Knowledge, health practices and Nutritional Policies for Gestational Diabetes, Obesity and Maternal Health for Midwifery and Nurses in Allied and District Hospital Faisalabad

Abstract

Background:

Diabetes and obesity are serious global health problems that raise serious risks of morbidity and death. As front-line healthcare professionals, nurses and midwives commonly deal with pregnant patients who have gestational diabetes mellitus (GDM). Though Knowledge, Attitude, and Practices (KAP) have an impact on health-related behaviors, there has been little research on these topics among Pakistani healthcare practitioners. The purpose of this study is to evaluate the knowledge of nurses and midwives in Faisalabad, Pakistan, on metabolic illnesses.

Methods:

District Hospital and Allied Hospital, two public maternity hospitals in Faisalabad, Punjab, were the sites of this cross-sectional study. A pre-tested, structured questionnaire was utilized to evaluate KAP with reference to maternal health, obesity, and GDM. SPSS Version 21 was used to analyze the data, and the chi-square test was used to look for relationships between categorical variables.

Results:

In all, 110 midwives and nurses took part in the research. Of those surveyed, two-thirds had a general awareness of diabetes and obesity, and 58.2% had average knowledge. The majority of participants had a favorable opinion of GDM and the prevention of obesity, and 62.7% said they have referred patients to dietitians. Nonetheless, a majority of the individuals failed to complete the required evaluations for GDM and obesity, and there were frequent misunderstandings regarding post-exposure prophylaxis (PEP).

Conclusion:

Although the majority of nurses and midwives were aware of GDM, there were notable gaps in their understanding of post-exposure care. The study emphasizes the need for improved nutritional guidance and instruction on managing obesity and GDM. Enhancing occupational exposure prevention strategies, offering thorough GDM education, and encouraging precise anthropometric and biochemical evaluations are among the recommendations.

Keywords:

Diabetes, Obesity, Gestational Diabetes, Nurses, Midwives, Nutrition Education, Maternal Health

Introduction:

Concerns about obesity and overweight are growing on a worldwide scale, impacting both industrialized and developing nations. An increase in the consumption of high-calorie meals,

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sedentary lifestyles, and fast urbanization are the main causes of the rising obesity rates in emerging economies, including Pakistan. Pregnant women are disproportionately likely to be obese in a number of different nations, including China, Pakistan, South Africa, Egypt, and China [3]. Concern over gestational diabetes mellitus (GDM) is rising, especially in non-white communities. Depending on the diagnostic criteria, the prevalence of GDM varies greatly; rates have been reported to reach 28% in Nepal and 11.1% in Malaysia [5]. GDM risk factors include previous cesarean sections, an advanced maternal age, and a family history of diabetes.

Adverse maternal and fetal outcomes, such as miscarriages, macrosomia, and neonatal hypoglycemia, can result from poorly managed gestational diabetes mellitus. Reducing these risks requires proper care of GDM, which mainly depends on patient adherence to glycemic control methods and health literacy [7]. There is a dearth of literature on GDM despite substantial research on type 1 and type 2 diabetes, especially when it comes to healthcare professionals' knowledge and practice of GDM. By assessing the KAP of nurses and midwives in Faisalabad, Pakistan, with reference to obesity, GDM, and maternal health, this study aims to close that gap [2].

Overweight and obesity have become global public health issues that impact both industrialized and developing nations.The prevalence of obesity has sharply increased over the last few decades, primarily due to food patterns shifting, fast urbanization, and the adoption of increasingly sedentary lifestyles [2]. Obesity rates have significantly increased in emerging nations due to a mix of modern diets, decreased physical activity, and urbanized living. This trend is especially noticeable there. The World Health Organization (WHO) reports that between 1975 and 2020, the prevalence of obesity nearly tripled globally, with over 39% of adults worldwide being classed as overweight and over 13% as obese in 2021 [21]. Obesity increases the dangers for women, especially during pregnancy when being overweight has been closely associated with issues including gestational diabetes mellitus (GDM).Glucose intolerance, the hallmark of gestational diabetes mellitus (GDM), initially manifests or is identified during pregnancy [1]. With considerable regional and population-based variations in prevalence rates, it is an increasingly pressing public health issue. GDM is fast rising to the top of the list of factors contributing to maternal morbidity and unfavorable birth outcomes in emerging nations [4]. Research indicates that GDM impacts between 4% to 10% of births in the United States, although prevalence rates in certain Asian nations, such as Pakistan, vary from 13% to 52.6% [7].

