

PREVALANCE AND RISK FACTORS FOR DIABETES MILLITUS IN PATIENTS
PRESENTATING TO DISTRICT HEAD QUARTER KOHAT

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Abstract

Diabetes Mellitus (DM) has become a global epidemic in this time. The prevalence of this disease has significantly increased, with a demographic shift in its epidemiology in recent years. Populations previously unaffected or minimally affected by DM are now experiencing high prevalence rates, posing a challenge to health financing by governments and nongovernmental organizations. **Methods:** The cross-sectional

study was conducted, and sample was collected from District head quarter (DHQ), Kohat the sample was 152. analyzing data collected about the prevalence and risk factors for diabetes mellitus in patient's presentation to District head quarter (DHQ), Kohat. The data was determined by using random sampling technique. **Results:** Results shows data on the prevalence of recurrent urinary tract infections (UTIs) among patients at District head

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quarter (DHQ), Kohat. Among the total sample size of 152 patients, 49.3% were male participants while 50.7% respondents were female, reported experiencing recurrent UTIs. Conversely, the majority of patients, 81 individuals representing 53.3% of the sample, reported not experiencing recurrent UTIs. These findings indicate a significant portion of patients experiencing recurrent UTIs, which can be indicative of underlying medical conditions or predisposing factors. Addressing and managing UTIs effectively are crucial in ensuring the well-being and quality of life of patients at District head quarter (DHQ), Kohat.

Conclusion: The prevalence of depression, recurrent skin infections, loss of sensation in the extremities, and high blood pressure underscores the significant burden of comorbidities experienced by patients with diabetes. Study findings emphasize the importance of holistic healthcare approaches that address both the physical and psychological aspects of diabetes management. The high prevalence of eye problems, smoking, and family history of diabetes underscores the importance of comprehensive health promotion and preventive measures within the healthcare system.

Keywords: Prevalence, Risk Factors, Diabetes Mellitus, District head quarter (DHQ), Chronic hyperglycemia, Type 1 Diabetes Mellitus, Type 2 Diabetes Mellitus.

INTRODUCTION

Background/ Introduction

Chronic hyperglycemia and abnormalities in the metabolism of fat, protein, and carbohydrates as a result of an absolute or relative insulin shortage cause diabetes mellitus (DM), a metabolic disease that damages organ systems (1). It stems from defects in insulin secretion, insulin sensitivity, or both. Chronic complications such as micro vascular, macro vascular, and neuropathic issues may occur (2). Diabetes Mellitus (DM) has become a global epidemic in this millennium (3). It is the most prevalent chronic endocrine disorder, affecting an estimated 15%–10% of adults worldwide (4).

These complications include: eye complications, kidney complications, nerve complications, the development of cardiovascular diseases, stroke and amputation of the affected limbs. Cardiovascular disease is also one of the leading causes of death among diabetic patients; with research estimating that as much as 80% of the patients succumb to cardiovascular diseases. Women, especially pregnant ones, can also get diabetes, although this is referred to as gestational diabetes. Diabetes Mellitus affects people all over the world, although the disease especially type 2 is more predominant in developed nations. (5).

1. Type 1 Diabetes (b-Cell Destruction, Usually Leading to Absolute Insulin Deficiency)

This type of diabetes, representing only 5–10% of all diabetes cases and previously known as insulin-dependent diabetes or juvenile onset diabetes, arises from cellular-mediated autoimmune destruction of the β -cells in the pancreas. Markers of immune destruction of β -cells include islet cell auto antibodies, auto antibodies to insulin, and auto antibodies to GAD. Insulin Dependent Diabetes Mellitus (IDDM), another name for Type 1 Diabetes Mellitus, is less frequent and usually starts before the age of 15 years (6).

2. Type 2 Diabetes (Ranging from Predominantly Insulin Resistance with Relative Insulin Deficiency to Predominantly an Insulin Secretory Defect with Insulin Resistance)

Type 2 diabetes, adult-onset diabetes, and non-insulin dependent diabetes were the prior names for this type of diabetes, which makes up 90–95% of diabetes cases. It encompasses people with insulin resistance and those who typically have a relative, as opposed to an absolute, insulin deficit. These people don't need insulin therapy to survive, at least not at first, and frequently not for the rest of their lives. This type of diabetes probably has a wide range of reasons (7).

