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Awareness about Gestational Diabetes Mellitus among Antenatal Women Attending tertiary Care Hospital

Medical Science

KEYWORDS : Awareness, GDM, Diabetes Mellitus, Antenatal & Maternal

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ABSTRACT

Introduction:

Gestational Diabetes Mellitus is a major cause of perinatal morbidity and mortality, as well as maternal morbidity .The growing burden of this disease necessitates understanding of its basic facts by antenatal women.

Objectives:

To assess the level of awareness about GDM, its risk factors, treatment, complications and prevention among antenatal women attending antenatal clinic in a tertiary care hospital.

Methods:

A cross-sectional study was conducted with 360 antenatal women who have completed 32 weeks of gestation attending Sri Ramachandra Medical College, Chennai , Tamilnadu. After obtaining informed consent, a pretested questionnaire was administered by the investigator .

Results:

The age of the antenatal women ranged from 20yrs – 33yrs, mean age 25yrs. Majority had undergone high school education 48%. 52% of them were primigravida,

88% of them have heard about Gestational Diabetes Mellitus. 32% of them knew one or more of its risk factors. 12% were aware about one or more of its maternal complications. 16% knew one or more of the foetal complications.60% did not know that GDM can recur. 56% were not aware about the treatment modalities.

Conclusion:

It is very essential that spreading awareness about GDM by health professionals, media, other NGOs with community participation will go a long way in substantially decreasing the burden of this disease in the future.

Introduction:

In the global arena where the diabetes pandemic is rapidly engulfing the developing countries there is yet another condition – the Gestational Diabetes Mellitus (GDM), which is gradually increasing and posing as a public health threat. Gestational Diabetes is defined as onset or recognition of glucose intolerance detected for the first time during pregnancy[1]. The prevalence may range from 1 to 14% of all pregnancies, depending on the population studied and the diagnostic tests employed[2].

GDM is a major cause of perinatal morbidity and mortality, as well as maternal morbidity[3]. Women with GDM have increased risk of hypertension, Preeclampsia, Cesarean section , and it identifies a population of women who are at high risk of developing type II diabetes in the years following the pregnancy[4]. In addition to higher risk of perinatal morbidity(Macrosomia, Neonatal hypoglycemia, hypocalcemia, hypomagnesemia, hyperbilirubinemia, birth trauma, prematurity syndromes), the offspring of mothers with GDM face increased risk of childhood obesity and early onset of type 2 diabetes mellitus[5].

On contrary to the increasing incidence of Gestational Diabetes Mellitus, the awareness about the condition, its risk factors, diagnosis, treatment and prevention is very meagre. Many studies conducted both in India and abroad have mainly focused on prevalence of GDM, its risk factors, maternal and foetal complication. There are limited studies which give information about the awareness about GDM and all of them point it out rather indirectly. Antenatal mothers have to understand the implications of GDM on their baby and themselves. Hence, the present study has been undertaken to estimate the awareness levels among the antenatal women in tertiary care hospital in Chennai about GDM, its risk factors, treatment, complications and prevention.

Objective of the study:

To assess the level of awareness about GDM, its risk factors, treatment, complications and prevention among Antenatal women attending Out Patient Department in a tertiary care hospital.

Methods: This study was conducted at Sri Ramachandra Medical College, Chennai Tamilnadu. All antenatal mothers who had completed 32 weeks of gestation, attending Antenatal OP from December 2012 to January 2013 were interviewed. After obtaining the informed consent, interview schedule was applied to them. Health education was given individually to the participants at the end. This study has been approved by Sri Ramachandra Medical University ethics committee.

A pretested questionnaire was used to get information on the background characteristics of the participants and their parity. Questions regarding their awareness about GDM, its risk factors, treatment, complications and prevention were asked. The options provided were "yes", "no", "don't know". When the antenatal mother answered "yes" to the questions, further options were given to assess in depth knowledge about the condition.

Results:

During the study period from December 2012 to January 2013, all the 360 antenatal women who have completed 32 weeks of gestation who attended the antenatal out patient department were included .The mean age of the respondents is 26yrs (S.D= 3.89).The age distribution of the respondents, their education , occupation and parity are given in table 1.

Majority of the respondents (43.1%) were between the age group of 20 – 24 years. Regarding the parity of the respondents, it is found that majority of them (52%) were primi-gravida. With regard to the educational qualification of the respondents,

it is found that 48% of them have completed their education at high school level, and 4% of them were post graduates.

It was observed from the study that 88% of the respondents have heard about GDM. Awareness about the risk factors: 28.3% of them knew that increased maternal age as one of the risk factor, 18.8% of them knew that obesity prior to pregnancy as one of the risk factor, around13% of them knew family history of Diabetes as one of the risk factor for GDM.(Table:1)

Regarding the awareness about the complications in the mother: 18.8% knew that increased caesarean section rate was one of the complications of GDM, whereas 6.6% knew that GDM can recur in next pregnancy.

The awareness about the foetal complications: 16.6% of them knew that increased birth weight as a foetal complication, 2.7% knew that injuries can occur to foetus during delivery.

Awareness about the treatment for GDM: 46.9% were aware of the nutrition therapy as one of the treatment for GDM, more than half (58.6%) of them knew that treatment of GDM also includes regular exercise and 86.6% knew insulin as one of the treatment of GDM.