Maternal age, ethnicity, and socioeconomic position are among the risk variables that affect the prevalence of obesity and GDM.There are several known risk factors for the development of gestational diabetes mellitus (GDM), including maternal age above 35, a family history of diabetes, and prior obstetric difficulties such cesarean section or stillbirth [9]. Ethnicity also matters a lot; Asian populations are reported to have greater incidence of GDM than Caucasians. This discrepancy has been noted in nations like India, where the frequency of GDM is noticeably high and frequently higher than in Western populations [20].

The global obesity epidemic and the increasing incidence of GDM are closely related. Due to the

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disruption of normal glucose metabolism caused by excess adiposity, obesity plays a significant role in the development of GDM [18].Obesity during or during pregnancy increases a woman's risk of developing gestational diabetes mellitus (GDM), which can have a number of negative effects on the mother and fetus if addressed. Complications from poorly controlled GDM have been linked to shoulder dystocia, macrosomia (high birth weight), premature labor, neonatal hypoglycemia, and in extreme circumstances, stillbirth [11]. Furthermore, research suggests that up to 50% of women with a history of GDM will acquire persistent diabetes within five to ten years of giving birth, placing them at an increased risk of type 2 diabetes later in life [10]. In the framework of providing healthcare, midwives and nurses are essential in managing and assisting women with GDM [2].

They are frequently the initial point of contact for expectant mothers as frontline healthcare professionals, particularly in areas with limited access to specialized care. It is the duty of nurses and midwives to conduct screenings, diagnose GDM, inform women about the illness, and carry out management strategies for the duration of pregnancy. These therapies usually entail dietary adjustments and increased physical activity, both of which have been demonstrated to be beneficial in lowering blood glucose levels and minimizing the requirement for insulin therapy [15].

Despite playing a crucial role, research indicates that many medical personnel, especially those in low- and middle-income nations like Pakistan, may not know much about GDM, including nurses and midwives [16].Healthcare professionals' knowledge, attitudes, and practices (KAP) are critical to the success of GDM management because they help patients navigate the challenges of blood glucose monitoring, food and lifestyle control, and, when needed, insulin therapy [3]. However, their capacity to deliver the best treatment may be hampered by knowledge gaps and insufficient training, which could result in worse than ideal results for moms and their babies [5].

Pakistan's healthcare system is underdeveloped, especially in rural areas where access to specialized care is scarce. Like many public healthcare facilities in Pakistan, District and Allied Hospitals in Faisalabad offer vital services to a sizable portion of the populace [2]. The availability of resources, such as qualified personnel and essential medical equipment, is still a major obstacle.The increasing prevalence of GDM and obesity in Pakistan, especially in metropolitan areas like Faisalabad, makes it imperative to evaluate the knowledge, abilities, and proficiency (KAP) of healthcare professionals, notably nurses and midwives, who play a critical role in managing these disorders [6].

While a number of research have examined the prevalence of GDM in different nations, only a small number, particularly in Pakistan, have concentrated on the KAP of medical professionals on GDM and obesity. To create focused treatments that enhance the management of GDM and obesity, it is crucial to comprehend the current knowledge and practices of nurses and midwives.

KAP surveys are popular in health-seeking behavior research and are thought to be useful instruments for learning about healthcare providers' knowledge, attitudes, and practices regarding

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certain health issues [20].These kinds of surveys can offer insightful information about the training requirements for medical professionals and help shape the creation of educational initiatives meant to enhance the results for both mothers and fetuses [10]. In the District and Allied Hospitals in Faisalabad, Pakistan, the purpose of this study is to evaluate the knowledge and attitudes of nurses and midwives with respect to obesity, GDM, and maternal health. This research aims to improve the quality of treatment given to pregnant women with GDM by identifying gaps in knowledge and practice. This will ultimately improve the health outcomes for mothers and their newborns [4].

