

Original Article

AWARENESS ABOUT GESTATIONAL DIABETES AMONG ANTENATAL PATIENTS OF SERVICES HOSPITAL LAHORE

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Objective: To determine awareness about gestational diabetes mellitus among pregnant women attending antenatal outpatient department of Services Hospital Lahore.

Methods: This was a cross sectional study in which 200 pregnant patients were enrolled from antenatal outpatient department of Services Hospital Lahore. A comprehensive questionnaire was given to the participants after taking informed consent. Apart from demographic data it comprised of questions regarding awareness and knowledge about gestational diabetes. The areas in which knowledge of women was explored were risk factors, screening, long-term concerns, prevention and follow-up of post-partum period.

Results: Total number of study participants were 200 pregnant females with mean age of 27 years. 38% had primary education. 62.5% of women were aware of fact that gestational diabetes could occur for the first time in pregnancy. Only 20% had information about the glucose levels which considered to be abnormal and 24% were aware of fact that gestational diabetes could persist after delivery. 33% had no knowledge regarding risk factors and 42% were unaware of complications of gestational diabetes mellitus. Major source of information was family and friends (49%).

Conclusions: Awareness of antenatal women on different aspects of gestational diabetes is not up to the mark and as incidence of disease is growing, adequate knowledge on risk factors, course of disease and effect of GDM on fetomaternal outcome will help in improving pregnancy outcomes.

Keywords: gestational diabetes mellitus, knowledge, awareness.

Introduction

Pakistan has population of 207 million and reported to be 6th most populous country of the world.¹ Diabetic Association of Pakistan and WHO showed an overall prevalence of diabetes as 17%. In males the prevalence is 11.20% and in females 9.19%. One in every six persons is a diabetic in Pakistan.² Among the adult population 35.3 million people are found to be diabetic.³ International diabetic federation estimated that until 2035, Pakistan will be ranked 8th among the world's top 10 countries having a rise in prevalence of Diabetes.⁴ Among non-communicable diseases, Diabetes is at fourth place causing 1.5 million deaths each year globally.⁵ Frightening scenario is that about 175 million people with diabetes are still undetected. Hence this high rate of diabetes in a country with huge population requires raising awareness about the disease on urgent and emergency basis.

Gestational diabetes mellitus is defined as increased blood sugar levels that happens or recognized for the first time during pregnancy.⁶ It is one of the major cause of maternal and neonatal mortality and morbidity. Mothers can develop number of complications like gestational hypertension,

preeclampsia, increase rate of recurrent infections and caesarean section.⁷

If woman previously had gestational diabetes, she carried a lifetime risk of progression to type 2 diabetes of up to 60%.⁸ Newborns are at greater risk for macrosomia, hypoglycemia, jaundice, respiratory distress syndrome, polycythemia, and hypocalcaemia and in later life are at risk of metabolic syndrome.⁹ The main risk factors for GDM are advanced maternal age, family history of type 2 diabetes, prepregnancy obesity and excessive weight gain in pregnancy.¹⁰ If a woman does not have the awareness about a disease which is going to affect her pregnancy and baby adversely the better control and prevention at mass level can prove to be very difficult. Hence the information gathering about knowledge of our population about this alarming disease in pregnancy is an essential step towards preventive and curative medicine.

Globally, incidence and occurrence of gestational diabetes mellitus is on rise. In 2017, approximately 1 in 3 women of reproductive age had diabetes. About 21.3 million or 16.2% of live births had some form of hyperglycemia in pregnancy and 85% were due to gestational diabetes. Majority of these cases were in

middle and lower income countries, where maternal health is already poor.¹¹ In Pakistan exact prevalence of GDM is still undetermined but many local studies shows data is similar to global incidences but complication rates are higher, perhaps due to poorer glycemic control.¹² Poor knowledge and awareness is the underlying factor for poor glycemic control.

It is of vital importance to categorize at risk women, making an early diagnosis, introduce lifestyle modification, dietary measures and where needed start oral hypoglycemic/Insulin to prevent complications of GDM. Educating and giving awareness about GDM and its risk factors to reproductive age females will results in adopting health life style, better self-care which ultimately leads to its prevention.¹³ Despite of fact that Pakistan has high prevalence of diabetes mellitus our general public still lacks awareness about management and basic treatment of disease. Due to lack of preconception planning and poor antenatal care utilization maternal health care constantly remained a challenge in Pakistan. It is the need of the day to start structured educational and informative programs regarding diabetes and its types, which will help individuals to follow and adopt a healthy lifestyle.¹⁴ So far, little has been done to assess the level of awareness and knowledge among pregnant women about diabetes. This study tries to determine general awareness about GDM in pregnant ladies, so that based on facts further planning for guidance policy formation can be formulated.

