DISSERTATION PRESENTATION

Assessing the Influence of Urban Lifestyle Factors on Maternal Health and Delivery Outcomes: A Hospital-Based Study in Naari Care Women's Hospital

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INTRODUCTION

India's urban shift is no longer just a demographic trend—it's silently reshaping maternal health. Modern city lifestyles — sedentary habits, poor diet, disrupted sleep, and rising stress — are now major contributors to complications during pregnancy. Urban pregnancy is no longer just a medical issue, but a lifestyle-driven challenge. urbanization has triggered significant lifestyle changes—less physical activity, fast-food dependence, poor sleep, and rising stress.

These changes are no longer limited to general health—they now affect pregnant women in cities, contributing to:

🚨 Gestational Diabetes
💔 Hypertension
🩹 Preterm Birth
🩺 C-section rates rising

Despite having better hospital access, urban mothers face invisible risks from their daily environment and routines.

"Why This Study Was Needed"

🚫 **Urban mothers aren't part of the conversation.**
Most Indian maternal health research still focuses on rural areas or single medical risks like anemia.
But in cities, well-educated women still face complications—from daily habits, not from lack of care.
There's no integrated evidence on how diet, stress, or sleep actually affect outcomes in private hospitals.
This study is to connect urban lifestyle factors with real delivery results.
It doesn't just raise questions — it shows the missing answers.

💼 **Workplace stress is an invisible burden on urban mothers**
🛌 **Sleep deprivation is ignored in antenatal care**
🍟 **Urban diets lack structure, but get no clinical attention**

😩 **Mental and emotional strain go undiscussed**
📉 **Lifestyle risks are missing from maternal health research**
🚫 **Modern maternal challenges lack clinical protocols**

Inside the Study: Design, Setting & Purpose

🏥 Conducted in a real-world urban maternity hospital
🧪 Used a mixed-methods, hospital-based research design
🚺 200 women surveyed + 12 healthcare providers interviewed
📊 Studied diet, stress, sleep, activity, and delivery outcomes
🩺 Captured both clinical outcomes and lived experiences
🧭 Focused on identifying gaps in antenatal counselling

REVIEW OF LITERATURE

Authors (Year)	Study Location	Sample Size	Sampling Technique	Salient Features
Naik & Thomas (2018)	Bengaluru, India	220	Convenience sampling	Explored the effects of occupational stress on pregnant women in IT jobs. Found prolonged work hours and pressure contributed to spontaneous abortions and preterm labor.
Das & Nair (2019)	Kochi, India	280	Stratified random sampling	Found that rising urban temperatures and lack of greenery caused dehydration and fatigue, reducing fetal growth among pregnant women.
Gupta et al. (2017)	New Delhi, India	250	Purposive sampling	Observed increased antenatal depression in urban nuclear families due to social isolation and lack of family support.
Rehman & Kaur (2021)	Chandigarh, India	270	Quota sampling	Linked frequent restaurant food consumption with poor nutrition, maternal obesity, and increased cesarean deliveries.
Arora & Dasgupta (2023)	Gurgaon, India	260	Simple random sampling	Reported that caffeine, passive smoking, and sleep deprivation in urban areas were linked to IUGR and delayed fetal development.

Authors (Year)	Study Location	Sample Size	Sampling Technique	Salient Features
Bhatia & Mehra (2021)	Lucknow, India	310	Systematic sampling	Noted digital overuse disrupted sleep and emotional regulation, increasing mood disorders during pregnancy.
Sharma & Banerjee (2022)	Noida, India	330	Snowball sampling	Found that long commuting led to physical exhaustion, missed ANC visits, and emergency deliveries.
Lal & Srinivasan (2023)	Hyderabad, India	290	Judgment sampling	Identified missed antenatal checkups and supplement intake due to work-life imbalance in dual-income families.
Joshi & Patel (2020)	Surat, India	200	Cluster sampling	Showed that poor sanitation in urban slums caused infections during pregnancy, increasing complications.
Mishra & Rajan (2016)	Jaipur, India	300	Random sampling	Connected high intake of processed food to increased iron-deficiency anemia and low birth weight.

OBJECTIVES

1. To identify the key urban lifestyle factors that influence maternal health and delivery outcomes.

2. To examine the relationship between urban living conditions and the prevalence of pregnancy complications such as gestational diabetes mellitus (GDM), hypertension, and preeclampsia.

3. To assess the current level of preventive care and lifestyle counselling provided to pregnant women at the study hospital.