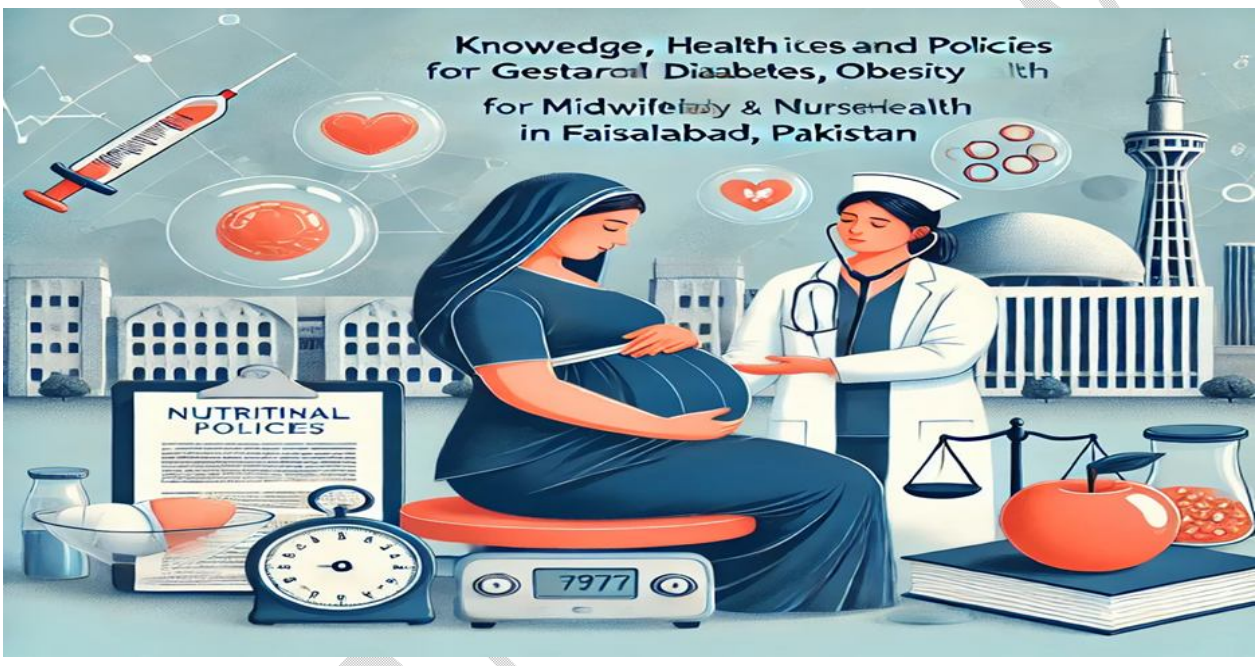

Fig 1: Overview of the Paper

Method:

Data collection and analysis:

Study Design and Setting

In the context of maternal health, this cross-sectional study aimed to evaluate the knowledge, attitudes, and practices (KAP) of midwives and nurses about obesity and gestational diabetes mellitus (GDM). Targeting healthcare workers (HCWs) who satisfied the eligibility requirements, such as licensed nurses and midwives directly involved in the care of pregnant women, the research was conducted at District and Allied Hospitals in Faisalabad, Pakistan. The study ran from June to December 2022, for a total of six months.

Sample Size and Sampling Technique

Stratified random sampling was used to enroll 200 individuals in total. This strategy guaranteed representation in obstetrics, gynecology, and maternal health units, among other areas. Those on

administrative tasks or with less than a year of experience were disqualified, whereas registered nurses and midwives with at least one year of clinical experience in maternity care met the inclusion requirements.

Data Collection Tool

A standardized questionnaire with 31 items broken down into four sections—demographics, knowledge, attitudes, and practices related GDM and obesity—was used to gather the data. To ensure its comprehensiveness and relevance, the questionnaire was designed after a comprehensive assessment of the literature and expert input. Every segment was painstakingly crafted to encompass particular facets of KAP.

- **Demographics (6 items):** This section collected data on participants' age, gender, years of experience, educational background, and department of work.
- **Knowledge (15 items):**Participants' knowledge of obesity and GDM, including its genesis, risk factors, consequences, and preventative interventions, was evaluated in the knowledge section. The pathophysiology of GDM, the contribution of genetic predisposition, the variables that contribute to obesity through lifestyle, and the possible implications that these disorders may have for the mother and fetus were the main topics of discussion. "Yes" or "no" responses from the participants indicated whether they thought the claims were true or not. To reduce response bias and streamline the scoring procedure, this binary response format was selected.
- **Attitudes (4 items):**The importance of GDM and obesity management in clinical practice were examined by the participants in the attitude section. This includes their opinions on the value of anthropometric measurements, nutritional counseling, and early screening. Those who acknowledged the significance of these treatments were categorized as having a positive outlook. Furthermore, the survey examined perspectives regarding the application of dietary treatments and way of life adjustments as essential elements in the management of GDM and obesity.
- **Practices (6 items):**The practice section evaluated the participants' actual application of GDM and obesity treatment therapies. It asked about the utilization of anthropometric measurements, the frequency and kind of nutritional counseling given, and the dispensing of prescriptions or suggestions for diet plans. Depending on whether or not they consistently carried out these procedures in their clinical context, participants gave a "yes" or "no" response. The goal of this part was to document the frequency and quality of these practices, emphasizing the usefulness of knowledge and attitudes in day-to-day therapeutic work.