Methods

The study was carried out in Services hospital antenatal outpatient department. Antenatal clinic of Gynae unit I is on every Tuesday and Friday. Women were selected by non-probability convenience sampling. After informed consent, questionnaire was used for collection of data. Apart from demographic data it consists of questions determining patient awareness level about gestational diabetes, risk factors, diagnosis, treatment, complications and prevention strategies. Patients were asked to tick the options given i.e. yes, no, and don't know.

Questionnaire consist of 20 questions like whether they know about gestational diabetes. Do they have any idea about blood sugar level at which person is labeled to have GDM? Their awareness level regarding diet and lifestyle whether healthy eating and regular exercise can prevent GDM or not. Awareness of the risk factors of GDM was

assessed by asking them regarding effect of pre-pregnancy obesity, rapid weight-gain during pregnancy, family history, and a past history on GDM. Their awareness regarding diagnosis assessed by whether they have heard about test for diabetes after glucose load. Knowledge on treatment options was assessed by giving options of life style modification and diet, oral medication or Insulin.

Results

Two hundred pregnant ladies were enrolled in study .They have age bracket of 18-40 years with mean age of 27 years.Majority of the women (43%) were in the 25-32 years age group and 25.5% were above 32 years of age. With respect to education, 19% of the women were illiterates, 45.5% had primary & secondary education, 28.5% had intermediate education, and 7% graduates. 64.5% of the women were multigravida.

Overall, 57.5% women had awareness about gestational diabetes, while 62.5% had knowledge that gestational diabetes occurs first time in pregnancy. The awareness of the women on the various aspects of GDM is given in **tables (1-3)** below.

Table-1: Demographic Indices.

		Number of women (n=200)	Percentage
Age	18-25 years	63	31.5%
	26-32 years	86	43%
	33-40 years	51	25.5%
Parity	Primiparous	71	35.5%
	Multiparous	129	64.5%
Education	Illiterate	38	19%
	Primary & Secondary	91	45.5%
	Intermediates	57	28.5%
	Graduates	14	07%

Table-2: Awareness of the course and consequences of GDM

	Known (n=200)	Don't Know
Awareness about Gestational Diabetes	115 (57.5%)	85 (42.5%)
Awareness that gestational diabetes occurred first time in pregnancy	125 (62.5%)	75 (37.5%)
Blood sugar level considered to be abnormal	40 (20%)	160 (80%)
Blood test after oral glucose load	67 (33.5%)	133 (66.5%)
Diabetes persist after delivery	48 (24%)	152 (76%)

Table-3: Awareness about treatment of GDM.

	Known (n=200)	Don't Know
Food & exercise	76 (38%)	124 (62%)
Oral medications	22 (11%)	178 (89%)
Insulin	40 (20%)	160 (80%)
No idea about treatment	62 (31%)	138 (68%)
Healthy diet and exercise as preventive measures	59 (29.5%)	141 (70.5%)



Fig-1: Awareness about risk factors.

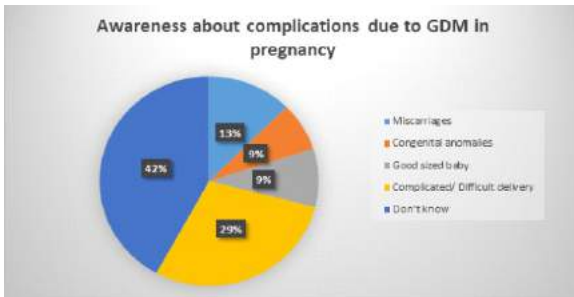


Fig-2: Awareness about complication due to GDK in pregnancy.

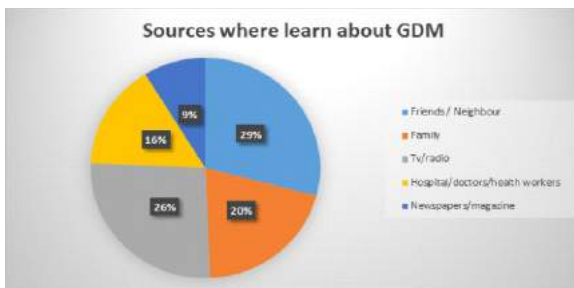


Fig-3: Sources where learn about GDM.

