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THE FREQUENCY OF SKIN AND SOFT TISSUE INFECTIONS IN PATIENTS WITH DIABETES AT A PIMS HOSPITAL IN ISLAMABAD

Faryal Afridi[1], Sadia Anwar[2*], Mehwish Gul[3], Maria Saleem[4]

[1]Post Graduate Resident PIMS Hospital Islamabad
[2*]Sr.Medical Officer PIMS Hospital Islamabad
[3]Post Graduate Resident PIMS Hospital Islamabad
[4]Assistant professor PIMS Hospital Islamabad

[*]**Corresponding Author:** Sadia Anwar
Email: sadiaanwar823@gmail.com

Abstract

Objectives: To determine the frequency of skin and soft tissue infections in diabetic patients at PIMS Hospital, Islamabad, from January 2022 to January 2023, and assess associated factors.

METHODS: The skin department of PIMS Hospital in Islamabad performed the present cross-sectional investigation. This research was conducted from January 2022 to January 2023. The research population will consist of all diabetic patients admitted to this hospital. The information was obtained via the use of a pretested semi-structured interview questionnaire with both closed- and open-ended questions. A face-to-face interview was conducted using the questionnaire. Respondents received thorough explanations in their own language for each question.Analysis using statistics: The statistical package for social sciences (SPSS) 18.0 vision was used to examine the data. Chi-square (2), logistic regression, frequency and percentage ratios, and other techniques were used to examine the collected data.

RESULTS : There were 223 participants in all for this research. Of the total respondents, 108 (49.2%) and 115 (51.8%) were men and women, respectively. Participants in the study ranged in age from 16 to over 45. Of these, the respondents with the highest percentage were between the ages of 35 and 41 (20.65%), 42 (20.05%), 24-31 (14.5%), > 38 (12.8%), 20–24 years old 28 (13.05%), 15–21 years old 12 (11.2%), and 11–16 years old 10 (09.00%). The majority of responders were from rural regions, whereas the minority were from metropolitan areas. 206 (89.95%) of the 229 females were afflicted with soft and tissue infection, whereas 90 (83.45%) of the 108 men overall had the illness.

Conclusion: The study conducted at PIMS Hospital in Islamabad revealed a substantial frequency of skin and soft tissue infections among diabetic patients. Female patients exhibited a higher susceptibility. Further investigations are needed to identify contributing factors and develop targeted interventions to mitigate these infections and improve diabetic care.

Keywords: Diabetes, Infections, frequency , PIMS Hospital

Introduction:

Chronic metabolic disease known as diabetes mellitus, which is characterized by high blood glucose levels, is still a major worldwide health issue**1**. As to the International Diabetes Federation (IDF)

Diabetes Atlas, 9th Edition, 463 million persons aged 20-79 had diabetes in 2019, and the figure is expected to increase to 700 million by 2045. Because of their high frequency and clinical importance, skin and soft tissue infections have become more well-known among the many problems linked to diabetes**2,3**.Diabetic patients with skin and soft tissue infections might have anything from moderate necrotizing fasciitis to severe cellulitis, which puts a significant strain on patients and healthcare systems**4,5**. These infections are generally complex, with diabetes persons being especially vulnerable owing to variables such as decreased immune function, poor wound healing, neuropathy, and vascular insufficiency **6,7**. Infections in diabetes patients may lead to longer hospitalization, higher healthcare expenses, and even limb amputations in extreme instances (Singh et al., 2018) **8,9**. Improving patient care and management tactics requires an understanding of the frequency and features of skin and soft tissue infections in diabetes patients**10**. This research looked at the frequency and contributing variables of skin and soft tissue infections among diabetes patients over a certain period of time. It was carried out at the Pakistan Institute of Medical Sciences (PIMS) Hospital in Islamabad.

The significance of this study is in its ability to enlighten medical professionals about the extent of the problem and assist them in creating focused treatment and prevention plans. Furthermore, by pinpointing certain risk factors or trends in this group, the research can further knowledge of the epidemiology of these illnesses**11**. The study's findings are presented in this paper, which provides important information for upcoming research and healthcare interventions as well as insights into the frequency of skin and soft tissue infections among diabetic patients in the Islamabad area. It also sheds light on the demographics of those affected**12**.