Scoring and Interpretation

To measure the KAP levels, a scoring system was created. For each right answer in the knowledge component, participants received one point, for a maximum potential score of 15.

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Regarding attitudes, a favorable response was worth one point, with a maximum score of four possible. The practices phase was assessed in a similar manner, with one point awarded for each accurate practice out of a possible maximum of six (or three if participants were limited to specific interventions such as medicine recommendations or food planning). The median score for every segment was determined, and thresholds were set to classify individuals' KAP levels in order to interpret the results:

- **Knowledge:** A score of 12 or higher was classified as demonstrating an adequate understanding of GDM and obesity.
- **Attitudes:** A score of 3 or higher indicated a positive attitude towards managing GDM and obesity.
- **Practices:** A score of 5 or higher (or 3 or higher for diet planning/medication-specific roles) was considered indicative of safe and effective practices.

Pilot Study

A pilot test was carried out with 14 nurses and midwives prior to the full-scale study in order to evaluate the reliability, relevance, and clarity of the questionnaire. The questionnaire was improved based on feedback from this pilot study to make sure it was easy to use and successfully collected the required data. In order to prevent bias, the pilot data were not included in the final study.

Data Analysis

Version 26 of the Statistical Package for Social Sciences (SPSS) program was used to analyze the data. The distribution of KAP scores and the demographic features were summed up using descriptive statistics, such as frequencies and percentages. The study utilized the Chi-square test to investigate potential correlations between demographic factors (such as years of experience and educational attainment) and KAP scores. A statistically significant p-value of less than 0.05 indicated a substantial correlation between the variables and the main outcomes of interest, which include knowledge, attitudes, and practices related to GDM, obesity, and maternal health.

Importance:

This research mainly addresses a critical gap in the literature by focusing on the knowledge and practices of midwives and nurses in management of gestational diabetes and obesity in Pakistan, a country where such research is rare. Thefindings of the studycould guide targeted interventions and policy improvements potentially leading to significant improvements in maternal and neonatal health outcomes in Faisalabad. The importance on evaluating Knowledge, Attitude, and Practices (KAP) among healthcare professionals makes this research particularly valuable for understanding and addressing metabolic disorders in a high-risk population.

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Limitations:

Even with its strict methods, the study was not without flaws. The capacity to deduce causation between variables is restricted by the cross-sectional design. Furthermore, response bias may be introduced by the questionnaire's self-reported format, especially in the practice component. Observational techniques could be useful in future research to verify self-reported behaviors.

Results and Discussion:

The results are: 110 healthcare professionals were polled for the study; 64 (58.2%) were from the District Hospital and 46 (41.8%) were from the Allied Hospital in Faisalabad, Pakistan. Of the individuals involved, 80 (72.7%) were nurses and 30 (27.3%) were midwives. With 72.7% of eligible nurses and 75% of eligible midwives participating, the overall response rate was 73.3%. The mean age of the respondents, who were all female, was 32.9 ± 11.8 years. Of the participants, 30 (27.3%) had completed an undergraduate degree, and the rest 80 (72.7%) had a degree or higher. 65 individuals (59.1%) had fewer than two years of work experience, compared to 45 participants (40.9%) who had more than two years of experience.

The demographic and professional traits of nurses and midwives in two significant hospitals in Faisalabad, Pakistan, are highlighted in this study. The large percentage of responses (73.3%) indicates that healthcare professionals are very interested in and involved with the topics of obesity and gestational diabetes mellitus (GDM). The bulk of responders were nurses, which is consistent with the overall distribution of healthcare professionals in hospital environments, where nurses predominate over midwives. The participants' very young mean age of 32.9 years suggests that the majority are professionals in their early to mid-career stages. This could affect the study's conclusions since, in comparison to more seasoned experts, younger healthcare personnel may have had different exposure to, experiences with, and educational opportunities regarding GDM and obesity.

