The Lifetime Risk Of Type II Diabetes: Findings From A Retrospective Cohort Of Diabetes-free Population

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Day 2

Introduction

- Around 9.3% of the world population is diabetic, the prevalence is increasing worldwide, with higher risk among Asians including Indians
- Incidence and prevalence do not capture the risk of developing diabetes
- The lifetime risk, is an estimate of the cumulative risk of developing a disease during an individual's lifespan, but limited evidence in India
- Previous studies have used Markov models and decision trees, conducted with mean interval of 8-10 years; lack continuous follow-up
- In light of the scarcity of evidence, the study aimed to estimate the lifetime risk in an urban community of Mumbai

Data

- Observational Retrospective cohort study
- Electronic Medical Records of a hospital under the CHSS located in Mumbai.
- Total Beneficiaries: 1652, aged 40+ years, who were non-diabetic 2011-2012
- Follow-up period: January 2012 to December 2021
- Key variables: Date of visits and laboratory tests

Methodology

An individual is considered to be Diabetic if the FPG ≥126 mg/dl, or Postprandial Glucose ≥200 mg/dl, or HbA1c ≥6.5% or that individual is on anti-diabetes medication.

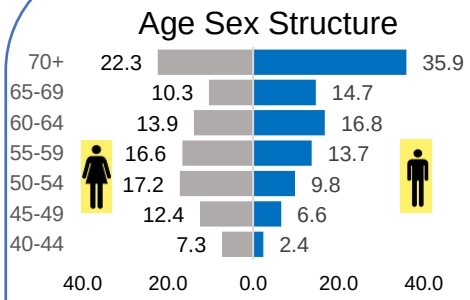
Two major components used in estimating the lifetime risk are:

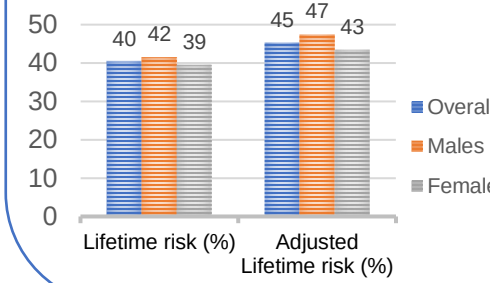
- Incidence rate (calculated from the cohort using survival analysis techniques)
- Remaining life years (SRS, 2012-16)

The lifetime risk was estimated as:

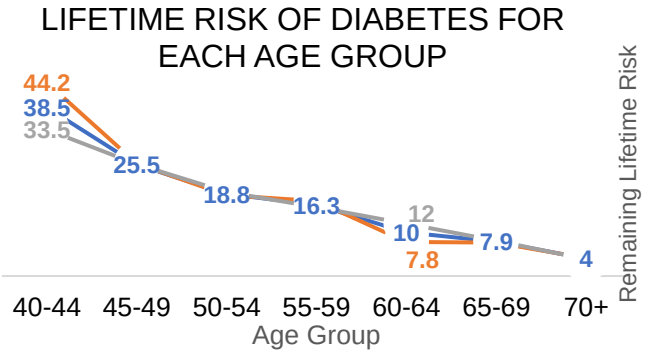
$$\textbf{Remaining LR} = 1 - [1 - \textbf{IRx}]^{LEx}$$

Results





	# Diabetic in ten years	Person years	Age Adjusted Incidence rate
Total	546	109748	6.9
Male	250	49180	7.4
Female	296	60567	6.6



Conclusion

- The lifetime risk of developing diabetes was found high, specially among males
- Understanding one's lifetime risk can help in preventing or delay the onset of the diabetes, with early detection and timely intervention.

References

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