METHODOLOGY

A cross-sectional, observational study was conducted. The samples were collected from the “District head quarter (DHQ)”, Kohat. The sample was 152 while using single population proportion formula: $n = \frac{2 * (1 -)}{2} = 1.962 * 0.899 * 0.101/0.052 = 151.5 = 152$. A randomly sampling techniques were used to recruit participants who meet the inclusion

criteria; admitted patients having hypertension with diabetes mellitus. A structured self-administered questionnaire was used, consisting of two, three sometime four sections. patient's demographics information, history of chief complaints, patient's present illness, previous medical and surgical history etc. Furthermore, duration of HTN, DM, Drugs given for HTN, DM. Possible cause of HTN, DM was also measured.

Data were entered and analyzed by using the Statistical Package for the Social Sciences (IBM® SPSS® Statistics, Version 29). Descriptive statistics were used to summarize demographic data and responses.

RESULTS

During this research work 152 patients of Hypertension with diabetes mellitus, admitted to hospital during the said period were included. Further details are mentioned in below section. Out of the total sample size of 152 respondents, 75 individuals, representing 49.3% of the respondents, identified as male, while 77 respondents, comprising 50.7% of the sample, identified as female. These figures demonstrate a relatively balanced gender distribution within the surveyed population at District head quarter (DHQ), Kohat, indicating the importance of considering gender-specific healthcare needs and interventions in the provision of medical services.

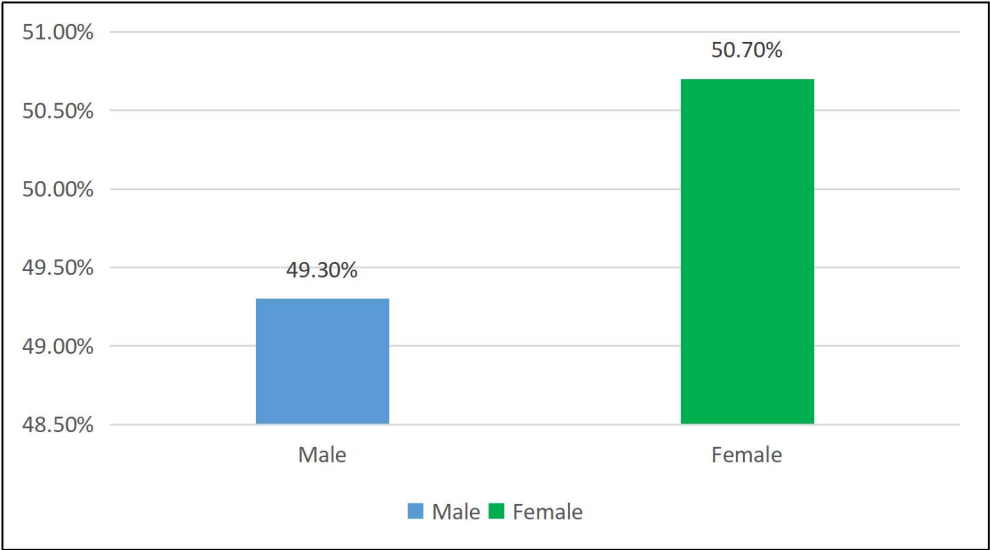


Figure 4.1: Gender of the respondents

Age of the respondents

The data categorize respondents into different age brackets, offering insights into the demographic composition of the surveyed population. The majority respondents were in middle age ranges, with 41 individuals (27.0%) aged between 41 and 50 years, and 33 individuals (21.7%) aged between 51 and 60 years. Additionally, there is notable representation from older age groups, with 22 individuals (14.5%) falling between 61 and 70 years, and 21 individuals (13.8%) in each of the 71-80 years and 81-90 years age brackets. Interestingly, the youngest age bracket of 31-40 years comprises 14 individuals (9.2%) of the sample. This distribution highlights a diverse range of age groups within the surveyed population, indicating the importance of age-specific healthcare considerations and services at District head quarter (DHQ), Kohat.