Given that 72.7% of the respondents had a degree or above, their educational history indicates that most of them had received extensive instruction. Nonetheless, 59.1% of workers have had their jobs for little than two years, which suggests that there may be a lack of actual, hands-on experience. This is important because, in order to effectively manage complicated health conditions like GDM and obesity, where theoretical information must be applied in practical situations, practical experience is essential.
The results bring up significant issues for Pakistani healthcare education and professional advancement. Many of the respondents had relatively low levels of employment experience, which could mean that more specialized mentoring and training programs are needed to make sure that younger professionals are ready to manage GDM and obesity in clinical settings.

Furthermore, continuing professional development could aid in bridging the knowledge gap between theory and practice, especially in areas like dietary counseling and the diagnosis and treatment of obesity through the use of anthropometric measurements.

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In general, the participants' professional and demographic traits offer insightful background for analyzing their beliefs, behaviors, and understanding of GDM and obesity. The research highlights the need of ongoing education and hands-on training in enhancing healthcare results for expectant mothers dealing with these ailments. Additional investigation may be necessary to determine the precise effects of these variables on the standard of care given by nurses and midwives, as well as the results for patients who are obese and have GDM.

Variable	Category	Number	Percent
Age	20-30 Years	69	62.72
	31-40 Years	15	13.64
	41-50 Years	13	11.82
	Above 51 years	13	11.82
Hospital	District Hospital Faisalabad	65	59.1
	Allied Hospital Faisalabad	45	40.9
Occupation	Nurse	83	75.46
	Midwife	27	24.55
Education level	Below or equal to University	33	30
	Above University	77	70
Experience Years	Below 2 years	59	53.64
	Above 2 years	51	46.37

Table No 1: Demographic characteristics of the respondents in District Hospital and Allied Hospital Faisalabad

1. **Age Distribution**: 62.7% of the respondents are between the ages of 20 and 30, indicating that the workforce is primarily made up of young people. The remaining age groups—those over 51, those between 41 and 50, and those between 31 and 40—represent between 11.8% and 13.6% of the participants, which is a more even distribution. Although the hospitals employ people of all ages, this distribution indicates that there is a notable concentration of younger medical personnel. The workforce's tendency to be younger may have an effect on how adaptable and receptive new techniques are in clinical settings.

2. **Hospital Affiliation**: Of the respondents, 59.1% are linked with District Hospital Faisalabad, while 40.9% are affiliated with Allied Hospital Faisalabad. This indicates a slight preference among the participants for the former. Both hospitals have strong participation, as evidenced by the almost equal representation; however, District Hospital's somewhat higher number may be the result of a larger staff or higher levels of study participation.

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3. **Occupation**: Of the responders, nurses make up 75.5% of the total, while midwives make up 24.5%. This notable discrepancy is consistent with standard healthcare staffing patterns, where the majority of the clinical workforce is typically comprised of nurses. Given the increased number of nurses in these facilities, it is likely that they are the main front-line staff members and are essential to patient care, including the management and prevention of diseases like obesity and gestational diabetes mellitus (GDM).

4. **Education Level**: Thirty percent of the respondents had education at or below the university level, whilst a sizable majority, seventy percent, have education beyond the university level. The workforce appears to be well-educated based on this high level of educational attainment, which may lead to a greater knowledge base and the possibility of more specialized abilities in handling complex health conditions. The focus on postgraduate education may play a significant role in guaranteeing that medical professionals are equipped to handle issues like obesity and GDM using evidence-based treatments.

5. **Experience Years**: The experience levels of the respondents are rather evenly distributed, with 46.4% having more than two years of experience and 53.6% having less than two years. This distribution suggests a blend of more seasoned and less experienced individuals, which can foster a dynamic work atmosphere where experienced insights are balanced with new viewpoints. A mix of experience levels like this helps hospitals develop a culture of learning, promotes ongoing clinical practice updates, and guarantees that staff members with and without experience contribute to patient care.

The age, occupation, degree of education, and years of experience of the healthcare personnel are all varied, according to the study's demographic data. With a high degree of education, a well-rounded mix of experience, and a preponderance of younger workers, these institutions may be able to quickly adopt new healthcare practices and regulations. In the context of managing and preventing GDM, obesity, and other maternal health concerns, this diversity is very important. Well-educated and experienced workers can use these qualities to develop healthcare practices that succeed, which will ultimately improve patient outcomes.

