



Pakistan Health
PARLIAMENT

A White Paper on



Prevalence of Diabetes

For Policy Making

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Addressing the Silent Epidemic: Diabetes Prevalence in Islamabad

A comprehensive white paper on the strategies associated with Diabetes Prevention and Management

Executive Summary

Islamabad, Pakistan's capital, is experiencing rapid urbanization and lifestyle changes, leading to a surge in diabetes. This white paper explores the rising prevalence of diabetes in Islamabad, its contributing factors, and proposes comprehensive strategies to mitigate this public health crisis through awareness, prevention, and early diagnosis.

Current Situation

Diabetes is a significant health issue in Pakistan, with the prevalence expected to increase dramatically. Currently, approximately 30.8% of the population (ages 20-79) is affected by diabetes, a figure projected to rise to 33.6% by 2045. The burden of diabetes is higher in urban areas compared to rural regions, emphasizing the need for targeted interventions in cities like Islamabad.

Key Findings from Islamabad

A recent dipstick study conducted by the Research Council of Pakistan Health Parliament revealed alarming statistics:

- **Type Distribution:** 97% of patients have type 2 diabetes, highlighting the potential for lifestyle interventions.
- **Gender Disparity:** 65% of diabetes patients are female, possibly due to higher physical inactivity and obesity rates.
- **Age Groups:** The highest prevalence is in the 51-60 age group (31%), followed by 41-50 (24%) and 61-70 (17%).
- **Family History:** 69% of respondents do not have a parental history of diabetes, indicating lifestyle factors as primary contributors.

Policy Recommendations

To address the diabetes epidemic in Islamabad, the Pakistan Health Parliament proposes several strategies:

1. **Training Healthcare Professionals:** Implement comprehensive diabetes management training for physicians, nutritionists, pharmacists, and nursing staff through public-private partnerships.
2. **Telemedicine Adoption:** Encourage the use of telemedicine for consultations and follow-ups, utilizing Electronic Medical Records (EMR) for efficient diabetes management.

3. **Educational Initiatives:** Launch awareness programs in schools, colleges, and universities to promote healthy eating and physical activity, and ban the sale of unhealthy foods in school cafeterias.
4. **Digital Campaigns:** Use social media and mobile platforms to disseminate diabetes awareness and prevention information, leveraging influencers to reach a broader audience.
5. **Engaging Local Influencers:** Involve community leaders as diabetes ambassadors to educate the masses on diabetes prevention and management.
6. **Workplace Wellness Programs:** Encourage physical activity at workplaces, conduct regular diabetes screenings, and promote the use of nutrition and healthy food apps.
7. **Mobile App Development:** Develop a mobile app for diabetes awareness, community building, and data collection to facilitate better diabetes management and policy-making.
8. **Free Screening Programs:** Offer free glucose tests for vulnerable populations, such as pregnant women and individuals over 50, in collaboration with local pharmacies and labs.
9. **Awareness through Daily Interactions:** Print diabetes awareness content on receipts and bills from food chains, pharmacies, and retail stores, and conduct regular radio programs on diabetes management.

Introduction

Islamabad epitomizes the country's rapid urbanization and changing lifestyles. These transformations, while bringing progress and prosperity, have also given rise to a sedentary way of life, dietary shifts, and increased stress levels - all contributing factors to the escalating diabetes crisis.

In Islamabad, the prevalence of diabetes is rising at an alarming rate, mirroring global trends. The consequences of this upward trajectory are affecting not only the health of individuals but also straining healthcare resources and hindering socioeconomic development.

This white paper aims to study and recommend strategies to combat the pressing issue of diabetes within the capital city of Pakistan. Our mission is to shed light on this growing public health concern and to call for proactive measures to eradicate the rising tide of diabetes through awareness, prevention, and early diagnosis.

Prevention is another cornerstone of our approach. By adopting healthier lifestyles, making informed dietary choices, and incorporating regular physical activity into daily routines, individuals in Islamabad can take proactive steps to reduce their risk of developing diabetes.

