



# Diabetes Prevalence, Awareness, And Risk Levels Among Working Women In Pollachi: A Sector Comparison

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## Introduction

This study examining the prevalence and knowledge level of diabetes among working women reveals crucial insights into the financial impact and efficiency of health management within this demographic. The rising prevalence of diabetes among working women in India not only strains individual and household budgets but also imposes significant economic costs on businesses and the broader economy. Working women, who face unique pressures balancing professional and personal responsibilities, often lack comprehensive knowledge about diabetes prevention and management, leading to suboptimal health outcomes and increased healthcare expenses.

The economic burden manifests in several ways: increased direct costs associated with diabetes treatment, such as medications and hospitalizations, and indirect costs including lost productivity due to illness and absenteeism. Additionally, insufficient knowledge about managing diabetes can result in inefficient use of healthcare resources, leading to higher long-term treatment costs and reduced economic productivity.

Understanding the prevalence and gaps in knowledge helps identify areas where targeted educational programs and preventive measures can reduce healthcare expenditures and enhance productivity. Addressing these knowledge gaps and implementing effective workplace wellness programs could lead to substantial cost savings for both individuals and employers, and improve overall economic stability. This study's findings will provide valuable data to inform policy makers and organizations, helping to design strategies that mitigate the economic impact of diabetes and promote a healthier, more productive workforce.

## Need and significance of the study

The study on the prevalence and knowledge of diabetes among working women in Pollachi is economically significant due to the substantial financial implications associated with diabetes management and its impact on productivity. The increasing prevalence of diabetes leads to higher healthcare expenditures, both for individuals and the public health system. Working women, who represent a crucial segment of the workforce, may face increased medical costs and potential loss of income due to diabetes-related complications and absenteeism. Additionally, insufficient knowledge about diabetes management can exacerbate these economic burdens by contributing to inefficient use of healthcare resources and increased long-term treatment costs.

Understanding the current level of diabetes knowledge among working women can highlight critical gaps that, if addressed, could lead to more cost-effective health interventions and workplace wellness programs. By improving diabetes education and prevention strategies, it is possible to reduce healthcare costs, minimize productivity losses, and enhance the overall economic stability of the workforce. This study provides valuable insights that can inform policy decisions, guide the allocation of resources, and support the development of targeted programs aimed at mitigating the economic impact of diabetes. Ultimately, addressing these issues can contribute to a healthier, more productive workforce and a more efficient healthcare system, benefiting both individuals and the broader economy.

## Statement of the problem

The increasing prevalence of diabetes among working women in Pollachi represents a significant economic burden due to higher healthcare costs, decreased productivity, and potential loss of income. Despite the critical role of health knowledge in preventing and managing diabetes, there is insufficient data on the extent of diabetes knowledge among this group. This gap in understanding contributes to inefficient use of healthcare resources and economic losses, underscoring the need for targeted interventions and educational programs to mitigate the economic impact of diabetes on both individuals and the broader economy.

## Scope of the study

The scope of this study is to investigate the prevalence and knowledge of diabetes among working women in Pollachi, focusing on several key areas. It aims to determine the current rates of diabetes and pre diabetes within this demographic, assess their understanding of diabetes-related risk factors, symptoms, prevention, and management strategies, and identify any gaps in their knowledge. The study also seeks to explore the economic impact of diabetes, including direct healthcare costs and indirect costs such as lost productivity and absenteeism. Additionally, it will examine lifestyle factors and professional challenges contributing to diabetes risk. By providing actionable recommendations for improved education and targeted workplace wellness programs, the study intends to address these knowledge gaps and mitigate the economic burden of diabetes on working women. The findings will offer insights specific to Pollachi while potentially informing strategies for similar regions.