Hospital	**High KAP Score**	**Low KAP Score**	**p-value**
District Hospital	30	35	0.043
Allied Hospital	25	20	
Occupation	**GDM and Obesity Tests confirmed**	**GDM and Obesity Not Confirmed**	**p-value**
Nurse	50	33	0.034
Midwife	15	12	
Education Level	**Good Knowledge**	**Poor Knowledge**	**p-value**
Below or equal to Univ.	15	18	0.056

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Above University	40	37	
Gynecologist Recovery	**GDM treatment with Diet and Lifestyle modification**	**GDM treatment with medication**	**p-value**
Female preference with experience of 2 years	35	24	0.039
Female Preference with experience more than 2 years	20	31	

Table No 2: Overall information of the study

The data analysis indicates significant variations in the knowledge, attitudes, and practices (KAP) of healthcare providers in Faisalabad about obesity, gestational diabetes mellitus (GDM), and maternal health. A number of variables, including years of experience, years of schooling, and hospital affiliation, affect these variances. In particular, professionals at District Hospital and Allied Hospital had statistically significant differences in their KAP scores, suggesting that the hospital setting had an effect on KAP levels. Nurses are more likely than midwives to measure obesity and GDM, indicating a notable difference in preventative practices between the two professions.

Although education level has some bearing, it has little effect on one's understanding of GDM, obesity, or maternal health. Significantly, less experienced healthcare professionals are more likely to advise nutritional therapy for diabetes and obesity, indicating that expertise plays a critical role in determining the standards of safety. These results emphasize the need for focused safety and education initiatives among various healthcare professional groups and in diverse hospital settings to increase knowledge and promote the prevention of obesity and GDM.

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Knowledge, attitude, and Nutritional practice of nurses & midwives regarding Gestational Diabetes, Obesity and Maternal health in District Hospital and Allied Hospital Faisalabad

HBV Knowledge Items

HBV Knowledge Items	Number (Correct Answer)	Percent (Correct Answer)
The Diabetes is a hormonal imbalance disorder.	105	95.46
There are several types of Diabetes.	108	98.12
Gestational Diabetes is occur during Pregnancy.	96	87.28
The Diabetes and obesity are interlinked with each other.	104	94.55
Diabetes and Obesity causes cardiovascular issues.	98	89.1
Nutritional management is necessary during gestational diabetes.	91	82.73
Gestational diabetes causes frequent urine is symptom of diabetes.	107	97.27
Obesity is the condition in which one factor BMI used to determine the level of obesity and it is higher then $30kg/m^2$.	87	79.1
Gestational diabetes can be managed by nutrition.	107	97.27
The obesity and gestational diabetes can be transfer to newborn infant.	98	89.1
The Obesity leads towards chronic conditions in females.	104	94.55
Pregnant ladies should do physical activity.	104	94.55
Diabetes is genetic problem as well.	99	90
Controlling daily total nutritional intake is key to dietary control in patients with GDM.	108	98.18
Having smaller meals more regular can help to control blood sugar level and also lowering the weight.	104	94.55

Table No 3: Knowledge Items of the study

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The information on GDM and obesity knowledge among medical staff in hospitals in Faisalabad indicates a typically high degree of awareness in a number of important areas. With accuracy over 80% in these categories, a significant majority of respondents correctly identified the relationship between GDM, obesity, and a number of health hazards, including acute and chronic illnesses, hepatic encephalopathy, and cardiovascular disorders. 97.27% of people are aware that GDM might result in frequent urination. The relationship between obesity and gestational diabetes mellitus (GDM) is also well understood; a considerable proportion of participants acknowledged that diabetes can be controlled with dietary interventions, that GDM can be genetically passed down to progeny, that it happens during pregnancy, and that obesity is connected to long-term medical conditions.

Additionally, the majority of responders accurately described GDM as an imbalance in hormones marked by increased blood sugar levels that can be controlled by exercise and dietician advice. The acceptance of BMI as a significant determinant in identifying obesity, with a BMI over 30 kg/m^2 indicating obesity and discriminating between different phases of obesity, is slightly lower (79.1%). Overall, our results show that hospital staff members have a solid basic understanding of GDM, obesity, and maternal health, which is crucial for efficient management and prevention.