Diabetes in Pakistan

The epidemic of Diabetes is one of the most alarming public health issues of the 21st Century, especially for lower-middle-income countries. It was predicted that from 2010 to 2030, there would be a 67 % increase in the prevalence of diabetes in these countries and the prevalence continues to rise.

The prevalence of type 2 diabetes mellitus and prediabetes in Pakistan is alarmingly high and has been steadily increasing in recent years. According to the latest stats, it has affected approximately 30.8% of the population (20-79 years) which is around 33 million people. It was just 7.9% in 2011 and is expected to be standing at 33.6% by 2045. Mortalities attributed to diabetes are 396,625.

In one study it is found that the prevalence of diabetes was found to be highest among older age groups, with 26.03% prevalence in the 51-60 years age group. Other risk factors associated with higher diabetes prevalence included no formal education (17.66%), class III obesity (35.09%), positive family history (31.29%), and female gender (17.80%).

A systematic review protocol published in 2023 also aims to comprehensively assess the prevalence of diabetes in Pakistan, including variations by age, gender, and geographical location. Previous studies have reported the prevalence of diabetes to be higher in urban areas compared to rural areas, with one study finding 15.1% prevalence in urban areas versus 1.6% in rural areas.

Diabetes in Islamabad

Islamabad is the capital of Pakistan with around 2.4 million population settled in the urban, suburban, and rural areas. It greatly influences the northern region, especially regarding lifestyle, policy-making, and access to healthcare services. In the last decade, the city has seen a surge in immigration, especially from KPK and Sindh increasing the population which impacts the infrastructure, living style, and social fabric of it.

Few studies were conducted in the past on the prevalence of diabetes. Here are the details of these studies.

Study (Frequency and Risk Factors in a Cohort of Islamabad's Population)

A total of 624 adult people from urban Islamabad presented at the camp. 168 patients had already established disease and were excluded from the study. The remaining 456 (100%) subjects were further assessed as per the defined protocol. The frequency of newly diagnosed diabetes was found to be **10.7 %**.

The risk factors strongly associated with the presence of disease were family history, hypertension, obesity, and sedentary lifestyle. Smoking was not significantly associated with diabetes in this study. Here are the findings from this study.

- Family history 67.3%
- Hypertension 59.2%
- Obesity (BMI > 25 kg/m²) 61.2% and (BMI < 25 kg/ m²) 38.8%
- Lifestyle (Active 24.5%) and (Sedentary 75.5%)
- Smoking (Present 30.6%) and (Absent 69.4%).

The study highlights the importance of early detection and prevention of diabetes through lifestyle interventions, particularly in high-risk groups.

Opinion

The available literature is quite comprehensive but it was published in 2013 and numbers are not updated under the existing prevalence of diabetes malitius i.e. 30.8%.

To understand current insights and Research Council of Pakistan Health Parliament conducted a dipstick study.

Dipstick Study on the Prevalence of Diabetes in Islamabad

This dipstick study, conducted by the Research Council of Pakistan Health Parliament from November 21, 2023, to January 29, 2024

Objective

- To understand the prevalence of diabetes in Islamabad gender and age wise with family history.

Scope of Work

The research was undertaken in the diabetes clinic of one of the leading government hospitals in Islamabad where patients from urban, sub-urban, and rural areas of Islamabad visited during the research. A total of 459 patients participated in the research with diversified ages starting from 16. The study targeted a diverse demographic, representing socio-economic classes A, B, C & D.

Methodology

Quantitative Approach The study employed a rigorous quantitative approach with face-to-face interviews. A diverse representation was ensured with trained enumerators conducting interviews using a standardized questionnaire.