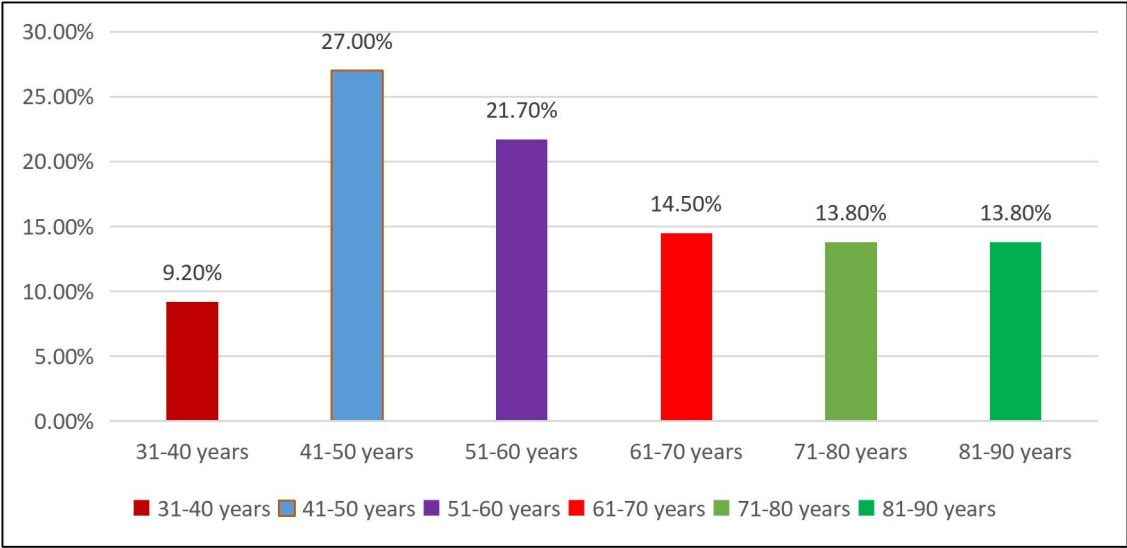


Figure 4.2: Age of the respondents

The data categorize respondents into distinct time intervals since they were diagnosed with diabetes. Among the total sample size of 152 respondents, the majority of individuals fall within the earlier stages of diabetes, with 18 respondents (11.8%) reporting being diagnosed within the past year, and 40 respondents (26.3%) indicating a diagnosis within the last 1 to 3 years. Additionally, there is significant representation from individuals in the intermediate stages of diabetes, with 30 respondents (19.7%) having been diagnosed between 4 to 6 years ago. Furthermore, the data show a considerable number of respondents who have been managing diabetes for longer periods, with 18 respondents (11.8%) reporting a diagnosis between 7 to 9 years ago, and 16 respondents (10.5%) each indicating diagnoses between 10 to 12 years ago and 13 to 15 years ago, respectively. Moreover, 14 respondents (9.2%) report managing diabetes for over 16 years. This comprehensive distribution underscores the diverse timeline of diabetes diagnoses among the surveyed population, emphasizing the need for tailored healthcare interventions and management strategies to address the varying needs of individuals at different stages of diabetes progression.