4. To analyze the challenges faced by healthcare providers in addressing urban lifestyle-related maternal health issues.

5. To recommend strategies for enhancing early diagnosis, lifestyle interventions, and the overall quality of maternal care in urban healthcare settings.

METHODOLOGY

🧪 Study Design

Cross-sectional, mixed-methods study combining online surveys and interviews.

🏥 Study Setting

Conducted in a private urban maternity hospital offering antenatal and delivery care.

🤱 Sample & Population

200 pregnant/postpartum women (quantitative – via online structured questionnaire)
12 healthcare providers + 15 patients (qualitative – virtual interviews)
Stratified random sampling used for participant selection.

📋 Data Collection Tools

✅ Pre-tested digital survey forms
✅ Semi-structured virtual interviews

📊 Data Analysis

Quantitative: Descriptive statistics, Chi-square, regression
Qualitative: Manual thematic analysis

🎯 Key Variables

Independent: Diet, sleep, physical activity, stress, environment
Dependent: GDM, hypertension, preterm birth, delivery mode

🔐 Ethics

all participants gave informed consent .

METHODOLOGY

Qualitative Method

- Sample:
  - 12 healthcare providers (obstetricians, nurses, dieticians)
  - 15 postpartum women (purposively selected for diversity of experience)
-
- Tool: Semi-structured interview guide
- Mode: Virtual interviews (video/audio calls)
- Themes Explored:
  - Perceptions of lifestyle risks
  - Barriers to counselling
  - Time constraints in clinics
  - Patient understanding of stress, diet, and activity
-
- Analysis:
  - Manual thematic coding
  - Key quotes extracted to support findings
  - SWOT analysis derived from institutional insights

Quantitative Method

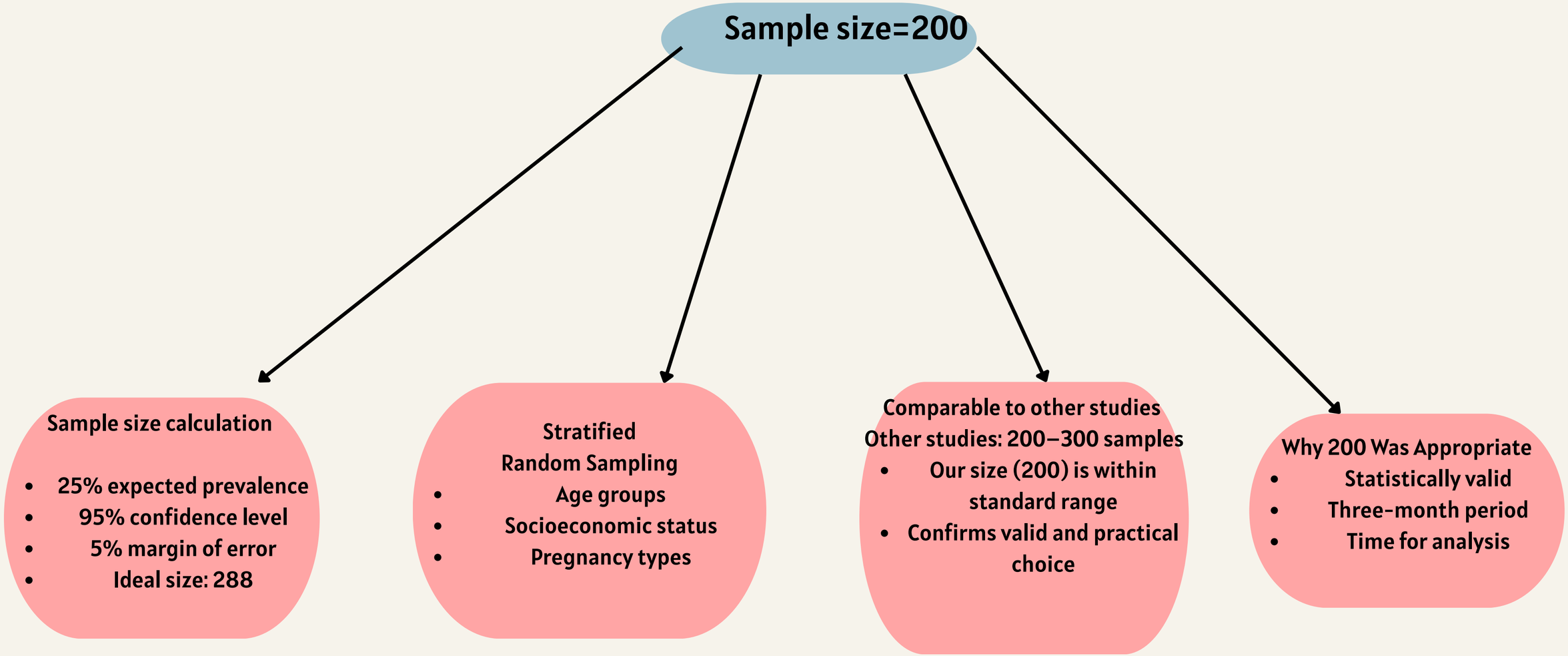
- Sample: 200 pregnant and postpartum women
- Tool: Structured, pre-tested online questionnaire (Google Forms or similar)
- Topics Covered:
  - Dietary habits
  - Sleep quality and duration
  - Physical activity levels
  - Stress levels
  - Access to antenatal care

