

An Overview of Diabetes Prevalence in Yazd Province Based on Health Registry Data (2018-2019)

Nasim Namirani^{*1}, Mohsen Mirzaei², Mohammad Afkhami-Ardekani¹, Saeedhossein Khalilzadeh¹, Mohammad Reza Dehghani³, Seyed Mohammad Reza Aghaei Meybodi¹, Mohammad Hossein Tohidifar⁴, Mohammad Darijani⁵, Nahid Dara¹, Zeinab Zare¹

¹Diabetes Research Center, Non-Communicable Diseases Research Institute, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.

²Health Monitoring Research Center, School of Medicine, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.

³Deputy of Health Affairs, Shahid Sadoughi University of Medical sciences Yazd (2018-2019).

⁴Head of the Yazd Tamin Ejtemaie Insurance Organization (2018-2019).

⁵Head of the Yazd Health Insurance Organization.

Abstract

Objective: Knowledge of the current status of diabetes in Yazd is crucial for health policy planning, maintaining stable disease prevalence rates and risk factors, and establishing evaluation indicators. This study aimed to investigate the prevalence of diabetes in Yazd Province in accordance with acceptable international standards in 2018–2019.

Materials and Methods: A cross-sectional descriptive study was conducted in Yazd Province in 2018–2019. The study population included all individuals living in the geographical areas of Yazd Province in 2018–2019 who had sought medical or preventive services at health centers or pharmacies. Data were obtained through collaboration with the Health Deputy (APPLE project), the Food and Drug Deputy (provincial pharmacies), insurance organizations (medical services, social security, relief committee, armed forces, banks, etc.), and the Diabetes Treatment Research Center.

Results: After removing duplicate data, 95,798 diabetic patients were registered. Approximately 58% of the patients were female and 42% were male. The mean age of the patients was 59.2 ± 13.34 years. About 68% of the patients were receiving insulin treatment.

Conclusion: Considering the importance of diabetes and its increasing prevalence globally and especially in Yazd Province, and in order to implement a monitoring and continuous care program for the disease, an effort was made to present the overall picture of diabetes in the province.


Keywords: Yazd, Type 2 diabetes mellitus, Risk factors

QR Code:



Citation: Namirani N, Mirzaei M, Afkhami-Ardekani M, Khalilzadeh S, Dehghani M R, Aghaei Meybodi S M R, et al . An Overview of Diabetes Prevalence in Yazd Province Based on Health Registry Data (2018-2019). IJDO 2026; 18 (2) :84-87

URL: <http://ijdo.ssu.ac.ir/article-1-1035-en.html>

 10.18502/ijdo.v18i2.21645

Article info:

Received: 21 April 2026

Accepted: 20 May 2026

Published in June 2026



This is an open access article under the (CC BY 4.0)

Corresponding Author:

Nasim Namirani, Diabetes Research Center, Non-Communicable Diseases Research Institute, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.

Tel: (98) 353 728 0217

Email: namirani.nasim@gmail.com

Orcid ID: 0000-0002-5133-6204

Introduction

Diabetes is undoubtedly a major health challenge in the 21st century, affecting millions of people worldwide (1). In 2011, over 360 million adults, accounting for 8.3% of the global population, were diagnosed with diabetes, and projections indicate an increase to over 552 million by 2030. Diabetes is a leading cause of death globally and is associated with various complications such as cardiovascular problems, renal complications, hypoglycemia, and diabetic ketoacidosis (2-5).

The economic and public health burden of diabetes is significant, with costs for diabetic patients being substantial (6-8). The total annual direct and indirect costs of diabetic and non-diabetic patients in Iran show that the costs for a diabetic patient are 2.92 times higher than those for a non-diabetic person. Moreover, 53% of the total costs of diabetes are related to complications and their care (9). On the other hand, repeated studies have shown that geographic, ethnic, cultural, and epidemiological diversity play an important role in the spread of this disease (10).

Considering the importance of diabetes, its progressive prevalence, and the debilitating microvascular and macrovascular complications that affect diabetic patients, awareness of the occurrence of diabetes in each geographic region is crucial for preventive measures and appropriate care. It is important and necessary to implement a program for monitoring and providing continuous care for the disease. Knowledge of the current situation is crucial for health policy planning, maintaining consistent disease prevalence rates and risk factors, and determining evaluation indicators. This study aimed to investigate the prevalence of diabetes in Yazd Province in accordance with acceptable international standards in 2018-2019.

Materials and methods

A cross-sectional descriptive study was conducted with the aim of determining the types of diabetes in Yazd Province in 2018-2019. The study population included all individuals living in the geographical areas of Yazd Province in 2018-2019 who had sought medical or preventive services at health centers or pharmacies. Data were obtained through collaboration with the Health Deputy (APPLE project), the Food and Drug Deputy (provincial pharmacies), insurance information (medical services, social security, relief committee, armed forces, banks, etc.), and the Diabetes Treatment Research Center. Yazd data were collected.

The inclusion criteria were as follows: all individuals registered as diabetic or diagnosed with diabetes, regardless of the type of diabetes or the diagnostic method, were included in the study. The collected information included demographic details, type of diabetes, treatment type, and hospitalization history, type of hospitalization and treatment, and mortality. To comply with ethical standards, this information was kept confidential. After collecting the information of all patients based on the national code, removing duplicate data, and verifying the data using SPSS v.20 and Excel software, the information was analyzed.