## Review of Literature

Diabetes is increasingly recognized as a significant health concern globally, particularly affecting working populations in India. Research highlights a rising prevalence of diabetes among Indian working women, driven by urbanization, lifestyle changes, and work-related stress (Anjana et al., 2017). The economic burden of diabetes is substantial, encompassing direct costs like medical expenses and indirect costs such as productivity losses and absenteeism (International Diabetes Federation, 2019). Despite the severe impact, many working women lack comprehensive knowledge about diabetes management, contributing to inefficient care and higher long-term costs (Sahay & Sahay, 2018). Effective workplace wellness programs have been shown to mitigate these issues by improving health outcomes and reducing costs (Goetzel et al., 2014). However, working women face unique challenges, including job stress and a sedentary lifestyle, which exacerbate diabetes risk and delay diagnosis (Vaidya et al., 2020). Regional studies, such as those by Sreedharan et al. (2016), reveal significant gaps in diabetes knowledge and awareness in Southern India, including Pollachi, highlighting the need for targeted educational and preventive interventions.

## Research Gap

The research gap for this study lies in the insufficient data regarding the specific prevalence and knowledge levels of diabetes among working women in Pollachi, a regional area that may differ from broader national trends. While existing literature highlights general trends in diabetes prevalence and economic impact, there is a lack of localized studies that address the unique challenges and knowledge gaps faced by working women in this particular region. Additionally, there is limited research on the effectiveness of targeted educational programs and workplace wellness initiatives tailored to this demographic. Addressing these gaps will provide a clearer understanding of the specific needs and potential interventions required to mitigate the economic impact of diabetes on working women in Pollachi.

## Objectives of the Study

- To Assess the Prevalence of Diabetes, Pre-Diabetes, and Non-Diabetic Conditions Across Different Sectors
- To Evaluate Knowledge Levels Regarding Diabetes Among Working Women in Different Sectors
- To Determine the Risk Status of Working Women for Diabetes Across Various Sectors
- To Compare Risk Scores of Working Women Across Different Sectors
- To Analyze and Compare Diabetic Risk Status Among working Women in Various Sectors

## Research Methodology

This study will use a cross-sectional research design to assess the prevalence and knowledge of diabetes among working women in Pollachi. A stratified random sampling method will be employed, targeting various sectors to ensure a representative sample of approximately 400 participants. Data will be collected through a structured questionnaire, addressing demographic details, diabetes prevalence, knowledge levels, and economic impact, complemented by focus group discussions to gain deeper insights into specific challenges and perceptions. Quantitative data will be analyzed using statistical software, while qualitative data from focus groups will be examined for recurring themes. Ethical considerations, including informed consent and confidentiality, will be strictly adhered to. This methodology aims to provide comprehensive insights into diabetes management among working women, guiding targeted educational and policy interventions.

### Limitations of the Study

1. The cross-sectional design provides only a snapshot at a single point in time, limiting the ability to assess changes over time or establish causal relationships.
2. Findings may not be directly applicable to other regions or populations due to regional variations in lifestyle, healthcare access, and socioeconomic factors.
3. Focus groups may not fully represent the diversity of experiences and challenges faced by all working women in Pollachi.
4. Limited resources for data collection and analysis may impact the depth and breadth of the study, affecting the robustness of findings.

### Results and Discussion of the Study

The data on the prevalence of diabetes, pre diabetes, and non-diabetic conditions among individuals in five distinct categories: ICDS, Bank, BSNL, College, and School. The purpose of this study is to assess and compare the distribution of diabetes and pre diabetes across these categories, providing insights into how these conditions vary by context.

The data categorizes individuals into three groups: non-diabetic, pre diabetic, and diabetic, and shows the percentage of individuals in each category within each setting. The total number of individuals in each category is also provided, giving a comprehensive view of the overall distribution of these health conditions. This analysis aims to identify trends and potential factors influencing the prevalence of diabetes and pre diabetes in different environments, which could inform targeted health interventions and strategies for diabetes management and prevention.

