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RESEARCH ARTICLE

A DESCRIPTIVE STUDY TO ASSESS THE KNOWLEDGE REGARDING GESTATIONAL DIABETES MELLITUS AMONG ANTENATAL WOMEN ATTENDING ANTENATAL O.P.D IN A SELECTED HOSPITAL OF DELHI WITH A VIEW TO DISSEMINATE INFORMATION THROUGH PAMPHLETS

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Abstract

A descriptive study was conducted to assess the knowledge regarding Gestational Diabetes Mellitus among antenatal women attending antenatal O.P.D. in a selected hospital of Delhi with a view to disseminate information through pamphlets. A sample of 100 antenatal women, was selected using purposive sampling technique. A structured knowledge questionnaire was administered to assess the knowledge regarding Gestational Diabetes Mellitus. The data analysis and interpretation was done using descriptive and inferential statistics. Most of the antenatal women attending ANC OPD of the selected Hospital had good knowledge regarding Gestational Diabetes Mellitus. A pamphlet on Gestational Diabetes Mellitus was developed and disseminated among antenatal women.

Introduction:-

Gestational Diabetes Mellitus (GDM) has appeared to be growing diagnostic and epidemiological problem in recent years. As per WHO (World Health Organization) GDM is defined as any degree of glucose with onset or first recognition during pregnancy. GDM arises because the action of insulin is diminished (insulin resistance) due to hormone production by placenta. Other risk factors include older age,overweight,obesity,excessiveweightgain,afamilyhistoryofdiabetesandhistoryofstill birth or giving birth to infant with congenitalabnormality. GDMisaseriousheathconcernbecauseitnotonlyposesimmediatematernal(pre-eclampsia, cesarean delivery) and neonatal (macrosomia, shoulder dystocia, birth injuries,hypoglycemia, respiratorydistresssyndrome)complicationsbutalsoincreasetheriskoffuturetype-2diabetes mellitus in mother as well as thebaby.TheprevalenceofGDMisontheriseglobally.Thisglobalincreaseisoccurringmostlyinlow- and middle-income countries like India where access to maternal care is often limited. Recently, prevalence of GDM was found to be 18% in HAPO study (hyperglycemia and adversepregnancyoutcome).WHOestimatedthatprevalenceofGDMinIndiawasabout40.9 million in 2009 & is expected to rise to 69.9 million by 2025. Thus, making it an important public health problem inIndia.We can avoid GDM if

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proper cautions are taken before the gestation period. Women engaging in regular physical activities before pregnancy are at lower risk. Bio-psycho-social factorslike genetic condition, age, lifestyle, personality characteristics, stress levels, social support systems,familyrelationships,andculturalbeliefsplayavitalroleintheeffectivemanagement of GDM. Dietary recommendations, self-monitoring of blood glucose, self-administration of insulin, identification and treatment of hypoglycemia are the main management strategies. Some of the factors that motivate self-management include higher educational level, health literacyandpsychologicalsupportfromthepartnerandfamilymembers

The knowledge can be complete if the individual can comprehend entirely about all theassociated factors of this condition. Decreased knowledge can lead to poor preventive and management strategies. The present study aims to understand the status of the awareness regarding GDM among antenatal women attending ANC OPD in a selected hospital of Delhi. Also, it intends to understand the primary sources, as well as the adequacy of the knowledge about GDM among theparticipants.

Objectives:-

1. To assess the knowledge of antenatal women regarding Gestational Diabetes Mellitus.
2. To find out the association between knowledge of antenatal women regarding Gestational Diabetes Mellitus with selected socio demographicvariables.
3. To provide information of Gestational Diabetes Mellitus throughpamphlets.

Assumptions

1. The Antenatal women will have some knowledge regarding Gestational DiabetesMellitus.
2. The knowledge regarding Gestational Diabetes Mellitus among antenatal women can be measured by structured knowledgequestionnaire.
3. The selected variables will have an influence on the knowledge of Gestational Diabetes Mellitus among antenatalwomen.

Delimitations

The study is delimitated to:

1. Antenatal mothers who are available and willing to participate in thestudy
2. Antenatal women who visited Antenatal OPD in a selected hospital ofDelhi.