- Data Collection: Digitally distributed; responses collected over 2 months
- Analysis:
  - Descriptive statistics for trends
  - Chi-square for associations
  - Regression analysis for predictive value of lifestyle factors

Data Collection Tool – Online Questionnaire

Sections Covered in the Questionnaire:

1. Demographics – Age, education, income, gravidity, occupation
2. Dietary Patterns – Fast food frequency, fruit/vegetable intake
3. Physical Activity – Type, frequency, duration
4. Sleep Behavior – Duration, quality, disturbances
5. Stress Levels – Self-rated on 10-point scale
6. Health Outcomes – GDM, hypertension, delivery mode, complications
7. Antenatal Care – Visit frequency, counselling received, satisfaction


Sample size=200
Sample size calculation
25% expected prevalence
95% confidence level
5% margin of error
Ideal size: 288
Stratified
Random Sampling
Age groups
Socioeconomic status
Pregnancy types
Comparable to other studies
Other studies: 200–300 samples
Our size (200) is within standard range
Confirms valid and practical choice
Why 200 Was Appropriate
Statistically valid
Three-month period
Time for analysis

Maternal Save

Questionns Responses

Maternal Health Survey

Form description

Diet

How often do you eat fast food?

- Rately or never
- 1-3 times a month
- Once a week
- 2 or more times a week

Physical Activity

How many days per week do you exercise?

- 0 days
- 1-2 days
- 3-4 days
- 5 or more days

Maternal Health Save

Questionns Responses

Maternal Health Survey

Form description

Stress Levels

Please rate your current stress level:

1 1 2 3 4 5 6 7 8 9 10 10

Sleep

How would you describe your current sleep quality?

- Very poor
- Poor
- Fair
- Good

Maternall Sevi

Questronns Responses

Maternal Health Survey

Form description

How often do you eat fast food?

- Rarely or never
- 1-2 times a month
- Once a week
- 2 or more times a week

Physical Activity per week do you exercise?

- 0 days
- 1-2 days
- 3-4 days
- 5 or more days

Please rate your current stress level:

Virtual Semi-Structured Interview

1. Can you describe any challenges you're facing with diet and nutrition during pregnancy?
2. What role do you think stress plays in pregnancy outcomes?
3. How would you describe your sleep quality since becoming pregnant?
4. Have you received any advice on physical activity from your healthcare provider?
5. What barriers do you face in accessing antenatal care?
6. What are your expectations for labor and delivery?

Urban Lifestyle and Maternal Health Survey

This survey aims to understand the impact of urban lifestyle factors on maternal health outcomes: Please answer all questions as accurately able.

* Indicates required question

Section C: Physical Activity

6. How often do you engage in physical activity (e.g. walking, yoga)?

- Never
- 1-2 times/week
- 3-5 times/week
- Daily

Section D: Sleep and Stress

7. How many hours of sleep do you get on average per night?

- Less than 5 hours
- 7-8 hours
- 5-6 hours
- More than 8 hours

8. How would you rate your seiep quality?

- Very poor
- Good
- Excellent

8. On a scale of 1-10, how would you rate your current stress level? *

Urban Lifestyle and Maternal Health Survey

This survey aims to understand the impact of urban lifestyle factors on maternal health outcomes. Please answer all questions accurately assible

* Indicates required question

Section C: Physical Activity and Exercise

1. How often do you engage in moderate-intensity phys*ical activity?

- And Impression Point
- 1-2 times a week
- 3-4 times a week
- Every day

2. How many minutes do you usually spend in a moderate-intensity physical activity session?

- Less than 20 minutes
- 30-o fe-60 minutes
- 30-o than 70 minutes
- MoM e tha70 minutes

3. How do you rate your physical fitness level?

- Low
- Moderaté
- High

4. Do you have regular access to safe and suitable outdoor spaces for physical activity?

- Yes
- No

3. How do you rate your physical fitness level?

Healthcare Provider Interview

Semi-Structured Interview Questions

1. What are the main lifestyle challenges faced by urban pregnant women?
2. At what stage of pregnancy do women typicically receive lifestyle counseling?
3. How do you assess diet and physical activity during antenatal visits?
4. What are the most common barriers to providing effective counseling?
5. What obstacles affect your ability to help women change their behaviors?
6. How do you approach stress management during pregnancy?
7. In what ways do you address sleep concerns with your patients?
8. What improvements do you suggest to enhance antenatal care?
9. How can healthcare providers be better supported in delivering lifestyle counseling?
10. Is there any additional information you wouid like to share?