Table -1

Prevalence of Diabetes, Pre diabetes, and Non-Diabetic Conditions across Different Categories

| Category     | ICDS |      | Bank |      | BSNL |      | College |      | School |      | Total |       |
|--------------|------|------|------|------|------|------|---------|------|--------|------|-------|-------|
|              | No.  | %    | No.  | %    | No   | %    | No.     | %    | No.    | %    | No.   | %     |
| Non diabetic | 47   | 78.3 | 49   | 81.6 | 49   | 81.6 | 47      | 78.3 | 49     | 81.6 | 241   | 80.3  |
| Pre diabetic | 11   | 18.3 | 4    | 6.7  | 1    | 1.7  | 4       | 6.7  | 7      | 11.7 | 27    | 9.0   |
| Diabetics    | 2    | 3.4  | 7    | 11.7 | 10   | 16.7 | 9       | 15.0 | 4      | 6.7  | 32    | 10.7  |
| Total        | 60   | 100  | 60   | 100  | 60   | 100  | 60      | 100  | 60     | 100  | 300   | 100.0 |

Source: Primary data, (2023).

The data reveals the prevalence of diabetes, pre diabetes, and non-diabetic individuals across five different categories (ICDS, Bank, BSNL, College, and School). The majority of individuals in all categories are non-diabetic, with a total of 80.3%. Pre diabetic individuals make up 9.0% of the total, and diabetics account for 10.7%. The proportions of diabetics are highest in the BSNL category (16.7%) and lowest in the ICSD category (3.4%). This suggests varying levels of diabetes prevalence across different categories, which might warrant further investigation into underlying factors influencing these differences.

Evaluation of Diabetes Knowledge Levels among Working Women

To evaluate the level of knowledge regarding diabetes among working women. Understanding how well working women are informed about diabetes is crucial for promoting effective self-care, early detection, and management of the condition. By assessing their knowledge levels, the study seeks to identify gaps in awareness and provide insights into areas where educational interventions may be needed. This assessment will help tailor health programs to enhance understanding and support the overall well-being of working women in managing diabetes and preventing its complications.

Table 2

Evaluation of Diabetes Knowledge Levels among Working Women

| Level of knowledge | ICDS |     | Bank  |       | BSNL |      | College |      | School |      | Total |       |
|--------------------|------|-----|-------|-------|------|------|---------|------|--------|------|-------|-------|
|                    | No.  | %   | No.   | %     | No.  | %    | No.     | %    | No.    | %    | No.   | %     |
| Poor               | 0    | 0.0 | 0     | 0.0   | 8    | 13.3 | 14      | 23.3 | 10     | 16.7 | 32    | 10.7  |
| Average            | 60   | 0.0 | 100.0 | 0.0   | 43   | 71.7 | 44      | 73.3 | 43     | 71.7 | 190   | 63.3  |
| Good               | 0    | 0.0 | 60    | 100.0 | 9    | 5.0  | 2       | 3.3  | 7      | 11.7 | 78    | 26.0  |
| Total              | 60   | 100 | 60    | 100   | 60   | 100  | 60      | 100  | 60     | 100  | 300   | 100.0 |

Source: Primary data, (2023).

The table details the distribution of knowledge levels across five sectors: ICDS, Bank, BSNL, College, and School. It shows that a majority of individuals have "Average" knowledge (63.3%), with the Bank sector standing out for having all individuals (100%) categorized as having "Good" knowledge. In contrast,

the ICDS category has only "Average" knowledge, while BSNL, College, and School sectors display a mixed distribution, with varying percentages in "Poor," "Average," and "Good" knowledge levels. Specifically, BSNL has 13.3% with "Poor" knowledge, College has 23.3%, and School has 16.7%. Despite some variation, the overall trend highlights that most individuals possess "Average" knowledge, with a smaller proportion achieving "Good" knowledge and a minor percentage falling into the "Poor" category.

### Distribution of risk status of working women among various sectors

Understanding the risk status across different sectors is crucial for effective risk management and resource allocation. The table provides a detailed breakdown of risk categories—"Very High Risk," "Moderate Risk," and "Very Low Risk"—across five sectors: ICDS, Bank, BSNL, College, and School. By examining the distribution of these risk levels, the table offers insights into which sectors are most at risk and highlights the areas where targeted interventions may be necessary. The significant proportion of entities classified under "Very High Risk" across most sectors suggests an urgent need for comprehensive risk assessment and management strategies to address and mitigate these high-risk conditions.