With respect to the awareness about the preventive strategies, 97.2% of them knew that regular checking for blood sugar will result in early diagnosis of GDM, 58.6% knew that exercise can prevent the development of GDM.

Figure 1, shows the various sources of awareness about GDM. Here we find that for majority (28%) of the respondents, the Television or Radio is the main source of information, followed by 21.3% by doctors and finally only 3.6% by hospital display boards and charts.

Discussion:

The study was conducted to find the level of awareness about GDM, its risk factors, treatment, complications, and prevention among antenatal women in a tertiary care hospital. Awareness of GDM, its treatment and prevention is found to be better, when compared to the knowledge about the risk factors, and complications.

Majority of them (88%) were aware of GDM, and this may be due to the fact that the study was conducted in a tertiary care hospital, also the antenatal women who were interviewed had completed 32 weeks of pregnancy, and they have undergone routine blood sugar testing during their earlier visits.

However, the awareness about the risk factors and complications is observed to be poor. High prevalence of risk factors in our antenatal women population as stated in various studies[3,10,12,13] highlights the need for creating awareness about these aspects among them.

In this study it is evident that the respondents had some awareness about the treatment and prevention for GDM, which may be due to the fact that they had some objective knowledge about the other condition Diabetes Mellitus.

Further, from this study it is found that how much media plays as a vital source of health information to the community, as for majority of the respondents (28%) the television or radio was the source of awareness. Proper utilisation of mass media in spreading awareness about this condition may result in dissolution of myths about GDM, and help in better understanding of the disease condition. For nearly 32% of them, doctors and health workers played a role in giving health information. Hence greater emphasis should be laid on giving health information by doctors and health workers. Only 3.6% said that hospital display boards were a source of information to them. As it is mandatory to display health information in hospitals more efforts should be taken to put up Information Education Communication (IEC) materials about GDM. This requires very little resources which are easily available.

GDM provides a unique model in which treatment for a medical condition (GDM) acts as prevention for another condition (future diabetes mellitus in the mother) and also acts as prevention for condition in another person (future diabetes mellitus in the unborn child). As quoted by Sanjay Kalra et.al., "GDM, is a perfect window of opportunity" for prevention of diabetes.

Conclusion:

In this study, the knowledge about the risk factors and complications of GDM is poor among the antenatal women. Hence more importance should be given to address this issue as it will help in early diagnosis, proper treatment, treatment compliance and following dietary recommendations, which would result in a healthy mother delivering a healthy baby.

It is also very essential that spreading awareness about GDM by health professionals, media, other NGOs with community participation as it is the first step in prevention of the disease.

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Table 1 : Back ground characteristics of Women Attending Antenatal Clinic

S.No	Particulars	Frequency	Percentage
I	Age in years		
	20 – 24	155	43.1
	25 – 29	116	32.2
	30 – 34	89	24.7
II	Education		
	Postgraduate	14	4
	Graduate	73	20
	Diploma	58	16
	High school	172	48
	Middle school	43	12
	Primary	0	0
	Illiterate	0	0
III	Occupation		
	Professional	15	4.2
	Clerical	15	4.2
	Skilled	58	16.1
	Semiskilled (housewives included)	272	75.6
IV	Parity		
	Primi-gravida	186	52
	Multigravida	174	48

Table 2: Awareness about GDM, its risk factors, treatment, complication and prevention among the study participants are given below*.

S. No	Particulars	Frequency	Percentage
1.	Heard about GDM	317	88
2.	Risk factors		
a.	Increased maternal age	102	28.3
b.	Obese women	68	18.8
c.	Family history of DM	48	13.3
3.	Maternal Complications		
a.	Type II DM	30	8.3
b.	Recurrent GDM	24	6.6

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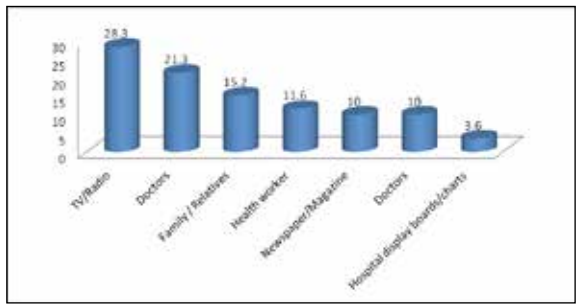
c.	Preeclampsia	43	11.9
d.	Increased caesarean section rate	68	18.8
4.	Foetal complications		
a.	Increased birth weight	60	16.6
b.	Foetal injury	10	2.7
c.	Future obesity	58	16.1
d.	Future Diabetes	46	12.7
5.	Treatment for GDM		
a.	Nutrition therapy	169	46.9
b.	Regular exercise	211	58.6
c.	Insulin injection	312	86.6
6.	Prevention of GDM		
a.	Regular testing for Blood sugar	350	97.2
b.	Regular exercise/ physical activity	211	58.6
c.	Good diet	310	86.1
d.	Need for spreading awareness among antenatal mothers	360	100

(*This table includes multiple responses)

Figure 1 : Sources About Awareness of Gestational Diabetes Mellitus



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