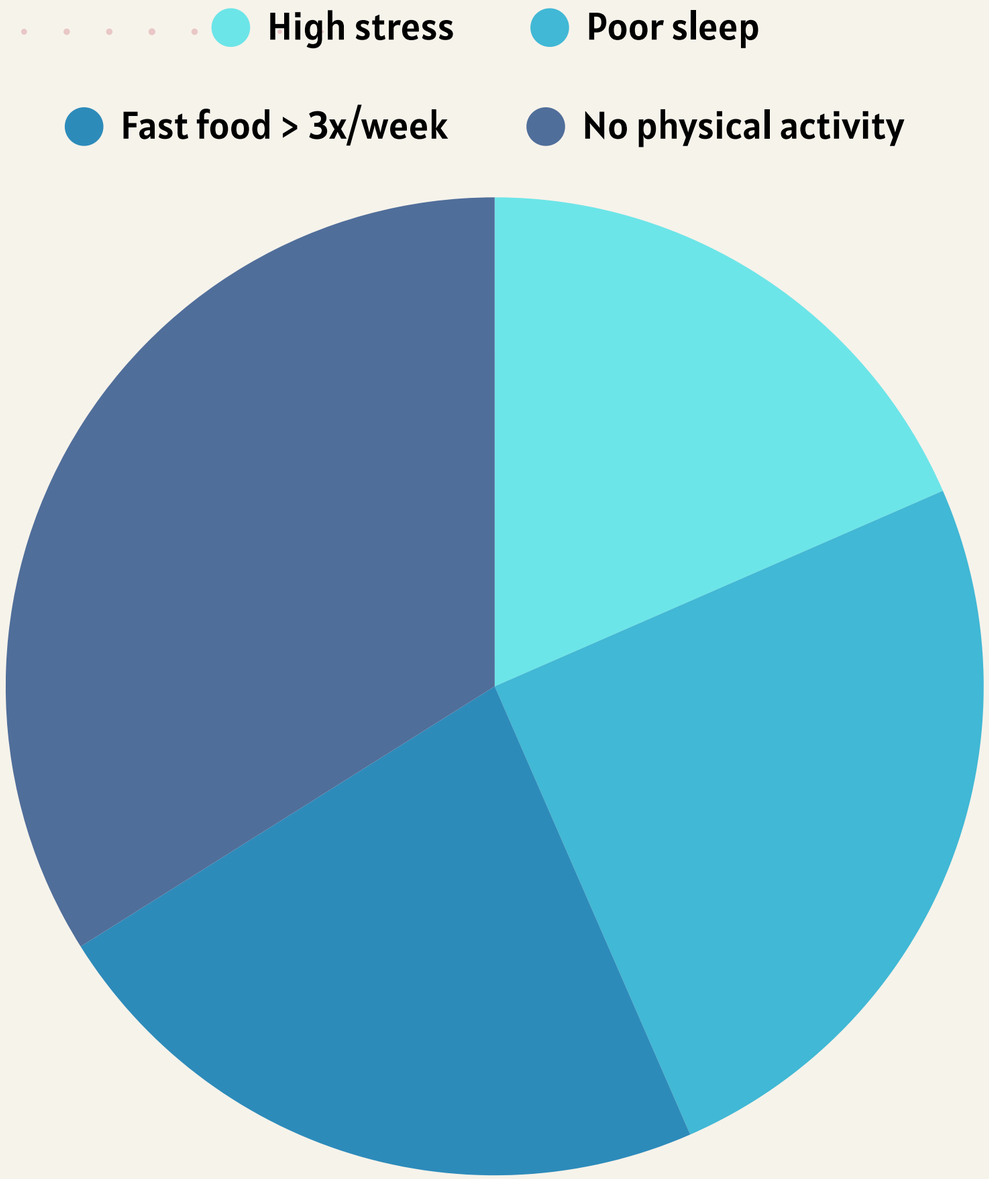
RESULT

Present the key findings from both the quantitative and qualitative phases of the study.
A total of 200 responses were collected through an online structured questionnaire, and 27 in-depth interviews were conducted with healthcare providers and postpartum women.
The results highlight patterns in diet, sleep, stress, and physical activity, and their associations with pregnancy complications such as gestational diabetes, hypertension, preterm birth, and C-section rates.

