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*RESEARCH ARTICLE*

# PREVALENCE OF VITILIGO IN KINGDOM OF SAUDI ARABIA (CROSS SECTIONAL STUDY)

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## Abstract

**Background**:Vitiligo is acquired condition of skin and hair depigmentation that characterized by the appearance of pale macules or hypochromic pigment. Vitiligo is not a life-threatening situation however; it affects patients' health-related quality of life and psychological well-being. Therefore, in this study, we aimed to prevalence of vitiligo in Saudi population besides, Most common place of first spot of vitiligo, and the relationship between some medical conditions and vitiligo.

**Methodology:** This is an analytical cross-sectional study conducted in kingdom of Saudi Arabia (General population and vitiligo patient) from 04/08/2020 till 22/11/2020. The study was depending on using of online questionnaire assessing demographic factors including age and nationality besides disease-related information: Heart disease, Smoker patient, related risk factors of disease and DM patient.

**Results:** We had received 875 responses of our questionnaire, where the prevalence of vitiligo was 3.5 % where 51.6 % of them were male. Moreover, 51.6 % of them were below 25 years old, 19.4 % were between 25 – 30 years old and 12.9 % were between 31 – 35 years old. Furthermore, most of them were Saudi Arabian (93.5 %).Moreover, most of patients indicated that they were patients with vitiligo for more than 5 years (61.3 %) while the first spot of vitiligo was above eyes (22.6 %), hands (19.4 %), Armpits (12.9 %) and knee (12.9 %)

**Conclusion:**We had found that the prevalence of vitiligo in Saudi Arabia was high than reported by other studies where male are slightly more affected by the diseases and those of younger age. Face and hand are the most common spots of vitiligo. Moreover, smoking, diabetes mellitus and thyroid disorders may have effect in increased incidence of vitiligo.

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## Introduction:-

Vitiligo is acquired condition of skin and hair depigmentation [1] that characterized by the appearance of pale macules or hypochromic pigment [2]. Vitiligo which has idiopathic causes mostly autoimmune causes where immune mis-attacks melanocytes in a process called leukoderma [3, 4], can affect both genders at any age starting in spring or summer [5, 6].

Vitiligo is not a life-threatening situation however, it affects patients' health-related quality of life and psychological well being [7]. It is mostly appearing on the face, hand and wrists [8,9]. It is classified into two categories: non-segmental vitiligo (NSV) and segmental vitiligo, where the first one is usually having some form of symmetry in the location of the patches of depigmentation [9]. NSV is then subclassified into 5 categories including generalized vitiligo which is the most common one and randomly distributed along of the body [10], Universal vitiligo where depigmentation encompasses most of the body [11], Focal vitiligo which mostly occur in infant appearing as one or few scattered macules in one area [12], Acrofacial vitiligo where fingers and periorificial areas are affected [10] and finally mucosal vitiligo where depigmentation is only appearing in mucous membrane [11].

Prevalence of vitiligo is ranging from 0.5 % to 2 % [13] and in western Saudi Arabia, the prevalence reaches 3.12 % [14]. Moreover, 40 % of dermatologists in Saudi Arabia had reported that they see from 5 to 10 vitiligo patients per week and 12.6 % see more than 10 patients per week [15].

Since skin diseases have been on the increase in the recent period, the most important of these diseases is vitiligo skin disease, which has become a threat to the general appearance of the external form and to the psyche of the injured person as he suffers from a difference from others and sometimes to ostracism and hatred due to this difference . It should be found to find the extent of the number of people infected with this disease in recent times with finding risk factors for this, in order to start treating this disease properly or prevent the progress of this disease or prevent its occurrence from the foundation. Therefore, in this study, we aimed to prevalence of vitiligo in Saudi population besides, Most common place of first spot of vitiligo, and the relationship between some medical conditions and vitiligo.

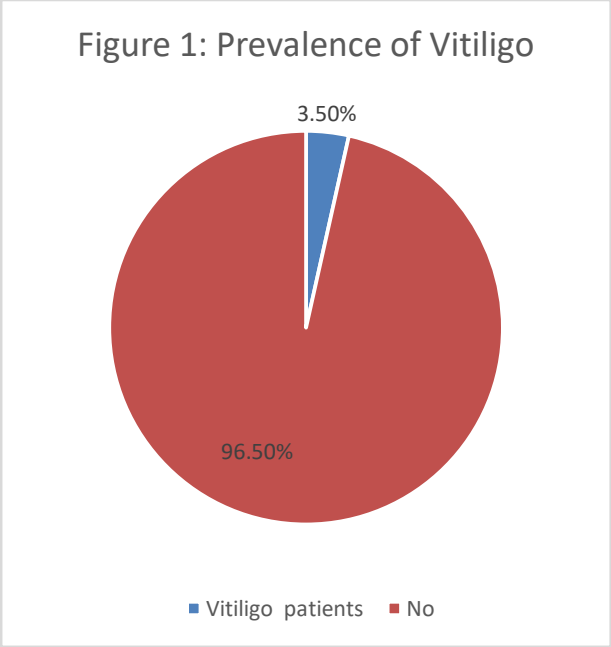
## Methodology:-

This is an analytical cross-sectional study conducted in kingdom of Saudi Arabia (General population and vitiligo patient) from 04/08/2020 till 22/11/2020. Sample size will be calculated using OpenEpi for sample size calculation for cross sectional where inclusion criteria include general population and vitiligo patient. The study was depending on using of online questionnaire assessing demographic factors including age and nationality besides disease-related information: Heart disease, Smoker patient, related risk factors of disease and DM patient.