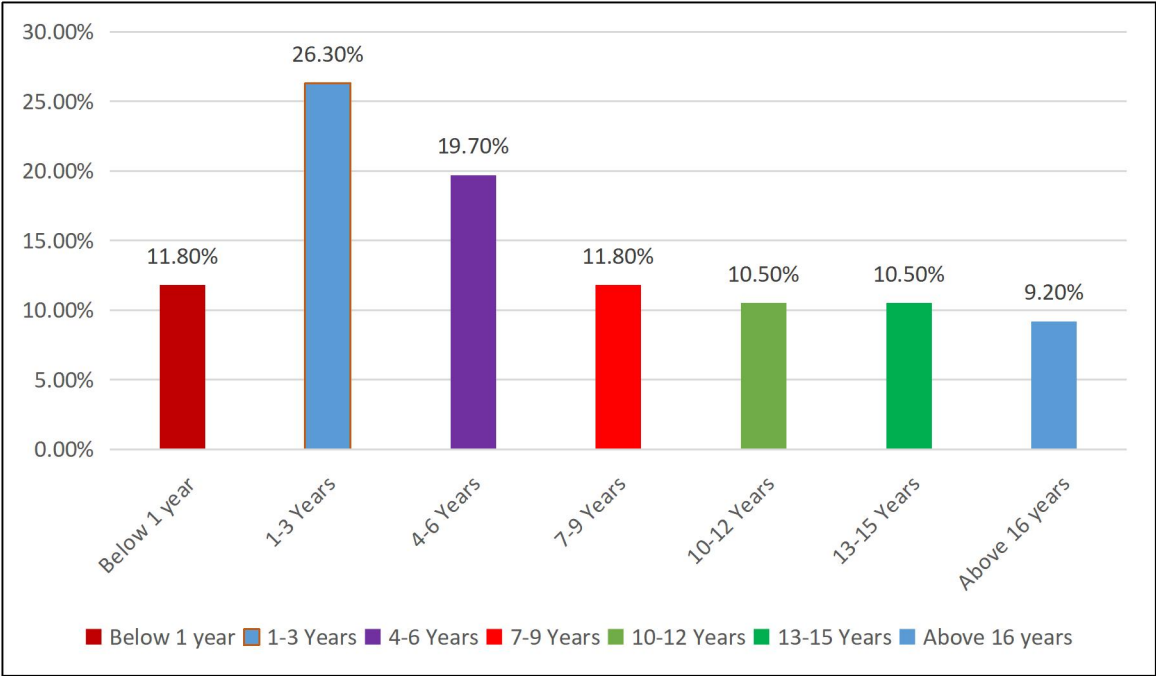


Figure 4.3: How long have you had diabetes or year diagnosed

Among the total sample size of 152 respondents, 44 individuals (28.9%) reported having type 2 diabetes. In contrast, a larger proportion of respondents, 108 individuals (71.1%), indicated that they did not know the type of diabetes they had. This distribution highlights a significant gap in knowledge or understanding among the surveyed population regarding their specific type of diabetes. Addressing this gap through education and healthcare interventions could lead to improved diabetes management and better health outcomes for individuals at District head quarter (DHQ), Kohat.