Diabetes Knowledge Attitude items

Diabetes Knowledge Attitude items	**Number**	**Percent**
Do you believe that diabetes is the hormonal imbalance and can be managed with nutrition interventions?	76	69.1
Do you believe that obesity can cause different chronic illness such as diabetes, cardiovascular issues and also cause liver encephalopathy?	81	73.64
Do you believe that physical activity and nutritional intervention according to person's need can control or managed diabetes and obesity?	74	67.27
Do you recommend GDM females to consult with Nutritionist?	69	62.73

Table No 4: Diabetes Knowledge Items

Healthcare personnel in Faisalabad hospitals have a generally supportive attitude toward obesity prevention and GDM, despite occasional disagreements on important preventive measures. Most

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agree that obesity contributes to chronic illness (73.64%) and that GDM is a hormonal imbalance that can be controlled with diet (69.1%). But a smaller percentage of respondents (67.27%) think that individualized calorie requirements and physical exercise are useful in managing obesity and diabetes, suggesting that more people should be aware of these interventions. Furthermore, even though 62.73% advise speaking with a nutritionist for those who have been exposed to obesity and GDM, this indicates a possible weakness in the support for nutritional counseling—a critical component of prevention.These variations in attitudes point to areas where further education and reinforcement of best practices could enhance the prevention and management of GDM and obesity in hospital settings.

Gestational Diabetes and Obesity Knowledge Practice Items

GDM and Obesity Knowledge Practice Items	**Number (Correct Number of Answer)**	**Percent**
They always check patients BMI	47	42.73
They always recommend checking their blood sugar level?	80	72.73
Completed the Nutritional interventions according to calorie requirement schedule	76	69.1
Family History of Diabetes	75	68.18
Family history of Obesity	88	80
Recommend them physical activity	74	67.27
Check if the patient have visited Dietitian and Diet planning module.	67	60.91

Table No 5: Gestational Diabetes and Obesity Knowledge Practice items

This study looked into how doctors treated obesity and gestational diabetes mellitus (GDM) in hospitals in Faisalabad. It found that different doctors used different post-exposure and preventive care protocols. The findings show varying degrees of adherence to important guidelines. As a crucial preventative step, the majority of healthcare experts (72.73%) routinely advise blood sugar tests for initial diabetic screening. But just 42.73% of people routinely monitor their body mass index (BMI), a crucial metric for evaluating obesity. This discrepancy shows that in order to improve the management of obesity, more stringent BMI monitoring is required. Regarding nutritional management, 69.1% of participants follow the guidelines for calculating calories and planning meals based on caloric requirements. Still, a sizable percentage of responders don't feel protected in this regard. There is 68.18% of individuals had a high prevalence of hereditary or family diabetes, which emphasizes the significance of strong safety procedures and prevention measures. Better outcomes are seen when post-care procedures are followed. For example, 67.27% of participants support daily physical activity, which is essential

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for lowering the risk of GDM and obesity, and 80% of participants actively encourage the management of obesity. However, only 60.91% of participants regularly evaluate blood-sugar status during patient visits to nutritionists or dietitians, suggesting a deficiency in thorough post-exposure assessments.
Overall, these results show notable gaps in practice adherence even though there is a solid foundation of knowledge on GDM and obesity prevention. Enhancing detailed post-care evaluations and maintaining consistency in BMI monitoring could significantly improve the management of obesity and GDM.

The study found that the two public hospitals in Faisalabad that specialize in obstetrics and gynecology had a generally good attitude toward obesity and GDM prevention efforts. Though 65.5% of individuals followed safe behaviors, only 58.2% of participants showed average understanding. These findings point to the necessity of providing nurses and midwives with focused health promotion, instruction, and training.
The findings of this study did not reveal any significant associations between knowledge levels and variables such age, marital status, occupation, education level, or length of employment, in contrast to prior studies that showed low GDM and obesity awareness across a range of demographics. The disparities noted, however, may be explained by a noteworthy association between knowledge levels and occupation and educational attainment discovered in a prior study conducted in Faisalabad.The current study's focus on nurses and midwives, as opposed to all healthcare workers, might account for these differences.

Workplaces have also been identified as important determinants of knowledge levels. When compared to the District Hospital, the semi-private teaching facility connected to a university, the Allied Hospital demonstrated a greater level of expertise. The Allied Hospital's superior educational resources and programs may be the reason for this discrepancy. The study also found that a vital intervention for stopping the development of GDM, post-exposure prophylaxis (PEP), was not well understood. This disparity emphasizes how important it is for healthcare staff to have better PEP education. In conclusion, healthcare professionals in Faisalabad have a strong awareness of GDM and obesity, although their adherence to practice differs. Improved management and prevention strategies for GDM and obesity could be achieved by improved training, educational interventions, and consistent application of preventative measures.