Data was entered and analyzed using SPSS version 25. Descriptive statistics was performed and categorical data was displayed as frequencies and percentages while measures of central tendencies and measures and dispersion was used to summarize continuous variables. Univariate and multivariate analysis was performed to investigate association between exposure factors and associated disease. statistical significance is set at a P value of 0.05 or less. Administrative approval was sought from the unit of biomedical ethics research committee, king Abdulaziz university. An informed consent was sought from the participants.

## Results:-

We had received 875 responses of our questionnaire, where the prevalence of vitiligo was 3.5 %(Figure 1).

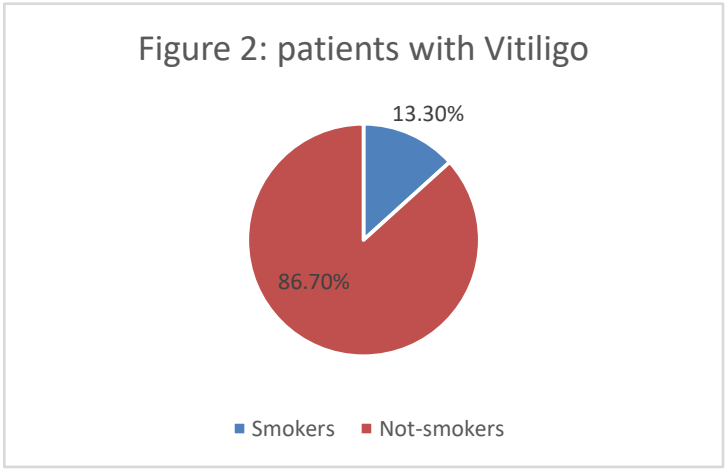


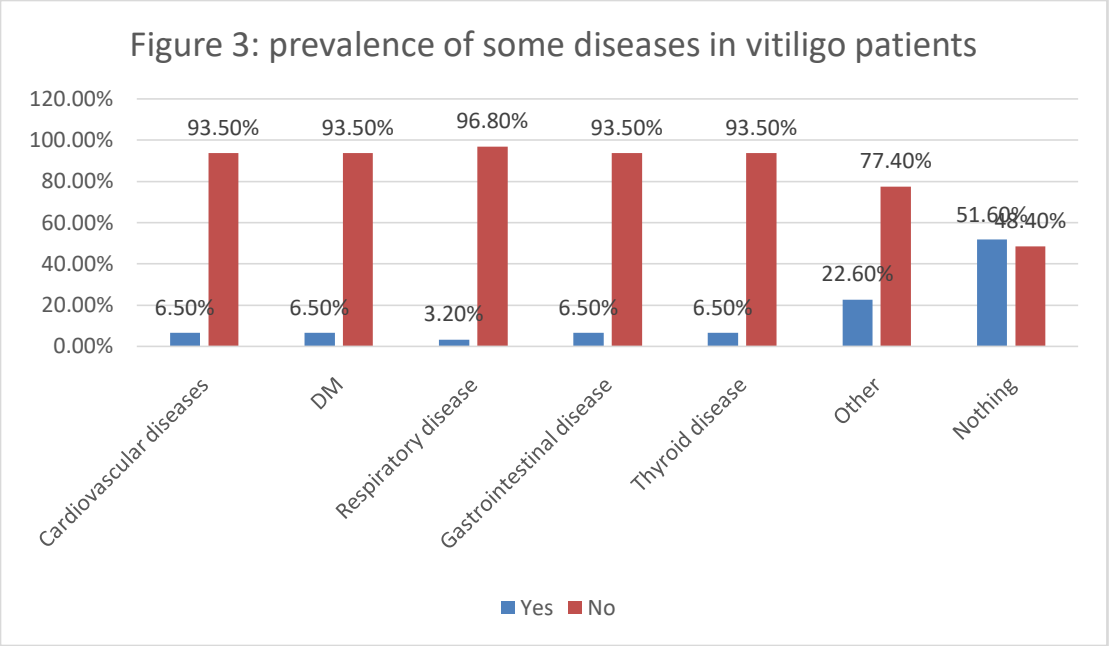

The table 1 shows the demographic factors of patients of vitiligo where 51.6 % of them were male. Moreover, 51.6 % of them were below 25 years old, 19.4 % were between 25 – 30 years old and 12.9 % were between 31 – 35 years old. Furthermore, most of them were Saudi Arabian (93.5 %).