Materials and Methods:-

Research design:

A Descriptive research design was selected for the study to assess the knowledge regarding Gestational Diabetes Mellitus among Antenatal women attending Antenatal OPD in a selected hospital.

Setting of the study:

The present study was conducted at Antenatal OPD of a selected Hospital, Delhi.

Population:

The target population of the study consisted of antenatal women in a selected hospital, Delhi.

Sample and sampling technique:

A sample of 100 antenatal womenwas selected using purposive sampling method.

Development of the tool

The Structured Knowledge Questionnaire was developed to assess the knowledge of Antenatal women attending Antenatal OPD in a selected hospital.

It consisted of two sections:

Section A-Consisted of 10 items on background information of the subjects such as age, Gravida, religion, occupation, number of live children, previously diagnosed with Diabetes Mellitus, family history of Diabetes Mellitus, family income per month and source of information regarding Gestational Diabetes Mellitus.

Section B- Consisted of 24 items on knowledge regarding Gestational Diabetes Mellitus. Thus a total of 34 items were included in the structured knowledge questionnaire. For every correct answer the score was 1 and incorrect was 0

The possible range of knowledge scores to be obtained by antenatal women was from 0-24. Hence, their scores were interpreted as:
16-24: Good knowledge
8-15: Average knowledge
0-7: Inadequate knowledge

Content validity and Reliability of the tool
In order to obtain the content validity of tool, it was submitted to the experts and were requestedtojudgetheitemsonthebasis of relevance, clarity, feasibility and organization of items included in the study. Necessary modifications were incorporated based on theirsuggestions.

The reliability of the tool was established at 0.81, using Kuder Richardson formula 20 (KR-20)

Pilot study
Pilot study was conducted on 10 Antenatal women on 8th February 2021 and 9th February 2021 at Antenatal OPD of a selected hospital of Delhi. The study was found to be feasible.

Procedure for Data collection
1. After the formal administrative permission obtained from the selected hospital ofDelhi.
2. The Antenatal women who were attending Antenatal OPD were taken assample.
3. The investigator introduced herself to the subjects and took a written consent from them.
4. The Structured Knowledge Questionnaire was given in Hindi and English language to Antenatal women in order to assess the knowledge regarding Gestational Diabetes Mellitus which took around 10-15 minutes for eachsample.

Data Analysis and Interpretation
The data was analyzed using both descriptive and inferential statistics.
1. Frequency and Percentage Distribution to be computed for describing the sample characteristics.
2. Mean, Mean percentage, Median and Standard Deviation of knowledge score of Antenatal women
3. Chi- square test to examine the association between the knowledge scores of the Antenatal women regarding Gestational Diabetes Mellitus and the selected demographic.

Result:-

The analysis of the data revealed that majority of the women i.e. 49 (49%) had good knowledge, 46 (46%) had average knowledge and only 5 (5%) had inadequate knowledge regarding Gestational Diabetes Mellitus.There was a significant association between knowledge score and selected demographic variables i.e. Religion and Family Income per month among antenatal women at $p<0.005$ level of significance.

Table 1:- Frequency and Percentage Distribution of Socio-demographic variables of Antenatal women N=100.

S.No.	Socio-demographic variables	Frequency (f)	Percentage (%)
1	**Age**		
	a) Below 21 years	04	04
	b) 22-27 years	41	41
	c) 28-33 years	39	39
	d) 34 years and above	16	16
2	**Gravida**		
	a) Primigravida	53	53
	b) Multigravida	47	47
3	**Religion**		
	a) Hinduism	82	82

	b) Islam	12	12
	c) Sikhism	02	02
	d) Christianity	03	03
	e) Others	01	01
4	**Education**		
	a) Illiterate	02	02
	b) 10^{th} pass	10	10
	c) 12^{th} pass	14	14
	d) Graduate and above	74	74
5	**Occupation**		
	a) Housewife	47	47
	b) Self employed	09	09
	c) Private/ Government service	10	10
	d)Medical/Nursing/allied Health worker	34	34
6	**Number of children**		
	a) 1	36	36
	b) 2	10	10
	c) 3 or more	01	01
	d) None	53	53
7	**Have you been diagnosed with Diabetes mellitus**		
	a) Diabetes Mellitus Type 1	05	05
	b) Diabetes Mellitus Type 2	00	00
	C) Gestational Diabetes Mellitus	30	30
	d) None of the above	65	65
8	**Family history of Diabetes Mellitus**		
	a) Yes	46	46
	b) No	54	54
9	**Family income per month**		
	a) <Rs. 10,001	10	10
	b) Rs.10,002-29,972	26	26
	c) Rs. 29,973-49,961	15	15
	d) Rs.49,962-74,755	23	23
	e) Rs.74,755-99,930	15	15
	f) Rs. 33,931-199,861	08	08
	g) >Rs.199,862	03	03
10	**Source of information**		
	a) Previous pregnancy	29	29
	b) Relatives	22	22
	c) Social media	15	15
	d) Never heard of it before	34	34