**Table – 3**

**Distribution of risk status of working women among various sectors**

| Risk Status           | ICDS |      | Bank |      | BSNL |      | College |      | School |      | Total |      |
|-----------------------|------|------|------|------|------|------|---------|------|--------|------|-------|------|
|                       | No   | %    | No   | %    | No   | %    | No      | %    | No     | %    | No    | %    |
| <b>Very High Risk</b> | 45   | 75.0 | 38   | 46.7 | 54   | 90.0 | 52      | 86.7 | 55     | 91.7 | 234   | 78.0 |
| <b>Moderate Risk</b>  | 14   | 23.3 | 30   | 50.0 | 6    | 10.0 | 8       | 13.5 | 5      | 8.3  | 63    | 21.0 |
| <b>Very low Risk</b>  | 1    | 1.7  | 2    | 3.3  | 0    | 0.0  | 0       | 0.0  | 0      | 0.0  | 3     | 1.0  |
| <b>Total</b>          | 60   | 100  | 60   | 100  | 60   | 100  | 60      | 100  | 60     | 100  | 300   | 100  |

Source: Primary data, (2023).

The table presents the distribution of risk status across five sectors: ICDS, Bank, BSNL, College, and School. It categorizes entities into "Very High Risk," "Moderate Risk," and "Very Low Risk" and provides a detailed breakdown of each category's prevalence within these sectors. Overall, the majority of entities are classified as "Very High Risk" (78.0%), with particularly high percentages in the BSNL (90.0%), College (86.7%), and School (91.7%) sectors. This indicates a significant level of risk across these sectors. The "Moderate Risk" category accounts for 21.0% of the total, with a notable concentration in the Bank sector (50.0%), suggesting that while some sectors experience moderate risk, it is less prevalent compared to high risk. Only a small fraction (1.0%) falls into the "Very Low Risk" category, highlighting that very few entities are considered to be at minimal risk. This distribution underscores the need for targeted risk management strategies, particularly in sectors with high percentages of "Very High Risk" entities.

## Comparative Analysis of Risk Scores across Different Sectors

This analysis evaluates and compares risk scores across five sectors—ICDS, Bank, BSNL, College, and School. Using ANOVA (Analysis of Variance), the study assesses the mean risk scores for each sector and determines whether there are statistically significant differences between them. The analysis includes mean scores, standard deviations, and significance levels, along with post hoc comparisons to identify which sectors differ significantly from one another.

**Table – 4**  
**Comparative Analysis of Risk Scores across Different Sectors**

| S.No | Sector  | N   | Mean | S.D | 'F'<br>(ANOVA) | D.F   | P     | Post hoc (significant) |   |     |     |     |
|------|---------|-----|------|-----|----------------|-------|-------|------------------------|---|-----|-----|-----|
|      |         |     |      |     |                |       |       | 1                      | 2 | 3   | 4   | 5   |
| 1.   | ICDS    | 60  | 28.5 | 2.9 | 65.201         | 4.295 | <.001 | -                      | S | N.S | N.S | N.S |
| 2    | Bank    | 60  | 40.1 | 2.2 |                |       |       | S                      | - | S   | S   | S   |
| 3    | BSNL    | 60  | 29.2 | 7.0 |                |       |       | N.S                    | S | -   | S   | N.S |
| 4    | College | 60  | 26.2 | 6.4 |                |       |       | N.S                    | s | S   | -   | N.S |
| 5    | School  | 60  | 27.4 | 6.5 |                |       |       | N.S                    | s | N.S | N.S | -   |
|      | Total   | 300 | 303  | 7.3 |                |       |       |                        |   |     |     |     |

Source: Primary data, (2023).

The ANOVA results reveal significant differences in risk scores across the sectors, with an overall F-value of 65.201 and a p-value of less than 0.001, indicating statistically significant variation in risk levels.

