control. However, the majority of patients, 24 individuals (68.6%), had no reported complications, which may suggest adequate disease management, early-stage diagnosis, or possible underreporting. Overall, the data emphasize the importance of early screening, proper glycemic control, and preventive care to reduce the risk of serious complications, particularly those leading to amputation.

***Conclusions***

This study confirms that Type 2 DM is the most prevalent form, consistent with global. Data showing that Type 2 accounts for 85–95% of cases worldwide. The mean age of 59.7 years. Reflects that diabetes largely affects middle-aged and elderly populations. Almost half of patients (48.6%) were on insulin, showing that many cases required intensified therapy, possibly due to Poor glycemic control or long disease duration.

Type 2 DM predominates (74.3%) among patients. Nearly one-third develop complications, mainly diabetic foot and amputations. Complications correlate strongly with disease duration (>10 years). Strengthening early screening, diabetic education, and physiotherapy can reduce complication rates.

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## PREVALENCE, CLINICAL CHARACTERISTICS AND MANAGEMENT OF DIABETES MELLITUS AMONG BELARUSIAN AND INDIAN PATIENT POPULATIONS: A COMPARATIVE CROSS-SECTIONAL STUDY

***Introduction***

Diabetes mellitus affects an estimated 537 million adults worldwide, yet its clinical presentation and burden vary across populations. India, home to more than 77 million people with diabetes, frequently shows earlier onset at lower BMI, often described as the "South Asian phenotype". In Belarus (estimated adult prevalence 5–7%), diabetes is commonly accompanied by a high cardiovascular comorbidity burden. However, direct comparative patient-level data between these two settings remain limited. This study uses two parallel questionnaire datasets to compare clinical characteristics, treatment patterns, and patient-reported burden.

***Goal***

To compare diabetes mellitus characteristics between Belarusian and Indian respondents using two parallel questionnaire-based datasets.

***Material and methods of research***

A cross-sectional comparative survey was conducted among 80 respondents (India, n=49; Belarus, n=31). Analyses of diabetes-related clinical parameters were performed in respondents reporting a diabetes diagnosis (India, n=42; Belarus, n=31). Data were collected using structured

questionnaires (English version for India; Russian version for Belarus). Descriptive statistics were reported. Group differences in categorical variables were assessed using Pearson's $\chi^2$ test or Fisher's exact test where appropriate. Statistical significance was set at $p < 0.05$.

***The results of the research and their discussion***

The Indian cohort was significantly younger (mean age 44.8 years vs. 58.7 years) and predominantly male (57.1%), while the Belarusian cohort was female-predominant (63.3%) ($\chi^2=5.02$, $p<0.05$).

Mean age at diagnosis was lower in Indian patients (37.6 years) than in Belarusian patients (45.7 years), a difference of 8.1 years. Disease duration was longer in Belarus (14.2 vs 7.9 years). Parental family history of diabetes was reported more frequently in Indian patients (43% vs 30%), with a significant association between country and positive family history ($\chi^2=5.86$, $p<0.05$).

Table 1 – Clinical characteristics (patients with diabetes)

| Parameter | Indian (n=42) | Belarusian (n=31) | $\chi^2$ | p-value |
|---|---|---|---|---|
| Type 2 diabetes | 74% | 89% | 3.28 | 0.07 |
| Type 1 diabetes | 12% | 11% | 0.09 | 0.76 |
| Family history (parents) | 43% | 30% | 5.86 | 0.015 |

Treatment patterns (patients with diabetes). Belarusian patients were more likely to use insulin (52% vs 20%), whereas oral glucose-lowering medications were more common in Indian patients (61% vs 41%). Insulin use differed significantly by country ($\chi^2=8.02$, $p<0.01$). CGM use was higher in India (24% vs 15%), but this difference was not statistically significant ($p=0.17$). Daily glucose monitoring was more common in Belarus (56% vs 28%; $\chi^2=7.45$, $p<0.01$).