**Table 1:-**Demographic Factor Of Patients Variablefrequency Percent.

| | | | |
|---|---|---|---|
| Gender | Male | 16 | 51.6 |
| | Female | 15 | 48.4 |
| Age | Below 25 year | 16 | 51.6 |
| | 25-30 | 6 | 19.4 |
| | 31-35 | 4 | 12.9 |
| | 36-40 | 3 | 9.7 |
| | 41-50 | 1 | 3.2 |
| | above 50 year | 1 | 3.2 |
| Nationality | Saudi | 29 | 93.5 |
| | Non- Saudi | 2 | 6.5 |

Considering smoking, we had found that 13.3 % of patients with Vitiligo were smokers (Figure 2). Moreover, 22.6 % of patients reported that they had diseases that not included in this study however, 51.6 % reported having no other medical conditions. Patients with cardiovascular diseases, DM, GIT disease and thyroid disease represented 6.5 % of patients for each (Figure 3).






Moreover, most of patients indicated that they were patients with vitiligo for more than 5 years (61.3 %) while the first spot of vitiligo was above eyes (22.6 %), hands (19.4 %), Armpits (12.9 %) and knee (12.9 %) (Table 2).

**Table 2:-** Variable frequency percent.

| | | | |
|---|---|---|---|
| How long have you had Vitiligo? | less than 5 years | 12 | 38.7 |
| | More than 5 years | 19 | 61.3 |
| The first vitiligo spot in your body appeared in: | Above your eyes | 7 | 22.6 |
| | Armpits | 4 | 12.9 |
| | Your hands | 6 | 19.4 |
| | Your knee | 4 | 12.9 |
| | other | 9 | 29.0 |
| | On Your neck | 1 | 3.2 |

## Discussion:-

The aim of this study was to assess the prevalence of vitiligo in Saudi Arabian population to increase our knowledge about the current situation of vitiligo in our kingdom. This study had received 875 response from which the prevalence of vitiligo was 3.5 %. This is much higher than finding results in the study conducted in the dermatology department of Hera General Hospital, Makkah, Saudi Arabia from January 2010 to June 2013 where the prevalence of vitiligo was 0.43 % [15] and the study conducted in King Khalid University Hospital, Riyadh, Saudi Arabia where the prevalence was 2.5 % [16], and I Najran region, the estimated prevalence of vitiligo cases among the dermatology OPD attendees was 1.98% [17]. Moreover, in this study, we had found that male represented slightly higher percentage of vitiligo patients than females (51.6 % vs 48.4). Same results had been found in study of Najran where men predominance (57.4%) among the vitiligo patients [17] and study of King Khalid University Hospital where the men represented 56 % of the patients [16]. However, some other studies showed that females are the most affected gender by vitiligo [15,18]. Moreover, we had found that almost half of the vitiligo patients are below 25 years old with decreasing of prevalence by increasing the age. However, this could be inaccurate relation because of depending of study on online self-reported questionnaire which may lead to increase numbers of younger participants over older ones. However, many studies had found that prevalence of vitiligo is higher in younger participants where study of AL Fahaad, found that the mean age of patients was 34.33 years old [17] and study of Fatani et.al where mean age was 24.5 % [15] and study of A. Alzolibani where the mean age of vitiligo patients was 26.5 % [19]. Moreover, Saudis were predominant (93.5%) among the vitiligo patients compared to non-Saudi nationals as revealed in our study, and also in other similar studies [16,17].

Moreover, we had found in this study that smokers represented 13.3 % of patients which is higher than reported by Fahad who reported that only 5 % of vitiligo patients were smokers and they did not find any correlation between smoking and prevalence of vitiligo and site of vitiligo [17]. Moreover, we had found that presence of other diseases can increase risk for developing vitiligo including diabetes mellitus, thyroid disease and cardiovascular diseases. Many studies had found the association of vitiligo conditions with thyroid disorders and diabetes mellitus [20]. Moreover, hands, face above eyes are the most common spots of vitiligo found in this study which is similar to results of Fahad who had found that vitiligo was found in higher prevalence in head and neck [15] and in contrast to other foregin studies where lower limbs are the most common spots of vitiligo [20]. However, this difference may be because of our culture where most of people used to covered most of the body leaving hand and face exposing.

This study had some unavoidable limitations including depending on questionnaire to collect medical data about previous event in participants life which may lead to some memory bias or wrong report of their medical conditions. On the other hand, this up to our knowledge is one of the newest study to assess the prevalence of vitiligo in Saudi Arabia.

In conclusion, we had found that the prevalence of vitiligo in Saudi Arabia was high than reported by other studies where male are slightly more affected by the diseases and those of younger age. Face and hand are the most common spots of vitiligo. Moreover, smoking, diabetes mellitus and thyroid disorders may have effect in increased incidence of vitiligo.

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