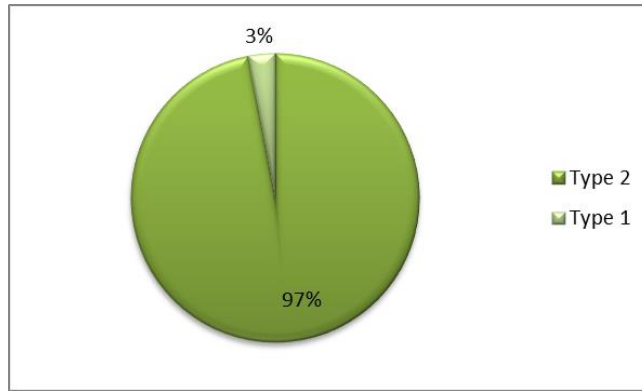
Quality Control To uphold data integrity, pretests were conducted to refine the questionnaire, and a stringent quality control mechanism involved back-checking 10% of randomly selected questionnaires. This methodology ensures the reliability of the data for a robust analysis.

Findings

Type 1 vs Type 2

Findings reveal that 3% of the population have type 1 diabetes whereas 97% have type 2 diabetes. This implies that diabetes in patients can be managed or delayed through lifestyle modifications.

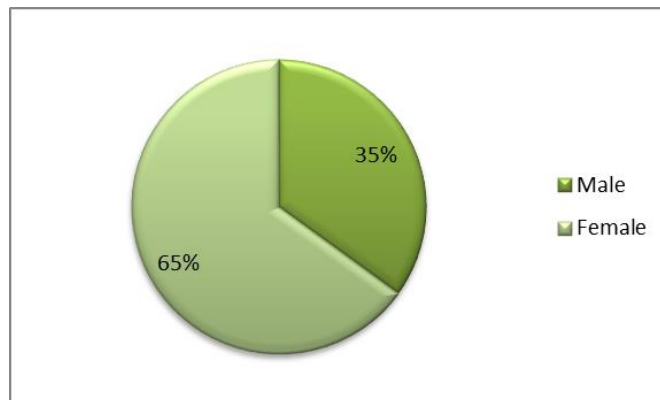
Graphical Presentation



Gender

The study finds that 65% of patients/participants were female in comparison with 35% of males. These numbers could be due to physical inactivity and obesity among women. Access to healthcare well in time is also a reason for higher occurrence. It's also possible that biological and genetic factors play a role in the prevalence of diabetes among females in this specific population.

Graphical Presentation

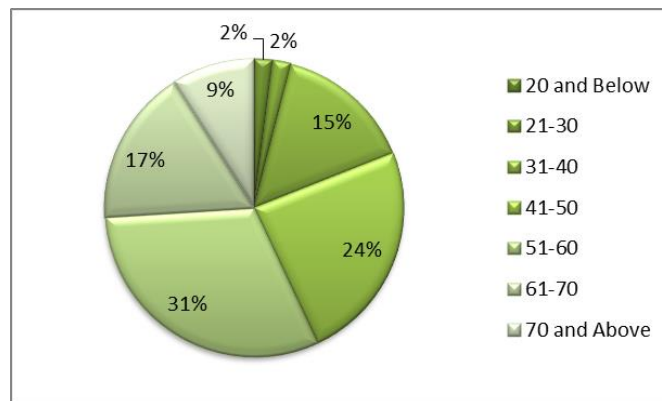


Ages and Gender

Prevalence of Diabetes Mellitus in different age groups is observed with the highest contribution of the age group 51-60 at 31% followed by 41-50 at 24%, 61-70 at 17%, and 31-40 at 15% respectively. The contribution of the rest of the age groups is 13%.

In females, the highest age groups are 41-50 and 51-60 with 19% and 20% respectively. In males, the highest age groups are 51-60 and 61-70 with 12% and 6% respectively.

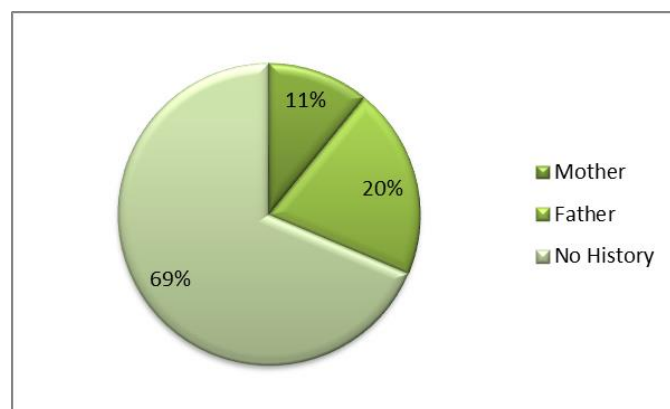
Graphical Presentation



Parents History

69% of the respondents do not have a history of diabetes from their parents in comparison with 31%, with 20% fathers and 11% mothers. This implies that most of the respondents had acquired diabetes through their lifestyle.