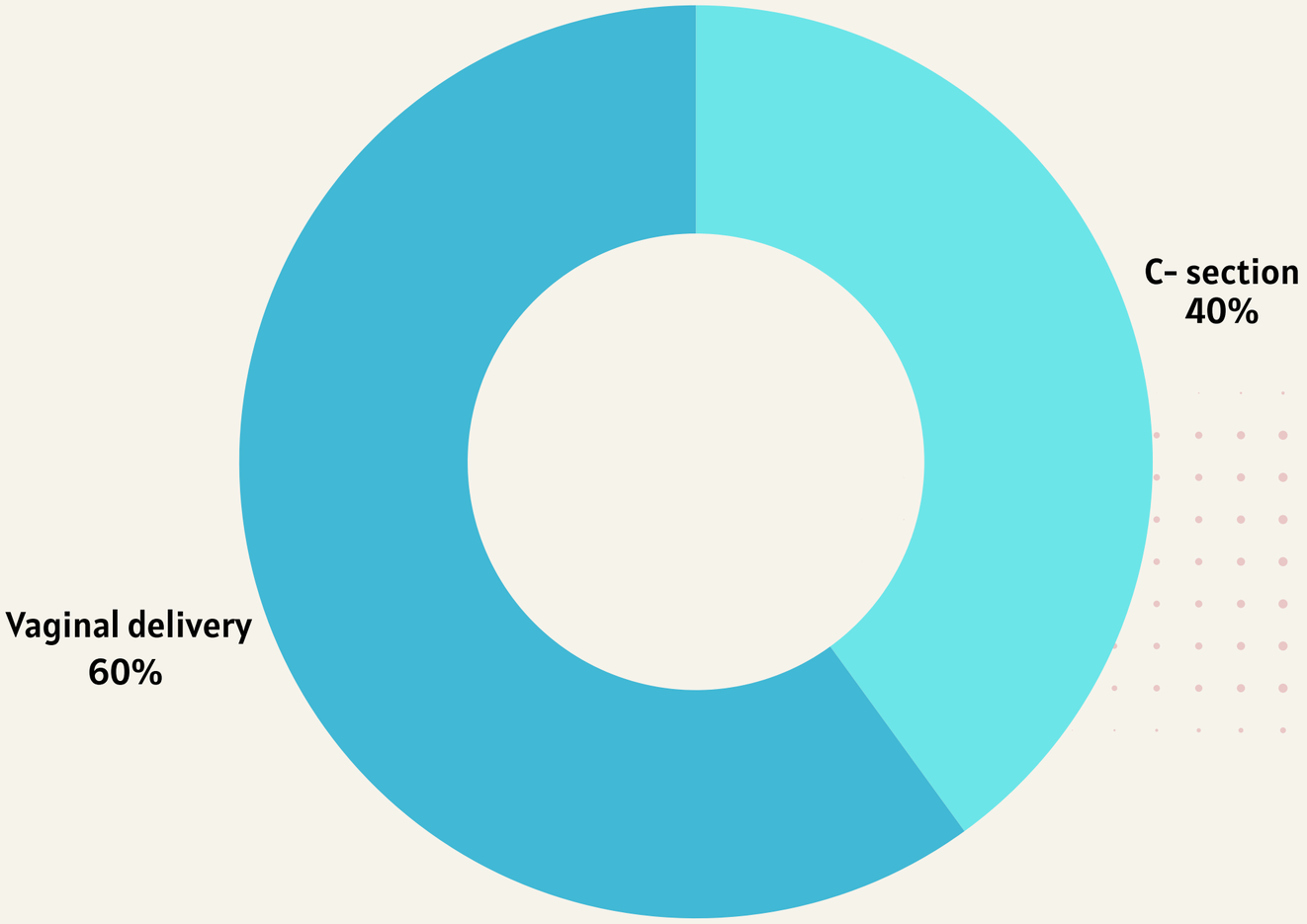
QUANTITATIVE RESULT-

DOMAIN	KEY FINDING	ASSOCIATED OUTCOME
Fast food intake	38% consumed more than 3x/week	⬆️ GDM, Weight gain
Physical activity	57% no regular activity	⬆️ Preeclampsia, C- section
Sleep quality	42% reported poor sleep	⬆️ Fatigue, HTN
Stress level	31% > 7/10	⬆️ Preterm birth
C- section rate	40% total deliveries	linked to multiple lifestyle risk