Discussion

In The commonness of diabetes in Pakistan is creating substantial health and economic problems for patients. We as South Asians are prone to the development of diabetes due to biologic and lifestyle issues and also due to increased visceral adiposity, insulin resistance, and a genetic predisposition to diabetes, chances of having diabetes markedly increased in our population.¹⁵ Furthermore, now a day's people do lessened physical activity, eating more dietary fats and processed foods with increasing mental stress, all these leading to insulin resistance and ultimately abdominal obesity.¹⁶ Frequency of gestational diabetes is increasing globally. Those suffering from GDM has 60% incidence of developing type-2 diabetes in later life. In pregnancy if left untreated GDM can cause serious neonatal and maternal consequences. If general public has awareness about disease, its risk factors and consequences, they will have better self-care. Therefore to control

disease government should also play role by launching specific national disease control plans, using television and printed media and setting awareness days to promote awareness among local population.

The data collected by my study shows that 57.5% of study population was aware of term gestational diabetes and 62% from fact that it occurs first time in pregnancy. But even those who were aware of disease know it by name sugar rather than gestational diabetes. Lakshmi D et al in there study found that, 35.2% had adequate knowledge about GDM and 21.5% had adequate knowledge about risk factors of GDM.¹⁷ Shreeram et al, in their study in south India found that only 17.5% of women had good knowledge about GDM which was lower when compared to our study.¹³ Similarly, in a Bangladesh study showed that 26.3% had good knowledge about GDM.¹⁸ Study by Price LA in Samoa, knowledge about GDM among women was varied. 58% of patients were aware that diabetes can occur for the first time during pregnancy, 23% were unsure, and 19% did not think that it could.¹⁹

Study by Khalid at holy family hospital showed that 87.2% had awareness regarding diabetes but only 30% could tell the normal blood sugar level. 60.4% knew that it develops during pregnancy and 67% considered it as a high risk conditions.²⁰ Difference in knowledge and awareness level with different studies is due to fact that services hospital catchment area is mostly from urban localities with good educational status. 81% of the study participants were educated. Hospital has separate diabetic management center which helps in rising awareness about diabetes. Hence 57% of population at SIMS antenatal outdoor were at least aware of diabetes in pregnancy. Awareness regarding risk factor, diagnosis, screening test and long term consequences of disease is low. A three year survey was conducted in Chennai²¹ concluded that people having more awareness about disease can manage themselves better with decreased number of diabetic cases and associated complications. In our study despite of knowledge about occurrence of DM in pregnancy was better but awareness about risk factors and management was poor so they have difficulties in following management plans leading to harmful consequences in pregnancy.

In my study 33% people were unaware of risk factors that can lead to gestational diabetes. 21% people think that obesity before pregnancy is an important risk factor for developing diabetes followed 19% thinking that family history of diabetes can contribute in development of GDM. This translate that about

60% of antenatal population had no idea about risk factors and contributory factors towards GDM which is an alarming situation. In similar study in Samoa 49% identified a family history of GDM as a risk factor followed by 23% considering pre pregnancy diabetes as risk factor.¹⁹ As we all know awareness and recognition of risk factors of any disease is first step towards prevention and help patient to seek early advice from doctor which will be helpful in reducing morbidity and mortality associated with gestational diabetes and it reduces the risk of developing type 2 diabetes in later life.²² 38% ladies think that eating healthy and regular physical activity have preventive role in gestational diabetes similar results shown in study carried out in Samoa in which according to 78% of women exercising regularly with healthy eating were preventing steps in GDM.¹⁹ 49% gets information from family and friends followed by 35% from electronic and print media while only 16% gets information from health care providers and hospitals. One of the important fact is that most family people do not have precise knowledge about pathology of disease, preventive measures to reduce the risk of Diabetes, and the

possible outcomes of the disease. This shows that existing health care system in Pakistan needs involvement of healthcare specialist, healthcare worker and strategy makers. As by promoting awareness and knowledge among general population regarding disease help in early diagnosis and reduces incidence of severe complications and overall prevalence of disease will be decreased as people will intend to have healthy life style.²³

Conclusion

As incidence of diabetes and especially in pregnant population is on rise, there is an enormous need to get population aware of the fact that it is a tip of an ice berg. In upcoming years the diabetes will emerge as an epidemic especially in Pakistan. In next fifteen years Pakistan will be in top ten countries of the world regarding prevalence of diabetes. A structured Approach is compulsory to create and raise awareness regarding GDM among people for which recommendations are given below.

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