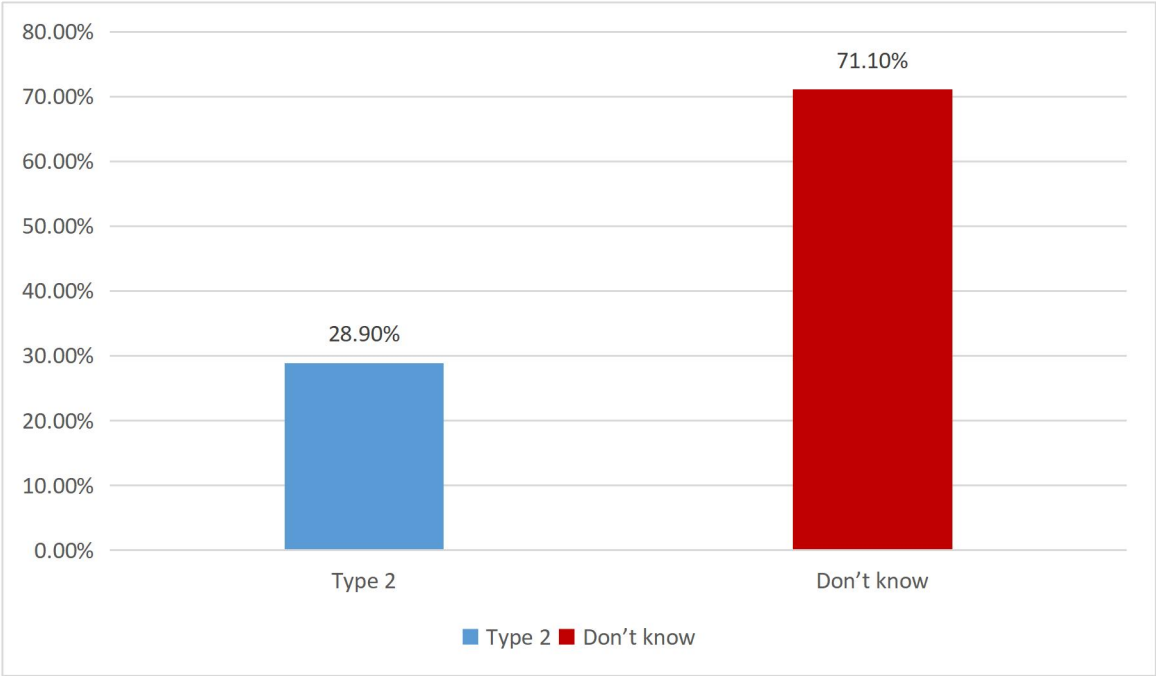


Figure 4.4: Type of Diabetes

A total sample size of 1521 patients, 1101 individuals, constituting 72.4% of the respondents, reported having a family history of diabetes. In contrast, 42 patients, representing 27.6% of the sample, stated that they did not have any family history of diabetes. These findings highlight the significant proportion of patients with a familial predisposition to diabetes, underscoring the importance of genetic factors in diabetes risk assessment and prevention strategies at District head quarter (DHQ), Kohat.

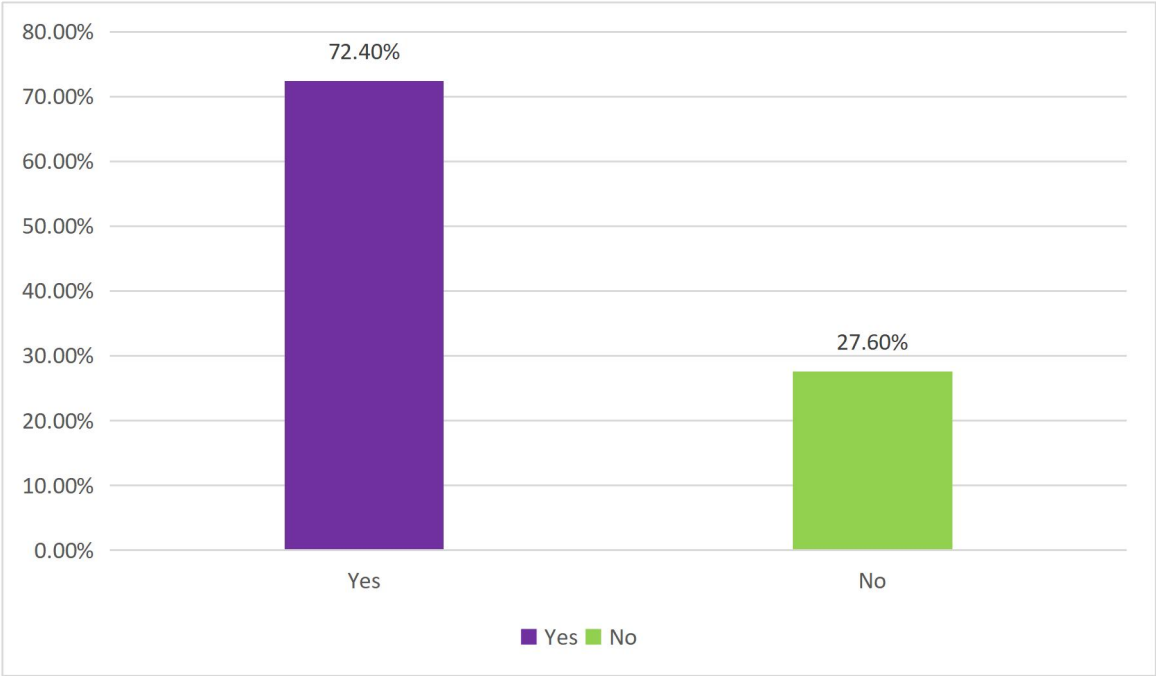


Figure 4.5: Patient’s family history of diabetes

Among 152 patients, 71 individuals, accounting for 46.7% of the respondents, reported experiencing recurrent UTIs. Conversely, the majority of patients, 81 individuals representing 53.3% of the sample, reported not experiencing recurrent UTIs. These findings indicate a significant portion of patients experiencing recurrent UTIs, which can be indicative of underlying medical conditions or predisposing factors. Addressing and managing UTIs effectively are crucial in ensuring the well-being and quality of life of patients at District head quarter (DHQ), Kohat.