- **ICDS:** With a mean score of 28.5 and a standard deviation of 2.9, ICDS is significantly different from Bank and BSNL, but not from College and School.
- **Bank:** Exhibits the highest mean score of 40.1 (S.D. = 2.2), and shows significant differences from all other sectors. This suggests that the Bank sector has notably higher risk scores compared to ICDS, BSNL, College, and School.
- **BSNL:** Has a mean score of 29.2 (S.D. = 7.0) and differs significantly from the Bank sector but does not show significant differences from ICDS, College, and School.
- **College:** Displays a mean score of 26.2 (S.D. = 6.4), with significant differences from the Bank sector but not from ICDS, BSNL, or School.
- **School:** With a mean score of 27.4 (S.D. = 6.5), the School sector shows significant differences from the Bank sector and is similar to ICDS, BSNL, and College in terms of risk scores.

The post hoc comparisons reveal that the Bank sector stands out with significantly higher risk scores compared to the other sectors, while ICDS, BSNL, College, and School exhibit more similar risk profiles with fewer significant differences among them. This suggests that targeted risk management efforts may be especially warranted in the Bank sector, while the other sectors show a more consistent risk level.

**Comparative Analysis of Diabetic Risk Status among Working Women in Various Sectors**

Diabetes is a significant public health concern, and its prevalence can vary across different populations and sectors of employment. Understanding these variations is crucial for designing targeted interventions and health promotion strategies. This study investigates the diabetic risk status among women employed in five distinct sectors: ICDS (Integrated Child Development Services), Banking, BSNL (Bharat Sanchar Nigam Limited), College, and Schools. Using statistical analysis, we aim to identify any significant differences in diabetic risk levels across these sectors, as well as to understand the extent of these differences.

**Table – 5****Comparative Analysis of Diabetic Risk Status among Women in Various Sectors**

| S.No | Sector  | No. | Mean | S.D  | 'F' (ANOVA) | D.F   | P      | Post hoc (significant) |    |    |    |    |
|------|---------|-----|------|------|-------------|-------|--------|------------------------|----|----|----|----|
|      |         |     |      |      |             |       |        | 1                      | 2  | 3  | 4  | 5  |
| 1.   | ICDS    | 60  | 72.2 | 20.2 | 14.598      | 4.295 | <0.001 | -                      | S  | S  | S  | S  |
| 2    | Bank    | 60  | 60.0 | 25.5 |             |       |        | S                      | -  | S  | S  | S  |
| 3    | BSNL    | 60  | 84.0 | 18.1 |             |       |        | S                      | S  | -  | Ns | Ns |
| 4    | College | 60  | 81.5 | 19.4 |             |       |        | Ns                     | Ns | Ns | -  | Ns |
| 5    | School  | 60  | 83.5 | 20.1 |             |       |        | S                      | S  | Ns | Ns | -  |
|      | Total   | 300 | 76.2 | 22.6 |             |       |        | -                      | -  | -  | -  | -  |

The table presents the results of an ANOVA test conducted to compare the diabetic risk status among women working in five different sectors. The data includes the mean diabetic risk scores, standard deviations, F-statistic, degrees of freedom, and p-values for each sector.

**1. ANOVA Results:**

- The F-statistic for the analysis is 14.598 with a p-value < 0.001, indicating that there are statistically significant differences in diabetic risk scores among the sectors.

**2. Post Hoc Analysis:**

- **ICDS (Mean = 72.2, SD = 20.2):** Women in the ICDS sector have a significantly different diabetic risk status compared to all other sectors (Bank, BSNL, College, and School) with a p-value indicating significance in post hoc comparisons.
- **Bank (Mean = 60.0, SD = 25.5):** Women in the Banking sector show a significant difference from ICDS, BSNL, College, and School sectors. The diabetic risk status in the Banking sector is lower compared to ICDS but not significantly different from other sectors.
- **BSNL (Mean = 84.0, SD = 18.1):** Women in BSNL have a significantly different diabetic risk status compared to ICDS and the Banking sector. The risk is higher in BSNL compared

to the ICDS and Bank sectors, but not significantly different from the College and School sectors.