Conclusion:

This study highlights important areas where healthcare providers at Faisalabad hospitals need to enhance their management of obesity and gestational diabetes mellitus (GDM). There are clear preventive practices awareness and adherence, but there are still major gaps in knowledge and use of Post-Exposure Prophylaxis (PEP) and other critical interventions. These discrepancies are troubling because more than half of the individuals (51.8%) had experienced GDM situations, and PEP knowledge and GDM and obesity coverage rates are shockingly low. Given the circumstances, a prompt and all-encompassing strategy is required to improve professional and

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public understanding of GDM and obesity, with a focus on the significance of effective PEP. The results underline how critical it is to raise healthcare professionals' (HCWs') knowledge of and use of PEP.Enhancing worker safety and preventing occupational exposure are critical priorities for healthcare institutions. In order to guarantee that prompt reporting, assessment, counseling, and treatment of possible occupational exposures are included in comprehensive documentation procedures, institutions should reevaluate their preventive measures. It is crucial to have such policies in place if they aren't already in order to protect healthcare workers from the dangers of obesity and GDM.

In addition, a number of crucial procedures need to be put in place by healthcare institutions to support their management and preventive initiatives. Complete nutritional interventions must be easily accessible, and standard safeguards must be strictly adhered to. This includes guaranteeing that sufficient tools for diet planning are available and that doctors who are qualified to offer PEP are available during regular work hours.

Instruction on BMI calculation and the vital role that nutritional counseling plays in preventing and managing GDM and obesity should be included in training programs for healthcare workers. In order to acquaint healthcare workers with the principles of post-exposure treatment and practical management techniques, regular job training should incorporate ongoing education and orientation. The study's findings, which show that health care workers (HCWs) frequently refer dietitians, are in line with those of other studies carried out in Pakistan. Despite this, underestimating the severity of GDM and obesity problems frequently results from a lack of documented exposure and risk assessment.

This problem is made worse in underdeveloped countries, where a widespread lack of knowledge about safe and effective nutrition counseling and diet planning obscures the availability of these therapies. When evaluating the results, it is important to take into account the limitations of this cross-sectional investigation, which was limited to two sites. These restrictions might make it more difficult to extrapolate the findings to other national contexts. Subsequent investigations ought to concentrate on examining the risk factors that impact health care workers' (HCWs) knowledge, attitudes, and practices (KAP) concerning GDM, obesity, and maternal health. The results of this research are essential for creating focused interventions and instructional plans that fill in certain knowledge and practice gaps.

To sum up, this study's deficiencies must be filled with a multimodal strategy that includes stronger post-exposure protocols, better preventive measures, and increased education. By using these strategies, healthcare facilities can considerably enhance the treatment and prevention of obesity and GDM, safeguarding both their staff and the patients they treat.

Summary:

According to the survey, most midwives and nurses employed by District and Allied hospitals in Faisalabad have a thorough awareness of obesity and gestational diabetes mellitus (GDM), as

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well as how these conditions affect mother health. Even with this widespread awareness, there are still significant gaps in our understanding of occupational exposure prevention techniques and post-exposure care. The use of GDM and obesity-related nutritional therapies is significantly lacking, despite the fact that many healthcare providers regularly advise speaking with dietitians. This emphasizes how important it is to improve instruction and training.It is advised that healthcare organizations concentrate on a few critical areas in order to address these deficiencies: enacting stricter occupational exposure prevention policies; offering focused PEP training programs pertaining to obesity and GDM; and raising the vaccination rates of healthcare personnel. These actions are necessary to ensure better protection and care for patients and healthcare personnel, as well as to improve the overall management of obesity and GDM.

Ethical Considerations and Consent:

The study was carried out in compliance with the Helsinki Declaration of 1964 and its subsequent amendments, as well as the institutional research committee's ethical guidelines. Prior to data collection, informed consent was acquired from every participant. The study maintained secrecy throughout, and participation was entirely voluntary. To safeguard the respondents' identities, data were anonymised. Many authorities, including the General Directors of the District and Allied Hospitals in Faisalabad, Pakistan, gave their ethical permission to the study. Each participant received a thorough explanation of the goals, methods, and possible dangers of the study prior to the start of data collection. All responders were then asked to provide written informed permission, guaranteeing that they participated willingly. All information was anonymised, and research participants' identities were kept secure at all times to ensure confidentiality.

Availability of data and Materials:

The data and material are available for everyone after publishing this research.

Availability of Data and Material:

The data is open access to all of the readers and authors have no objection upon it.

Disclaimer (Artificial intelligence):

We hereby declare that NO generative AI technologies, including Large Language Models (such as ChatGPT, COPILOT, etc.) or text-to-image generators, were utilized in the writing or editing of this manuscript.

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