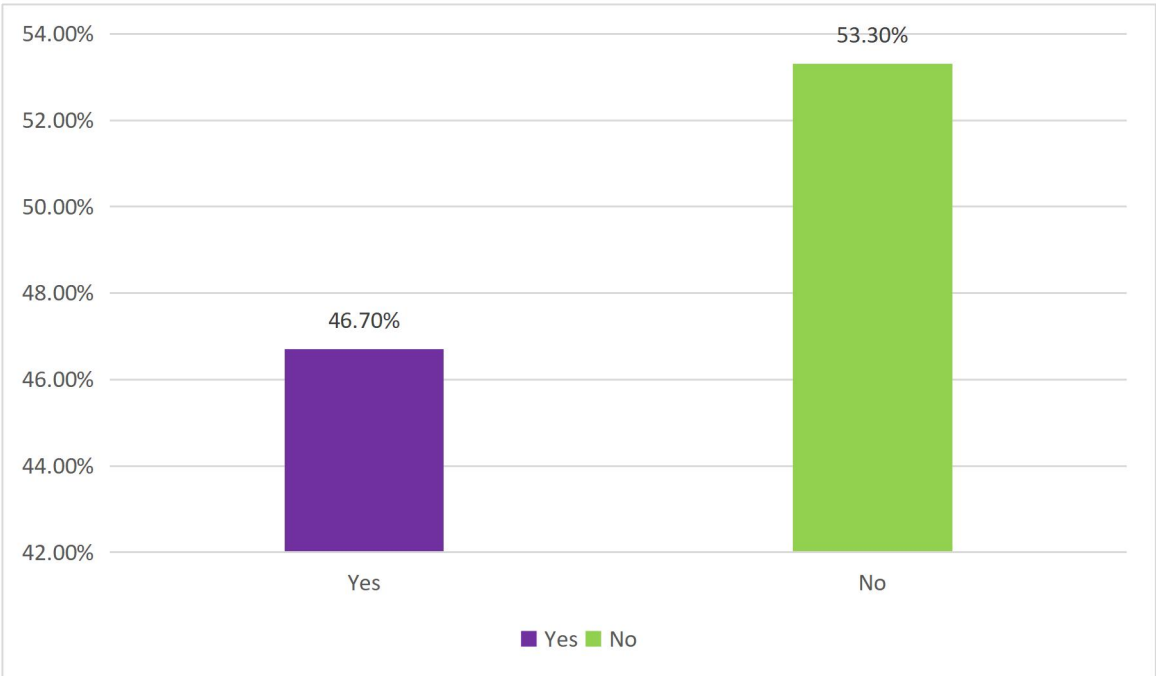


Figure 4.6: Patient has recurrent urinary tract infection

Discussion

Our current study conducted at District head quarter (DHQ), Kohat, revealed several key findings regarding the prevalence and risk factors of diabetes among patients. Out of the total sample size of 152 patients, a significant 73.0% reported experiencing depression, while 27.0% did not. Moreover, 19.1% of patients reported recurrent skin infections, while the majority, constituting 80.9%, did not. Additionally, 46.7% of patients reported loss or diminished sensation in their hands and feet, while 53.3% did not. Regarding high blood pressure, 65.1% of patients reported its presence, while 34.9% did not. Notably, 49.3% of respondents identified as male, whereas 50.7% identified as female. Regarding age distribution, the majority of patients fell within the age brackets of 41-50 years (27.0%) and 51-60 years (21.7%). In terms of the duration of diabetes, the study found that 26.3% of patients had been diagnosed with diabetes between 1 to 3 years ago, while 28.9% reported having type 2 diabetes. Furthermore, 54.6% of patients reported experiencing eye problems, while 45.4% did not. When it came to smoking, 15.8% of patients were smokers, with the

