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Demographic Data of Female Leprotic Patients

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Abstract:

Introduction: Hansen's disease, also referred to as leprosy, is a non-fatal ancient illness that results from Mycobacterium leprae. It impacts a significant portion of the global population and is one of the main etiologies of non-traumatic peripheral neuropathy worldwide. Leprosy causes a reduction of the quality of life of an individual in different ways, physically by vision impairment, muscle weakness, nerve thickening, hypo pigmented anesthetic patches with deformities.

Aim of the study: To evaluate female leprotic cases demographic data

Subjects and Methods: This study is a descriptive retrospective investigation carried out on leprotic women living in Egypt to assess the demographic data of female leprotic cases. The study population included 248 female cases diagnosed with leprosy throughout the duration from 2008 to 2021 from the National Leprosy Control program registry in Egypt

Results: (37%) of female cases involved in the investigation were between 26 and 36 years old, and (35.8 %) of cases were between 37 and 45 years old. The female residents were (51.2%) from urban areas and (48.8%) from rural areas. The educational level has been divided as follows:(37%) were illiterate, (12.9%) received primary education, (10.88%) received preparatory education, (20.9%) received secondary education, and (18.1%) had a university degree. (29.8%) were working, and (70.2%) were not working. The age of marriage among the study group was <20 years in 46.37 % and 30.6% between 20 and 30 years old, while the age difference between females and their husbands was 68.5% more than 5 years, and 31.8% between 1 to 5 years. The study group's gynecological history was divided, with 72.17% having regular menstrual cycles, while 27.82% had irregular cycles. As for using contraception, 73.3% used contraception, while 26.7% didn't use contraception.

Conclusions: Despite advancements in the political, social, and economic conditions of developing nations, leprosy remains endemic in numerous areas, particularly in Southeast Asia and the Americas. There were 127558 new leprosy cases detected globally in 2020.

Keywords: Leprosy; demographic data; female leprosy.

1. Introduction

Hansen's disease, also referred to as leprosy, is a non-fatal ancient illness that results from Mycobacterium leprae. It impacts a significant portion of the global population and is a primary cause of non-traumatic peripheral neuropathy worldwide [1].

People with leprosy might encounter stigma and many forms of discrimination, including rejection, divorce, abuse, or job loss, resulting in decreased self-esteem and a decrease in community respect. Numerous investigations indicate that females are more adversely impacted by leprosy and its associated stigma than males [2].

Ancient historical records suggest that leprosy probably occurred in human populations in India, Egypt, and China; however. The illness might have frequently been conflated with other dermatological disorders and infections. The first documented accounts of leprosy originate from ancient Indian scriptures known as the Sushruta Samhita, dating to approximately six hundred BCE, which precisely identify the defining characteristics and diagnostic criteria of leprosy, as well as the conventional treatment of chaulmoogra oil [3].

In Egypt, the occurrence rate from 2005 to 2009 was under one case per 10,000 individuals, with a greater incidence in males compared to females [4].

The introduction of the WHO multidrug therapy in the 1980s led to a reduction in the global incidence. In many countries, such as India and Brazil, the incidence of novel case discovery has continued unchanged, likely because of the transfer of Mycobacterium leprae from unmanaged cases and active community transmission [5].

Females encounter numerous challenges while afflicted by leprosy, as the disease's characteristics are profoundly destructive to the body, rendering them akin to a terrifying monster for females. In addition to impacting physical health, leprosy could also impair the beauty crown [2, 6].

2. Subjects and Methods

2.1.Subjects

This study is a descriptive retrospective investigation carried out on leprotic women living in Egypt to assess the demographic data of female leprotic cases. The study population included 248 female cases diagnosed with leprosy during the period from 2008 to 2021 from the National Leprosy Control program registry in Egypt.

Inclusion Criteria

- Leprosy female patients.
- aged (18-60) years old.
- married and diagnosed from (2008-2021).

Exclusion Criteria

- Patients with any other dermatological diseases.
- Female patients not married or widowed.
- Female patient outside the age group.

2.2.Methods

First, by revising the National Leprosy Control program registry in Egypt for the period from 2008 to 2021 to identify the number and contact information of female cases with leprosy, an interview was conducted among 20 healthy females using a pre-prepared questionnaire form. This was done to explore its simplicity, time of administration, acceptance, and appropriateness for the participants' educational level, and to minimize any confusing or leading questions.

A semi-structured interview questionnaire was developed in the Arabic language in included 2 sections as follows:

- Socio-demographic aspects: such as age, residence status, level of education, and occupation.
- Reproductive Health: hormonal changes and contraception

2.3.Statistical Analysis

The information has been transcribed onto coding sheets and subsequently input into an Excel file. Information has been gathered, coded for manipulation, and double-entered into Microsoft Access, with analysis conducted utilizing version 22 of the Statistical Package for the Social Sciences (SPSS) software on Windows 7 (SPSS Inc., Illinois, United States of America). Simple descriptive analysis utilizing percentages and numbers for qualitative data, alongside arithmetic means as a measure of central tendency and SDs as an indicator of dispersion for quantitative parametric data. An independent samples t-

test has been utilized to compare quantitative measures.

3. Results

37% of female cases involved in the investigation were between 26 and 36 years old, and 35.8 % of cases were between 37 and 45 years old. The female residents were (51.2%) from urban areas and (48.8%) from rural areas. The educational level has been divided as follows: (37%) were illiterate, (12.9%) received primary education, (10.88%) received preparatory education, (20.9%) received secondary education, and (18.1%) had a university degree. (29.8%) were working and (70.2%) were not working (**Table 1**).