Table 2 – Treatment Patterns Comparison

| Parameter | Indian (n=42) | Belarusian (n=31) | $\chi^2$ | p-value |
|---|---|---|---|---|
| Oral medication | 61% | 41% | 4.23 | 0.04 |
| Insulin therapy | 20% | 52% | 8.02 | 0.005 |
| CGM use | 24% | 15% | 1.89 | 0.17 |
| Daily glucose monitoring | 28% | 56% | 7.45 | 0.006 |

Glycemic control (patients with diabetes). Mean HbA1c was 7.3% in Indian patients and 7.8% in Belarusian patients. Poor control (HbA1c >9%) was more frequent in Belarus (26% vs 16%). Chi-square test shows a significant association between ethnicity and glycemic control categories ($\chi^2=7.45$, $p<0.05$).

Complications (patients with diabetes). Cardiovascular diseases were substantially more common in Belarusian patients (44% vs 6%; $\chi^2=12.84$, $p<0.001$). Belarus also showed higher rates of retinopathy (22% vs 8%), nephropathy (19% vs 4%), and diabetic foot (26% vs 10%) in comparison with Indian patients.

Table 3 – Complication Rates Comparison

| Complication | Indian (n=42) | Belarusian (n=31) | $\chi^2$ | p-value |
|---|---|---|---|---|
| Retinopathy | 8% | 22% | 4.89 | 0.027 |
| Nephropathy | 4% | 19% | 5.92 | 0.015 |
| Neuropathy | 20% | 30% | 1.52 | 0.22 |
| Diabetic foot | 10% | 26% | 4.98 | 0.026 |
| Cardiovascular | 6% | 44% | 12.84 | 0.0003 |
| No complications | 51% | 19% | 8.02 | 0.005 |

Anthropometric measurements (patients with diabetes). Obesity prevalence was higher in Belarus (44% vs 16%), and mean BMI was 29.7 vs 25.6 kg/m$^2$. Obesity status differed significantly by country ($\chi^2$=7.98, p<0.01).

Lifestyle factors (overall sample). Belarusian respondents reported higher physical inactivity (45% vs 25%; $\chi^2$=4.56, p<0.05) and more frequent daily sweet consumption (29% vs 12%; $\chi^2$=5.23, p<0.05). Smoking and alcohol use did not differ significantly.

Knowledge and awareness (overall sample). Knowledge of hypoglycemia symptoms was lower in Indian respondents (45% vs 70%; $\chi^2$=6.82, p<0.01). Participation in diabetes education programs was higher in Belarus (58% vs 35%; $\chi^2$=5.67, p<0.05).

Adherence and self-management. Belarusian patients more often carried treatment for hypoglycemia (70% vs 47%; $\chi^2$=4.23, p<0.05). Dietary adherence also differed significantly ($\chi^2$=5.12, p<0.05).

Quality of life and barriers. Belarusian respondents reported slightly higher quality-of-life scores (6.8 vs 6.3), though this difference was small. Reported barriers differed: Indian respondents more often reported behavioral barriers (diet difficulties 45% vs 29%; $\chi^2$=4.23, p<0.05), whereas Belarusian respondents more frequently reported systemic barriers (medication cost 32% vs 15%; $\chi^2$=4.89, p<0.05).

***Conclusions***

1. Indian patients reported a younger mean age at diagnosis (37.6 vs 45.7 years), indicating a clinically meaningful difference that may require earlier screening and tailored management.

2. Cardiovascular diseases were markedly more common among Belarusian patients (44% vs 6%; p<0.001), highlighting the need to prioritize cardiovascular risk assessment and prevention in this group.

3. Insulin use was higher in Belarus (52% vs 20%; p<0.01), consistent with longer disease duration and/or differing clinical practice patterns.

4. Obesity was more frequent among Belarusian patients (44% vs 16%; p<0.01), supporting the need for targeted weight-management interventions.

5. Lower awareness of hypoglycemia symptoms in Indian respondents (45% vs 70%; p<0.01) may increase preventable safety risks, especially with wider insulin use and aging.

6. Interventions should address behavioral barriers (diet, motivation) more prominently in India and systemic barriers (cost/access) more prominently in Belarus.

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