majority, 84.2%, not smoking. Additionally, 72.4% of patients reported having a family history of diabetes, while 27.6% did not. Moreover, 46.1% of patients reported unstable angina, while 39.5% reported foot problems associated with diabetes. Finally, 46.7% of patients reported recurrent urinary tract infections, while 53.3% did not. These results provide valuable insights into the prevalence and associated factors of diabetes among patients at District head quarter (DHQ), Kohat, emphasizing the importance of tailored healthcare interventions to address the diverse needs of the patient population. Study shows data on the presence of foot problems associated with diabetes among patients at District head quarter (DHQ), Kohat. Among the total sample size of 1152 patients, 160 individuals, constituting 39.5% of the respondents, reported having foot problems associated with diabetes. In contrast, the majority of patients, 92 individuals representing 60.5% of the sample, stated that they did not have any foot problems associated with diabetes. These findings emphasize the significant proportion of patients experiencing foot complications related to diabetes, highlighting the importance of foot care education and preventive measures in the management of diabetes at District head quarter (DHQ), Kohat. There are approximately 425 million DM patients worldwide, of whom 114 million are in China (8). In the past 30 years, with the rapid economic growth and increasing population, the prevalence of type 2 diabetes in China has substantially increased (9). However, there are enormous variations in diabetes prevalence among urban and rural areas and wealthy and poorer regions. A 2010 Chinese survey found the prevalence of diabetes ranged from 14.3% in urban and 10.3% in rural areas (10). Higher-income urban counties also had a higher average prevalence rate (13.1%), than rural low-income counties (8.7%), while in a 2013 survey these figures were 12.6% and 9.5%, respectively (11). However, many patients with diabetes go undiagnosed, and while 13.7% of subjects in the present study had been diagnosed with diabetes newly and 36.5% with pre diabetes, more than half of cases were undiagnosed before this study. Differences in regional economic development and living

habits have different effects on the incidence of diabetes. A recent epidemiological survey 7 enrolled a total of 75,880 volunteers from 31 provinces and administrative regions in mainland China between 2015 to 2017 and revealed the prevalence of diabetes in Chinese adults to be 12.8%. In Shanghai area, a study run in 1998 resulted that age-standardized prevalence was not statistically different between males and females: respectively 2.54% and 2.14% for DM and 1.42% and 1.31% for IGT (12). Another study was run among Shanghai residents aged 35 and above in 2013 and found that the prevalent of DM were 19.3% in men and 15.8% in women as well as 19.1%, 15.4%, and 16.1% in urban, suburban, and rural residents, respectively (13). In the current survey, we investigated inhabitants of the Shanghai Songjiang district to explore their glucose status and management. Songjiang district is in southwest of Shanghai, suburban area. The subjects recruited are the residents of Shanghainese and the survey from the subjects has the important reference value for the prevalent of DM in the specific area of Shanghai. Our community-based survey showed the prevalence of NDDM was 13.7% and the ratio of PD reached as high as 36.5%. Importantly, the results also showed over 50% of inhabitants were unaware of the importance of blood glucose levels and high risk of metabolic syndrome.

Conclusions

In conclusion, the findings of the study conducted at District head quarter (DHQ), Kohat, shed light on the multifaceted nature of diabetes and its associated risk factors among patients. The prevalence of depression, recurrent skin infections, loss of sensation in the extremities, and high blood pressure underscores the significant burden of comorbidities experienced by patients with diabetes. These findings emphasize the importance of holistic healthcare approaches that address both the physical and psychological aspects of diabetes management. Additionally, the study highlights demographic trends, such as gender distribution and age ranges, which can inform targeted healthcare interventions tailored to specific patient groups. Understanding the duration of diabetes and its varied impacts on patients further underscores the need for personalized treatment plans and ongoing

monitoring to mitigate the risk of complications. Moreover, the high prevalence of eye problems, smoking, and family history of diabetes underscores the importance of comprehensive health promotion and preventive measures within the healthcare system. Overall, the study underscores the imperative for integrated and patient-centered diabetes care strategies that address the complex interplay of medical, psychosocial, and lifestyle factors to improve patient outcomes and enhance the quality of diabetes care at District head quarter (DHQ), Kohat.

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