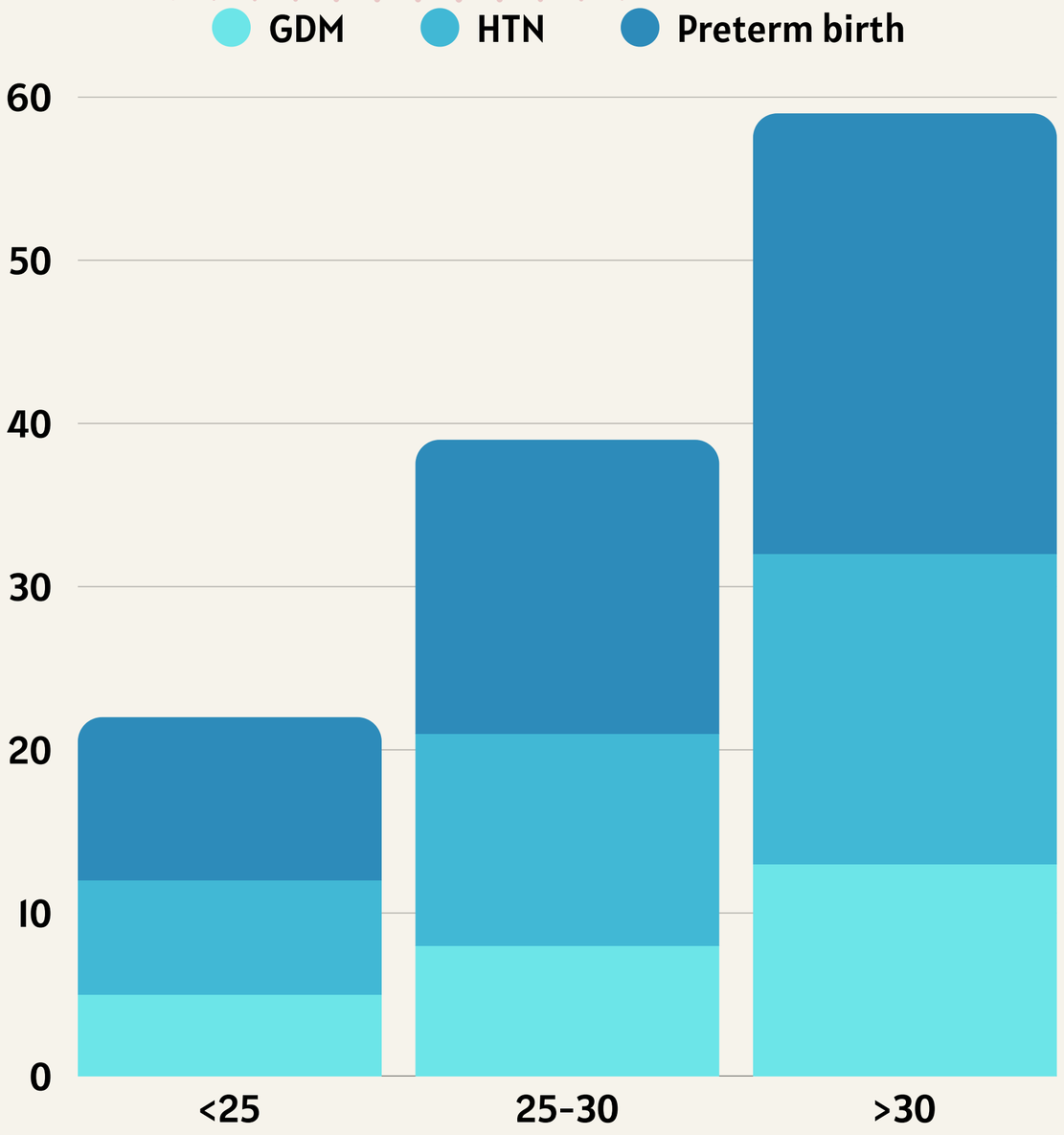
Distribution of key lifestyle behaviours