Ethical considerations

This project was approved by ethics committee of Shahid Sadoughi University of Medical Sciences, Yazd. (No: IR.SSU.REC.1399.099)

Results

After removing duplicate data, 95,798 diabetic patients were registered. The descriptive analysis is shown in Table 1. The relationship between age, gender, and medication is shown in Tables 2.

The mean (\pm SD) age of patients in male and female groups were 60.16 (\pm 12.92) and 58.52 (\pm 13.58). (P -value: 0.0001).

females seeking more preventive programs. Also the frequency of female patients is higher than males, may be due to true higher frequency or unknown male diabetic patients.

Table 1. Descriptive analysis of Yazd diabetic patients

| Variable | | Frequency | Percent |
|----------------------|-------------------------------|----------------------|-------------|
| Gender | female | 5558 | 58 |
| | male | 40231 | 42 |
| Age Mean (\pm SD) | | 59.21 (\pm 13.34) | Range :7-98 |
| Medication | Insulin | 30945 | 32.3 |
| | Oral med | 64853 | 67.7 |
| | Bank | 170 | 0.2 |
| | Tamin Ejtemaei | 30066 | 31.4 |
| | Khadamat Darmani | 15081 | 15.7 |
| Source of Data | SIB | 27361 | 28.6 |
| | Ghaza&Darou | 11545 | 12.1 |
| | Komite Emdad | 310 | 0.3 |
| | Yazd diabetes research center | 11265 | 11.8 |

Table 2. The relation of type of medication and studied variables

| variable | | Oral med | Insulin | P -value |
|----------------|-------------------------------|---------------|---------------|------------|
| Gender | Female | 22831 (39.3%) | 10852 (18.7%) | 0.0001 |
| | Male | 17169 (29.5%) | 7257 (12.5%) | |
| Age | | 58.95 (13.45) | 57.97 (14.11) | 0.0001 |
| | Bank | 105 (0.1%) | 65 (0.1%) | |
| Source of data | Tamin Ejtemaei | 18781 (19.6%) | 11939 (12.5%) | 0.0001 |
| | Khadamat Darmani | 1459 (1.5%) | 12968 (13.5%) | |
| | SIB | 7881 (8.2%) | 19480 (20.3%) | |
| | Ghaza&Darou | 1327 (1.4%) | 10218 (10.7%) | |
| | Komite Emdad | 51 (0.1%) | 259 (0.3%) | |
| | Yazd diabetes research center | 1381 (1.4%) | 98841 (10.3%) | |

Conclusions

In general, in this study, considering the importance of diabetes and its increasing prevalence at the global level and especially in Yazd Province, and in order to implement a monitoring and continuous care program for the disease, an effort was made to outline the overall picture of diabetes in the province. In this regard, demographic information such as age and sex, as well as the type of medication used by diabetic patients, whose information was available through the aforementioned methods, was analyzed. The results show that female patients are younger than male patients, which may be explained by the fact that

Acknowledgments

We would like to thank everyone who assisted us in conducting this study.

Funding

None

Conflict of Interest

None

Author contributions

N.N: statistical analysis and manuscript writing.

All of authors: data collection.

References

1. Ogurtsova K, da Rocha Fernandes JD, Huang Y, Linnenkamp U, Guariguata L, Cho NH, et al. IDF Diabetes Atlas: Global estimates for the prevalence of diabetes for 2015 and 2040. *Diabetes research and clinical practice*. 2017;128:40-50.
2. Praet SF, Rozenberg R, Van Loon LJ. Type 2 diabetes. In *Exercise and Chronic Disease*. Routledge. 2011; 265-296.
3. Whiting DR, Guariguata L, Weil C, Shaw J. IDF diabetes atlas: global estimates of the prevalence of diabetes for 2011 and 2030. *Diabetes research and clinical practice*. 2011;94(3):311-21.
4. Bozorgmanesh M, Hadaegh F, Sheikholeslami F, Azizi F. Cardiovascular risk and all-cause mortality attributable to diabetes: Tehran lipid and glucose study. *Journal of endocrinological investigation*. 2012;35(1):14-20.
5. Ashkezari SJ, Namiranian N, Rahmanian M, Atighechi S, Mohajeri-Tehrani MR, Gholami S. Is hearing impairment in diabetic patients correlated to other complications?. *Journal of Diabetes & Metabolic Disorders*. 2018;17(2):173-9.
6. Boyko EJ, Jacobson IG, Smith B, Ryan MA, Hooper TI, Amoroso PJ, et al. Risk of diabetes in US military service members in relation to combat deployment and mental health. *Diabetes care*. 2010;33(8):1771-7.
7. Herman WH. The global burden of diabetes: an overview. *Diabetes mellitus in developing countries and underserved communities*. 2016:1-5.
8. Harvey IS, Sherman L, Spears E, Ford C, Green HD. Social support and diabetes self-management behavior among Caribbean, Caribbean American, and African American women: A descriptive correlation study. *Journal of Social Health and Diabetes*. 2017;5(01):016-24.
9. Esteghamati A, Khalilzadeh O, Anvari M, Meysamie A, Abbasi M, Forouzanfar M, et al. The economic costs of diabetes: a population-based study in Tehran, Iran. *Diabetologia*. 2009;52(8):1520-7.
10. Jarrett RJ. Epidemiology and public health aspects of non-insulin-dependent diabetes mellitus. *Epidemiologic reviews*. 1989;11:151-71.