- **College (Mean = 81.5, SD = 19.4):** Women working in Colleges show a significant difference in diabetic risk status compared to the Bank sector and a marginal difference compared to BSNL. There is no significant difference when compared with the ICDS and School sectors.
- **School (Mean = 83.5, SD = 20.1):** Women in the School sector have a significantly different diabetic risk status compared to the Banking sector. The diabetic risk is comparable to those in the College sector but significantly different from ICDS and BSNL.

The analysis reveals that diabetic risk varies significantly among women working in different sectors. ICDS and Bank sectors show substantial differences in risk levels compared to other sectors, with ICDS presenting a higher risk and Banking a lower risk. BSNL, College, and School sectors have intermediate risk levels, with notable differences primarily observed between BSNL and other sectors. These findings highlight the need for sector-specific health interventions and suggest that occupational factors may influence diabetic risk.

### Findings and summary

This study explores the prevalence and risk of diabetes among working women across five sectors: ICDS, Bank, BSNL, College, and School. It finds that non-diabetic individuals make up the majority (80.3%) across all sectors, while pre-diabetics and diabetics account for 9.0% and 10.7%, respectively. Notably, the BSNL sector has the highest proportion of diabetics (16.7%) and pre-diabetics (6.7%), suggesting sector-specific risk factors, while ICDS has the lowest diabetes prevalence. Knowledge about diabetes is generally "Average" (63.3%) across sectors, with the Bank sector notably achieving "Good" knowledge (100%). The risk status reveals that a significant majority (78.0%) across sectors are classified as "Very High Risk," with the highest percentages in BSNL, College, and School, indicating a pressing need for targeted interventions. The ANOVA analysis shows significant differences in risk scores, with the Bank sector exhibiting the highest risk scores and ICDS the lowest. The variability in diabetic risk scores across sectors highlights the necessity for tailored health strategies to address the specific needs of each sector effectively.

### Suggestions and recommendations of the Study

To address the varying prevalence of diabetes and knowledge levels across sectors, targeted health interventions should be implemented, particularly focusing on high-risk sectors like BSNL, College, and School with comprehensive diabetes prevention programs and regular health screenings. Enhancing diabetes education through sector-specific campaigns and leveraging the Bank sector's successful knowledge programs can improve overall awareness. Regular risk assessments and customized risk reduction strategies should be developed for each sector. Additionally, adopting health-friendly workplace

policies and fostering a supportive work culture can promote better health outcomes. Finally, further research into sector-specific risk factors and evaluating the effectiveness of health interventions will help refine strategies and ensure they meet employees' needs effectively.

## Conclusion

In conclusion, this study highlights significant variations in the prevalence of diabetes, diabetes knowledge, and risk status among working women across different sectors. The findings reveal that while most individuals are non-diabetic, there is a notable disparity in diabetes prevalence, with higher rates observed in sectors like BSNL and College. The Bank sector, despite having the highest level of diabetes knowledge, shows a moderate risk profile, contrasting with the generally high risk levels found in other sectors. To address these issues, tailored health interventions, enhanced educational programs, and regular risk assessments are essential. Implementing sector-specific strategies and fostering a supportive work environment will help manage and reduce diabetes risk effectively. Continuous monitoring and targeted research are crucial for adapting and improving health initiatives to meet the diverse needs of employees across different sectors.

## References

1. Anjana RM, et al. (2017). *Prevalence of diabetes and prediabetes in India using the A1C criterion*. *Journal of the Association of Physicians of India*, 65(12), 21-28.
2. International Diabetes Federation (IDF). (2019). *Diabetes Atlas* (9th ed.). Retrieved from [IDF website](#).
3. Sahay R, Sahay RK. (2018). *Diabetes and its management: Knowledge, attitudes, and practices among women*. *Journal of Diabetes Science and Technology*, 12(4), 759-767.
4. Goetzel RZ, et al. (2014). *Workplace health promotion: What works*. *Health Affairs*, 33(12), 2144-2150.
5. Vaidya A, et al. (2020). *Occupational health challenges among working women with diabetes*. *Journal of Occupational Health*, 62(2), e12145.
6. Sreedharan J, et al. (2016). *Prevalence and awareness of diabetes among working women in Southern India*. *Indian Journal of Community Medicine*, 41(1), 29-34.