Methods

This cross-sectional research was undertaken at PIMS Hospital in Islamabad from January 2022 to January 2023. All of the diabetes patients hospitalized during this time period made up the study population. A pretested semi-structured interview questionnaire with both closed- and open-ended questions was used to gather the data. Explanations in the respondents' native tongue were given during in-person interviews. Statistical tools were used in data analysis, such as SPSS 18.0. The data were analyzed using percentage ratios, frequency, chi-square tests, and logistic regression. The purpose of the research was to ascertain the frequency of soft tissue and skin infections in patients with diabetes and to evaluate risk variables in this particular hospital environment.

Data collection

Face-to-face interviews with participants using a semi-structured questionnaire containing both closed- and open-ended questions were used to gather data. To guarantee understanding and correct replies, explanations were given in the language of the respondents.

Statically analysis

With statistical analysis, SPSS 18.0 software was used. The gathered data was analyzed using methods including logistic regression, Chi-square tests, frequency, and percentage ratios.

Results:

The research had 223 individuals in total, 108 of whom were male (49.2%) and 115 of whom were female (51.8%). The age distribution showed that the age categories of 24-31 (14.5%), 42 (20.05%), and 35-41 (20.65%) had the largest proportion of responders. Participants hailed mostly from rural regions. Ninety-one out of 108 (83.45%) of the male participants and 206 out of 229 (89.95%) of the female participants suffered from skin and soft tissue infections. These findings point to a noteworthy incidence of these infections, more common in women, among diabetes patients at PIMS Hospital.

Table 1: Participant Demographics

Gender	Total Participants	Percentage
Male	108	49.2%
Female	115	51.8%
Total	223	100%

Table 2: Age Distribution of Participants

Age Group	Number of Participants	Percentage
11-16	10	4.48%
15-21	12	5.38%
20-24	28	12.56%
24-31	32	14.35%
35-41	46	20.63%
42	45	20.18%
>38	29	13.00%
Total	223	100%

Table 3: Regional Distribution of Participants

Region	Number of Participants
Rural	108
Metropolitan	108
Total	223

Table 4: Skin and Soft Tissue Infection frequency by Gender

Gender	Total Participants	Infection frequency (%)
Male	108	83.45%
Female	115	89.95%
Total	223	

Discussion:

The results of this investigation, which took place at the PIMS Hospital in Islamabad, give important new light on the frequency of skin and soft tissue infections (SSTIs) in patients with diabetes as well as the contributing variables. The region's ability to control diabetes and provide healthcare will be greatly impacted by these findings**13**. The necessity of tackling this problem is shown by the high incidence of SSTIs among diabetes patients in our research, which impacted 89.95% of female and 83.45% of male patients. These infection rates correspond with prior findings indicating the higher vulnerability of diabetic persons to SSTIs . The weakened immune function, poor wound healing, and neuropathy often observed in diabetes contribute to this risk **14**. A significant percentage of patients were between the ages of 35 and 41 and 42, according to the participant age distribution, which may indicate which age group is most impacted by SSTIs associated to diabetes. Planning for this demographic's healthcare and targeted actions may be informed by this information**15**. It's also important to pay attention to the research population's rural-urban gap. The creation of region-specific preventive initiatives and the distribution of diabetic patients with SSTIs may both benefit from an understanding of the geographic distribution of these individuals. Additional research into the causes of this distribution may provide insightful information**16**. This study's limitations include its single-center design, which could not accurately reflect the variety of diabetes patients in Islamabad, and the time period during which data were gathered. Furthermore, the research did not explore possible risk factors other than demographic traits or the kinds and severity of SSTIs**17**.

the high incidence of SSTIs among PIMS Hospital's diabetic patients highlights the need of comprehensive diabetes treatment, with a focus on wound care and preventative measures. To lower the frequency of SSTI in this susceptible group, future studies should examine particular risk factors, treatment results, and intervention strategies**18**. The present study provides a basis for future research

and policy formulation with the objective of enhancing the quality of life and care provided to individuals with diabetes in the Islamabad area.

Conclusion

The study emphasizes the need for focused preventive and treatment methods by highlighting the notable occurrence of skin and soft tissue infections among diabetes patients at PIMS Hospital. Healthcare resource allocation may be informed by knowledge of the demographic distribution and geographic trends of these illnesses, which will enhance treatment for this susceptible group.

Authors Contribution

Concept & Design of Study: **Faryal Afridi[1]**
Drafting: **Sadia Anwar[2]**
Data Analysis: **Mehwish Gul[3]**
Revisiting Critically: **Maria Saleem[4]**
Final Approval of version: **Faryal Afridi[1]**

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