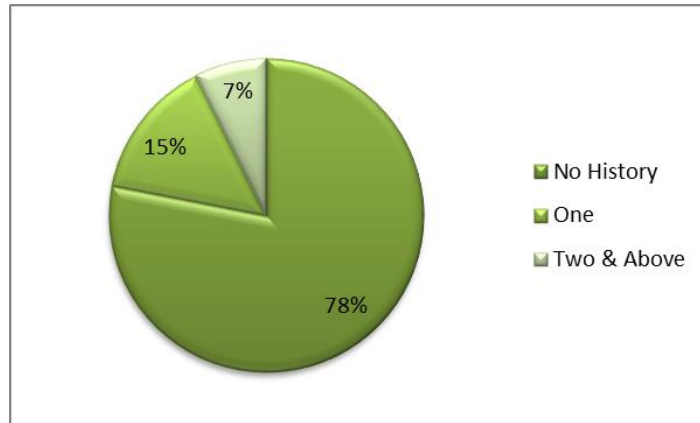
Graphical Presentation



Siblings History

The study finds that 78% of respondents' siblings had no history of diabetes. 15% had one diabetic sibling and only 7% had two or more siblings living with diabetes. This data reinforces the prevalence of diabetes through lifestyle rather than family history as mentioned in the previous point.

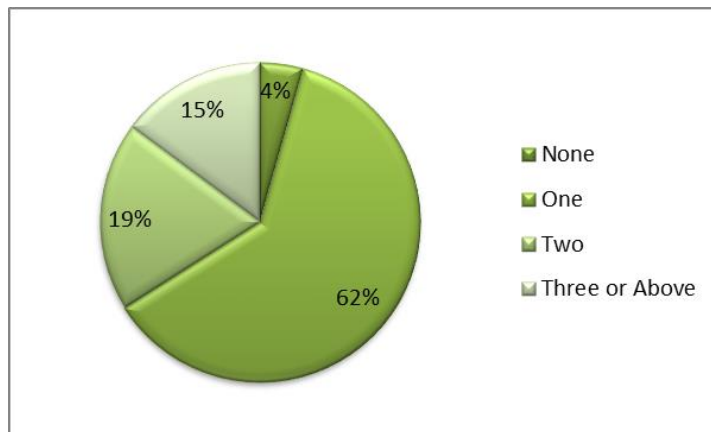
Graphical Presentation



Prevalence in the Family

An appealing number of people are diabetic in the immediate family members of the respondents. 62% of respondents have at least one family member diabetic, 19% have two family members and 15% have three or more family members with diabetes. Only 4% are non-diabetic. This is an alarming figure of prevalence in the capital city of Pakistan.

Graphical Presentation



Policy Recommendations

Pakistan Health Parliament recommends following policies to manage, prevent, and advocate for diabetes in the capital city of Pakistan. These recommendations are also applicable, with necessary modifications, in metropolitan cities like Karachi, Lahore, Peshawar, Faisalabad, Multan, Quetta, Sialkot, Hyderabad, Gujranwala etc.

Training of Physicians and Healthcare Professionals on Diabetes

With the public-private partnership, the district Health Office should design a comprehensive training program for physicians, nutritionists, pharmacists, and nursing staff on diabetes management. It will enhance the pool of doctors and prescribing pharmacists, especially in suburban and rural areas.

Training of nutritionists and nursing staff will improve outcomes of diabetes management. institutions and companies like Diabetes Care can be partnered to launch “Diabetes Education For Healthcare Professionals”.