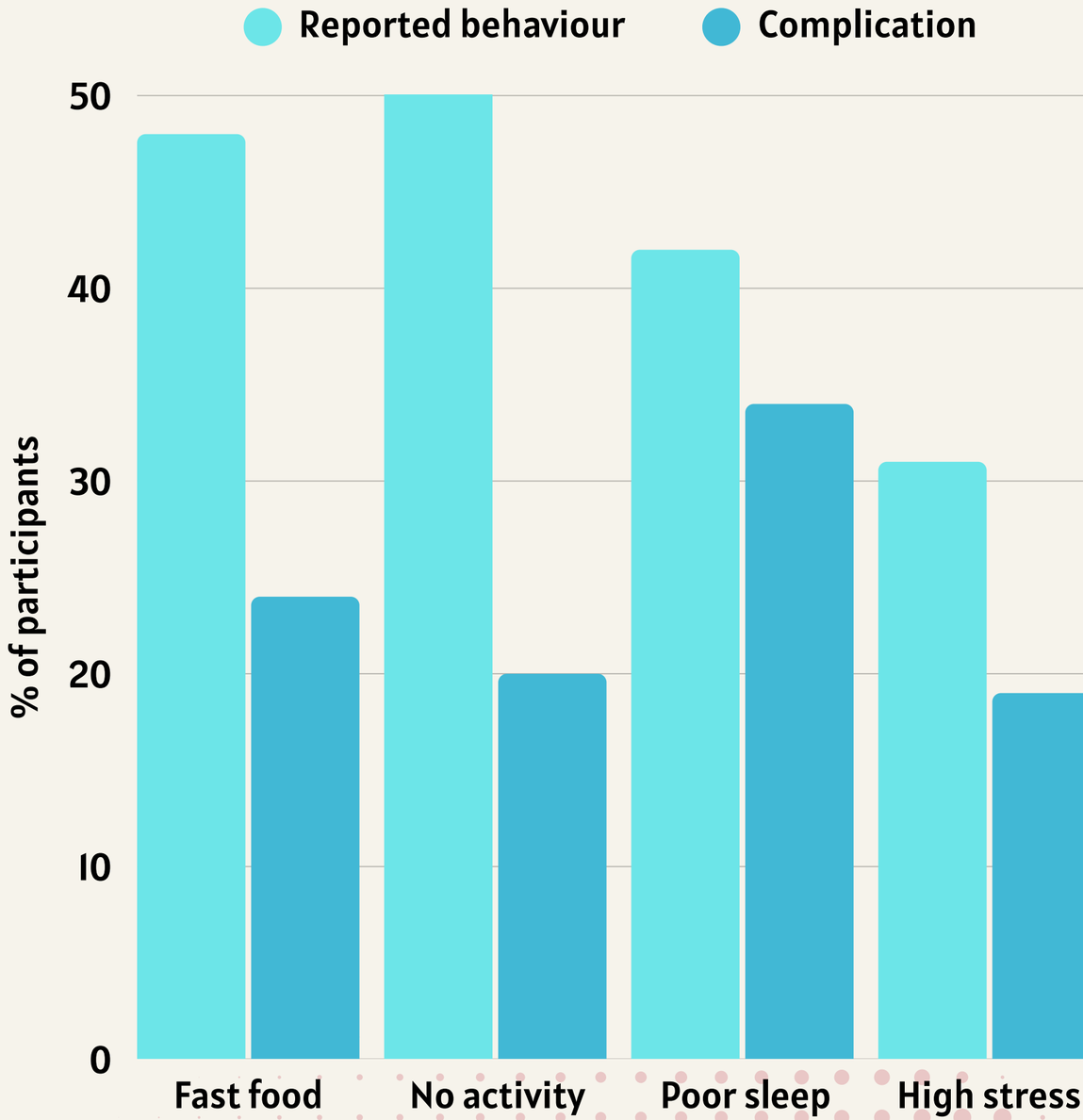


Mode of delivery among participants



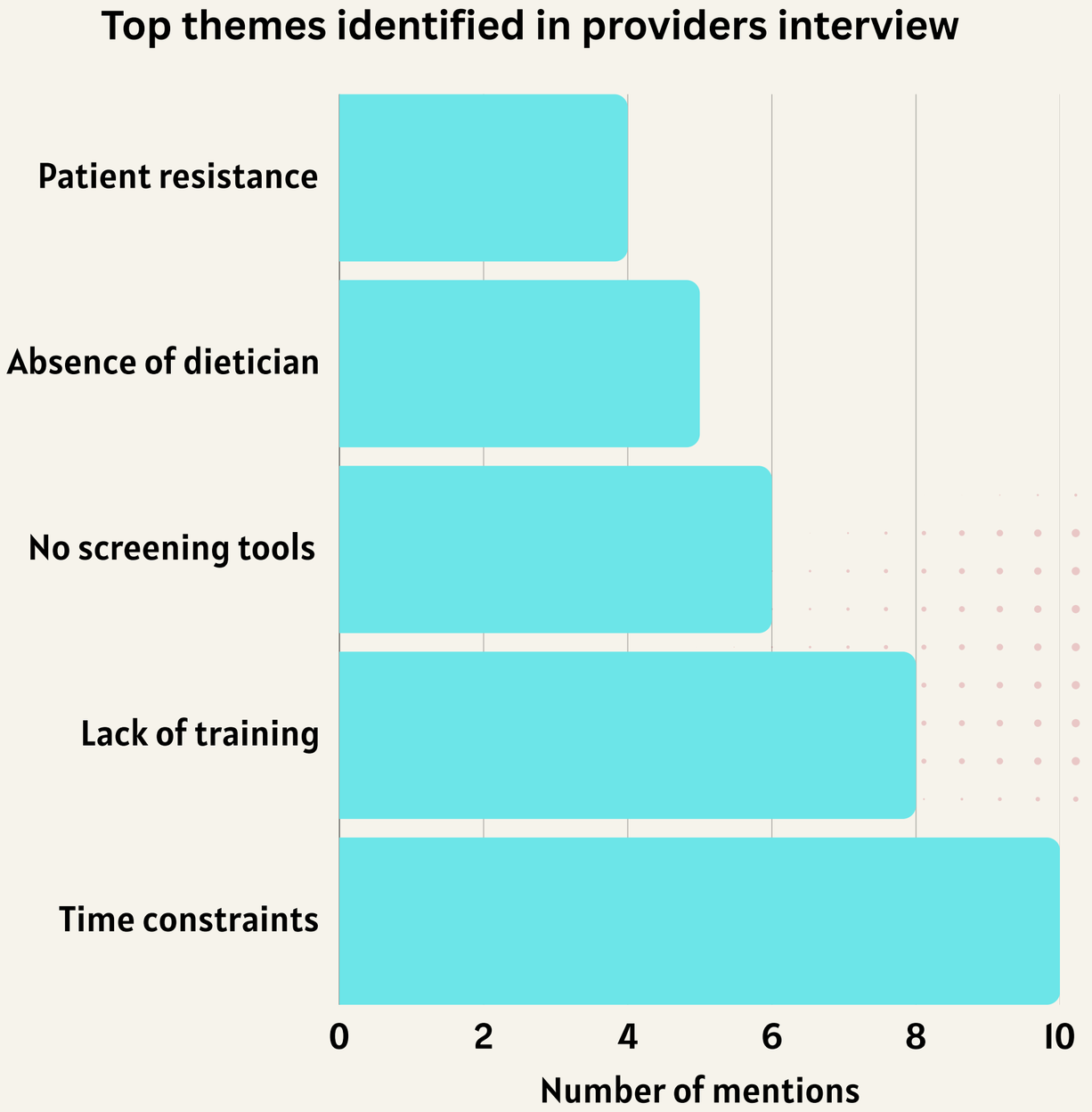
Distribution of complications across age groups





QUALITATIVE RESULT

THEME	PROVIDER FEEDBACK
Time constraints	No time for lifestyle counselling
Lack of structured tools	No protocols for stress/ diet screening
Low patient awareness	Patients unaware of behaviour-outcome connection
Need for dietician/ pshychologist	suggested for holistic ANC support
Pregnancy craving not addressed	Cravings often ignored, not systematically assessed



CONCLUSION

✅ Urban lifestyle factors significantly affect maternal health.

The study established strong links between behavioral factors like diet, stress, sleep, and physical inactivity with pregnancy complications such as gestational diabetes, hypertension, preterm birth, and high C-section rates.

✅ Despite good access to healthcare, behavioral risks remain overlooked.

Women attending antenatal check-ups in urban hospitals often do not receive lifestyle counselling. This gap persists even in well-equipped, private healthcare settings.

✅ Quantitative data showed a high prevalence of unhealthy lifestyle patterns.

38% consumed fast food ≥3x/week, 42% had poor sleep, 57% did not engage in physical activity, and 31% reported high stress — all strongly associated with adverse pregnancy outcomes.

✅ Qualitative findings highlighted systemic issues in care delivery.

Healthcare providers admitted lacking time, tools, and formal training to counsel patients on behavior-related risks, while patients themselves were unaware of the impact of their daily routines.

✅ A multidisciplinary and preventive approach is urgently needed.

The study recommends integrating structured lifestyle screening, trained counsellors, dieticians, and mental health support into antenatal care protocols in urban hospitals.

✅ Urban maternal care must shift from clinical monitoring to behavior-focused intervention.

Addressing modifiable lifestyle factors proactively can significantly improve maternal and neonatal health outcomes.

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THANK YOU

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