Table 2:- Frequency and percentage distribution of Antenatal Women in terms of knowledge scores regarding Gestational Diabetes Mellitus N=100.

Knowledge Score	**Range of Knowledge Score**	**Frequency**	**Percentage (%)**
Good Knowledge	16-24	49	49
Average Knowledge	8-15	46	46
Inadequate Knowledge	0-7	5	5

Table 3:- Mean, Median and Standard deviation of knowledge score regarding GDM N=100

Area	Score range	Mean	Mean %	Median	Standard Deviation
Knowledge	0-24	15.29	63.71%	15	4.04

Table 4:- Association between knowledge score of Antenatal Women and selected variables N=100.

S.No	Socio-demographic variables	Good	Average	Inadequate	Total	df	Chi-square value	Table value
1	**Age**							
	a) Below 21 years	0	04	0	04			
	b) 22-27 years	17	22	02	41			
	c) 28-33 years	23	14	02	39	6	8.74^{NS}	12.59
	d) 34 years and above	10	05	01	16			
	Total	50	45	05	100			
2	**Gravida**							
	a) Primigravida	25	25	03	53			
	b) Multigravida	25	20	02	47	2	0.397^{NS}	5.99
	Total	50	45	05	100			
3	**Religion**							
	a) Hinduism	41	37	04	82			
	b) Islam	04	07	01	12			
	c) Sikhism	01	01	0	02	8	17.59^{*}	15.57
	d) Christianity	02	01	0	03			
	e) Others	0	0	01	01			
	Total	48	46	06	100			
4	**Education**							
	a) Illiterate	01	01	0	02			
	b) 10^{th} pass	05	04	01	10			
	c) 12^{th} pass	05	08	01	14	6	2.317^{NS}	12.59
	d) Graduate and above	40	31	03	74			
	Total	51	44	05	100			
5	**Occupation**							
	a) Housewife	25	21	01	47			
	b) Self employed	04	04	01	09			
	c) Private/ Government service	04	05	01	10	6	2.4151^{NS}	12.59
	d)Medical/Nursing/Allied Health worker	17	15	02	34			
	Total	50	45	05	100			

6	**Number of children** a) 1 b) 2 c) 3 or more d) None Total	 01 01 0 03 05	 15 04 01 25 45	 20 05 0 25 50	 36 10 01 53 100	6	2.63^{NS}	12.59
7	**Have you been diagnosed with Diabetes mellitus** a) Diabetes Mellitus Type 1 b) Diabetes Mellitus Type 2 C) Gestational Diabetes Mellitus d) None of the above Total	 0 0 01 04 05	 03 0 10 32 45	 02 0 19 29 50	 05 0 30 65 100	6	3.54^{NS}	12.59
8	**Family history of Diabetes Mellitus** a) Yes b) No Total	 20 30 50	 23 22 45	 03 02 05	 46 54 100	2	1.592^{NS}	5.94
9	**Family income per month** a) <Rs. 10,001 b) Rs.10,002-29,972 c) Rs. 29,973-49,961 d) Rs.49,962-74,755 e) Rs.74,755-99,930 f) Rs. 33,931-199,861 g) >Rs.199,862 Total	 0 07 07 14 06 05 03 42	 10 16 07 09 09 02 0 53	 0 03 01 0 0 01 0 05	 10 26 15 23 15 08 03 100	12	24.99^{*}	21.03

***significant at p<0.05 level of significance**
NS- Not significant at p<0.05 level of significance

Development of pamphlet
The pamphlet was developed after content validation by the experts in the field of Obstetrics and Gynaecology, Endocrinology and Dietetics. The pamphlet was developed and was approved by the administration.