Use of Telemedicine

Public and private hospitals and care providers in the territory of Islamabad should adopt telemedicine for consultations and follow-ups with the use of EMR (Electronic Medical Record) and different diabetes management parameters. IHRA (Islamabad Health Regulatory Authority) can be informed about the delivery of services.

For effective implementation, a phased approach could be used where follow-up visits could be planned using telemedicine in the first phase.

For labs, home or office sample collection services can be utilized. Medicine can be delivered using last-mile delivery partners.

Initiatives in Schools, Colleges and Universities

City Administration should partner with educational institutions to launch awareness programs in private and public schools, colleges, and universities. Educating children and youth on healthy eating habits and physical activity through these campaigns will alter their food and nutrition choices. Comprehensive health education curricula that cover nutrition, physical activity, and diabetes prevention could also be designed.

City Administration should impose a ban on the sale of fizzy drinks and processed food in school cafeterias.

Digital Campaigns

City Administration should engage any telemedicine company to make awareness through SMS, WhatsApp, and applications in Islamabad's urban

and even rural sectors. In collaboration with private companies under the umbrella of CSR (Corporate Social Responsibility), the City Administration should create social media pages on Facebook, Instagram, YouTube, and TikTok dedicated to diabetes awareness and management. Campaigns should be targeted and even influencers can be engaged to get more reach.

The content of these campaigns should revolve around treatment, management, and most importantly prevention.

Involving Local Influencers in Rural Areas

City Administration should involve local influencers including religious leaders, social workers, and political leaders to make them diabetes ambassadors. They should be formally educated on recent stats, diabetes prevalence, risk factors, allied complications, treatment & management, etc. They will then be able to make an impact on the masses.

Physical Activities at the Workplace

Offices and organizations should allocate small spaces for physical activities, giving the provision of micro-breaks for physical movement. Gyms should also be taken on board with subsidized rates and employees should be encouraged to use gyms and adopt active lifestyles.

BMI Management Programs

Organizations should run programs that incentivize employees who maintain their BMI (Body Mass Index) to 25 or lower. This will encourage a culture of wellness and reduce the risk of obesity and type 2 diabetes.

Screenings at Workplace

Organizations should conduct basic diabetes screenings every quarter on the account of health benefits and budgets. Diagnosed employees should be then referred to physicians for further investigations and treatment.

Mobile App for Diabetes Awareness and Community Development

Designing a mobile app with a public-private partnership which should work

- a. For awareness and education through video, audio, and written content
- b. For community development where diabetic patients can interact with each other
- c. Enlistment of endocrinologists, diabetologists, medical specialists, cardiologists, nephrologists, dentists, ophthalmologists, neurologists, pathology labs, and diagnostic centers of the capital city.
- d. As a register where newly diagnosed patients can mark themselves as type 1 or type 2 patients

This app will work as a data source on diabetes for administrators and intervention can be done.

Screening Programs for Vulnerable Populations

The City Administration, in collaboration with private healthcare organizations, should make basic glucose tests free for vulnerable populations including pregnant women, people above the age of 50, obese people with a BMI of 30+, and people with a family history of diabetes. For free screening, local pharmacy chains and labs could be utilized.

Use of Nutrition Apps

Workplaces, educational institutions, and all public hospitals should promote the use of nutrition and healthy food apps. Using these can be incentivized with reward points or financial reimbursements.

Diabetes Awareness on the Bills and Receipts of Food Chains, Pharmacies and Retail Stores

City Administration should direct food chains, pharmacies, and retail stores to print diabetes awareness content on their receipts and bills. This could be launched in phases. Pharmacies should also be directed to place literature or standees on their premises to raise awareness.

Awareness Through Radio Channels

In collaboration with radio channels, the City Administration should conduct programs monthly to make the population of Islamabad aware of the risk factors, symptoms, and diabetes management.

Inclusion of Diabetes Management in OPD Health Coverage

Organizations should 100% finance diabetes screening and management through their health budgets and insurance companies.

Acknowledgments

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