ischemic heart disease constituted the top of these diseases. There are a large number of displaced patients from anbar and ninawa governorates.

## Recommendation

Efforts should be directed towards establishing national program for chronic disease patients and each patient should have code number. The disease which listed in popular clinic should be widening to include other chronic disease likes (rheumatoid, psychiatric and autoimmune) Drugs which supply to the chronic patients need to be renovated and introduce a list of recently used chronic medication. Each health directorate in Iraq should have a chronic disease center that includes all diseases and patients.

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