Observations of contemporary and past annotations on the topic
The discussion has been presented in context with the objective and findings of the study conducted in the context with the findings revealed by the other researches.

In the present study, most (49%) of the antenatal women had good knowledge regarding GDM which was similar to the study conducted by R. Oguwhoconducted a descriptive cross-sectional household survey involving 2595 women of reproductive age residing in five local government areas in the state. The majority (2,351;90.6%) had heard about Gestational Diabetes Mellitus.

A study was conducted in 2013 by Shriraam V to assess the awareness of Gestational Diabetes Mellitus among antenatal women in a Primary Health Center in South India. A pretested questionnaire was administered to all women attending the antenatal clinic. The sample size was 120. The findings of the study revealed that 17.5% women had good knowledge, 56.7% had fair knowledge, and 25.8% women had poor knowledge about GDM. This study is contrary to the present study as most of women had fair and poor knowledge.

In the present study, 41% were in the age group of 22-27 years, 53% are primigravida, 82% are following Hinduism, 74% were educated(graduate & above), 47% are Housewives, 54% had no any family history of Diabetes mellitus, 65% had no previous history of diabetes mellitus, 26% had family income(per month) between Rs.10,002-29,972, 34% had heard it for the first time during the data collection. It was similar to the study conducted by D. Lakshmiin Urban Chidambaram which stated that majority 49.2% were in the age group of 21–25 years, 93.7% of them were housewives, 56.0% of them have studied up to higher secondary level.

Limitations

1. The study was conducted on a small sample and in the selected hospital of Delhi which limits the generalization of the findings of the study.
2. The findings of the study were purely based on the written responses of study subjects and were subject to response set bias from the respondents.

Recommendations:-

1. A similar study can be replicated on a larger sample to help validate and generalize the findings to the entire population of a region or a part of the country.
2. A comparative study can be conducted to ascertain the prevalence, causes and effects of GDM in rural and urban populations.

Implication of the study

1. The study throws light on the need to educate women and family members regarding Gestational Diabetes Mellitus.
2. Itisthedutyofacommunityhealthnursetomotivatetheantenatalwomentotakehealthy diet, regularly eat iron and folic acid supplements, check her weight and fetal heart movements and came for regular followup.
3. Nursing administrators can conduct workshops and conferences to increase awareness among nurses and nursing students about the Gestational Diabetes Mellitus and its prevention among antenatal women visiting antenatal OPD.

References:-

1. Mumtaz M.(2002): Gestational Diabetes Mellitus. Malaysia Journal of Medical Science. Vol 7(1):4-9.
2. https://www.hopkinsmedicine.org/health/conditions-and-diseases/diabetes/gestational-diabetes
3. Ogu RN, Maduka O, Agala V. Gestational Diabetes Mellitus Knowledge Among Women of Reproductive Age in Southern Nigeria: Implications for Diabetes Education. International Quarterly of Community Health Education. 2020;40(3):177-183. doi:10.1177/0272684X19876526
4. Varghese R, Thomas B, Hail MA, Rauf A, Sadi MA, Sualiti AA, Yadav V.(2012):The Prevalence, Risk actors, Maternal and Fetal outcomes in Gestational Diabetes Mellitus. International Journal of Drug Development& Research, Vol, 4(3): 356-368.
5. Thomas, S., Pienyu, R., & Rajan, S. K. (2020). Awareness and knowledge about gestational diabetes mellitus among antenatal women. Psychology, Community & Health, 8(1), 237-248. https://doi.org/10.5964/pch.v8i1.287D.
6. Lakshmi D, Felix AJW, Devi R, Manobharathi M. Study on knowledge about gestational diabetes mellitus and its risk factors among antenatal mothers attending care, urban Chidambaram. Int J Community Med Public Health 2018;5:4388-92.
7. Shriraam V, Rani MA, Sathiyasekaran BW, Mahadevan S. Awareness of Gestational Diabetes Mellitus among antenatal women in a primary health center in South India. Indian Journal of Endocrinology andMetabolism. 2013 Jan;17(1):146-8. doi: 10.4103/2230-8210.107861. PMID: 23776868; PMCID: PMC3659882.