Table 1: Demographic data of cases.

Characteristic		Cases (N=248)
Age groups	18-25 yrs.	17 (6.85%)
	26-36 yrs.	92 (37%)
	37-45 yrs.	89 (35.8%)
	46-60 yrs.	50 (20.16%)
Education level	Illiterate	92 (37%)
	Primary	32 (12.9%)
	Preparatory	27 (10.88%)
	Secondary	52 (20.9%)
	University	45 (18.1%)
Occupation	Employed	74 (29.8%)
	Not Employed	174 (70.2%)
Residence	Rural	121 (48.8%)
	Urban	127 (51.2%)

Values are expressed as mean ± standard deviation.

The age of marriage among the study group was <20 years in (46.37 %) and (30.6%) between 20 and 30 years old, while the age difference between females and their husbands was (68.5%) more than 5 years and (31.8%) from 1 to 5 years (**Table 2**).

Table 2: The Marital data of the cases.

Characteristic		Cases (N=248)
Marital age	<20 yrs.	115 (46.37%)
	20-30 yrs.	76 (30.6%)
	31-40 yrs.	56 (22.85%)
	>40 yrs.	1 (0.4%)
Age difference between couples	1-5 yrs.	79 (31.8%)
	6-10 yrs.	125 (50.4%)
	11-20 yrs.	44 (17.8%)

The study group's gynecological history was divided; 72.17% had regular menstrual cycles, while 27.82% had irregular cycles. As for using contraception, 73.3% used contraception, while 26.7% didn't use contraception (**Table 3**).

Table 3: Gynecological data of the patients.

Characteristic		Cases (N=248)
Menstrual cycle	Regular	179 (72.17%)
	Irregular	69 (27.82%)
Contraception	Yes	182 (73.3%)
	No	66 (26.7%)

4. Discussion

Leprosy reduces an individual's quality of life in several ways. Physically, it causes vision impairment, muscle weakness, nerve thickening, and hypo-pigmented anesthetic patches with deformities [7].

The Weekly Epidemiological Record indicates that leprosy remains a significant global health concern, particularly among females, who accounted for 34% of the total leprosy population by the end of 2019[8]. Additionally, approximately 17.3% of leprosy cases in Indonesia suffer from permanent disabilities, with a higher prevalence among females than males [9].

In Egypt, several districts have not yet achieved leprosy elimination, with newly reported cases ranging from 300 to 900 annually [10].

This investigation aimed to assess the demographic data of female leprosy cases

registered in the National Leprosy Control Program in Egypt. A total of 248 female cases diagnosed between 2008 and 2021 were analyzed. In our study, 37% of cases were between 26 and 36 years old, and 35.8% were between 37 and 45 years old. The distribution of residence was 51.2% from urban areas and 48.8% from rural areas. Regarding education, 37% were illiterate, 12.9% had primary education, 10.88% had preparatory education, 20.9% had secondary education, and 18.1% held a university degree. Among the participants, 29.8% were employed, while 70.2% were unemployed. The age at marriage was below 20 years in 46.37% of cases and between 20 and 30 years in 30.6%. The age difference between females and their husbands was greater than 5 years in 68.5% of cases, and between 1 and 5 years in 31.8%. Regarding gynecological history, 72.17% had a regular menstrual cycle, while 27.82% reported irregular cycles. As for contraception use, 73.3% used contraception, whereas 26.7% did not.

A study conducted in Nepal revealed that most women affected by leprosy were illiterate, married at a young age, overburdened with work, and had limited knowledge and awareness regarding the disease and its management. Many were required to obtain permission from their husbands or mothers-in-law to leave the household, and they often needed an escort, transportation funds, and sometimes medical assistance. These factors collectively hindered women from seeking early diagnosis and treatment [11].

Several investigations indicate that females diagnosed with leprosy are generally younger than their male counterparts. Hormonal imbalances associated with pregnancy and/or the puerperium may contribute to this observation [12]. However, current research presents conflicting findings [13]. Some studies suggest that leprosy does not affect the menstrual cycle or fertility. In contrast, an investigation conducted in India found that a significantly greater number of women with multibacillary leprosy experienced irregular menstrual cycles following disease onset compared to those with paucibacillary leprosy. The study also revealed that gonadotropic hormone levels were significantly higher in multibacillary cases than in paucibacillary cases, with mean hormone levels showing an increasing trend from controls to paucibacillary and then to multibacillary cases [14].

5. Conclusion

Despite the success achieved in Egypt in the field of leprosy control, Egypt is one of

22 countries with leprosy global priority. Females frequently delay seeking healthcare, primarily due to their financial dependence on males. Consequently, leprosy in females significantly affects the health of the diseased case, her family, her children, and the broader community.

Ethical consideration: This study approval approved by the Research Ethical Committee of Fayoum University, ID (M 567), session No (91) on 13/2/2022. A patient consent form was given to those able to read and accept to participate in the study, explained the purpose and nature of the study, and emphasized that participation in the study is entirely voluntary and withdrawal from the study will not affect the clinical care provided, and confidentiality was assured through coding the data. As well as an oral ascent was taken from illiterate participants.

Competing Interests: No conflicts of interest exist.

Authors' contributions: DEE: Protocol/project development, Data collection and management, Manuscript writing/editing. NEM: Data analysis. Manuscript writing and editing. Project development. AYE: Data analysis, Manuscript writing, and editing. Project development. All authors have read and approved the manuscript.

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