

Original Research Article

Assessment of Quality of life among Antenatal Care Mothers with Gestational Diabetes Mellitus and associated factors in a selected Districts, Tamil Nadu, India: A Cross Sectional Study:-

Running title: Quality of life among Antenatal Care Mothers with Gestational Diabetes Mellitus.

You miss the name of authors with their affiliation and contribution.

ABSTRACT

Background/Introduction: Gestational diabetes (GDM) is defined as the diabetes diagnosed within the second or third trimester of pregnancy that wasn't clearly overt diabetes before gestation. Gestational Diabetes Mellitus (GDM) is one of the most frequent metabolic diseases during pregnancy. It approximately affects 7% (range: 2-18%) of all pregnancies. This clinical condition potentially affects not only negative medical outcomes but also the mental state status with additional adverse consequences on psychological well-being and Quality of Life. The aim of this study were The Objectives were to determine assess the quality of life among antenatal care mothers with Gestational Diabetes Mellitus and to associate factors the quality of life among antenatal care mothers in with the selected Districts demographic variable.
Methods: The descriptive research design was used in this study. The convenient Sample (N=30) was used to assess the Quality of Life sScale among antenatal care mothers with the Gestational Mothers. The data regarding demographic variables like Age, Income, Occupation, Education and Obstetric Variables like past obstetrical complications, Gravid, Week of Gestation.
Results: The result showed that 30 Antenatal Mothers with Gestational Diabetes was participated in this study and they were assessed by Modified Quality of Life Scale (WHOQOL – BREF) which includes physical, psychological and social relationships domains are rated on 5 points Likert Scale to determine Score. **Conclusion:** The result shows that the level of Quality of Life Scale of Antenatal Mothers with Gestational Diabetes Mellitus (N=30) 12 of them have Moderate Quality of Life, 11 of them have Adequate Quality of Life and 07 of them have Inadequate Quality of Life.
Conculision: And there is Significant Association of demographic variables of age, except age other demographic and Obstetrical variables are Not Significant and ($X^2 - 56.16, P = >0.05$):-

Key words: Quality of life, Gestational diabetes Mellitus, Antenatal Care mothers.

INTRODUCTION:

Gestational diabetes (GDM) is defined as the diabetes diagnosed within the second or third trimester of pregnancy that wasn't clearly overt diabetes before gestation. It Gestational Diabetes Mellitus (GDM) is one of the most frequent metabolic diseases during pregnancy. It approximately affects 7% (range: 2-18%) of all pregnancies. This clinical condition potentially affects not only negative medical outcomes but also the mental state status with additional adverse consequences on psychological well-being and Quality of Life. (Daniela Marchetti, Danilo Carrozzino and Ester Vita colonna) ¹ GDMestational DM (GDM) is defined because the "degree of carbohydrate intolerance with onset or recognized first during pregnancy". Age of mother, socioeconomic status and ethnicity are key correlates of GDM. GDMestational diabetes mellitus (GDM) is refers to "Carbohydrate intolerance leading to hyperglycaemia of variable severity with onset or 1st recognition throughout pregnancy". Maternal hyperglycaemia may cause foetal side effects which associated with this carbohydrate disorder, such as foetal macrosomia, perinatal

Comment [Wcu1]: Think things to be included in the abstract, abbreviation is no recommendable remove it

Comment [Wcu2]: Better to rewrite it!!!! Your muncrript with full off typographical errors

Comment [Wcu3]: Add it

Comment [Wcu4]: Not in line with your research title and for me better to add associated factors in your title.

Comment [Wcu5]: How relate with Districts? Always be consistent, otherwise difficult to understood your study!!!!!!

Comment [Wcu6]: Better to specify it

Comment [Wcu7]: It give different meaning be always consistent and make full

Comment [Wcu8]: Why you not ask wealth index?

Comment [Wcu9]: ??????

Comment [Wcu10]: Better to be based on your finding, I think you're out

Comment [Wcu11]: First letter each word must be capital.

Formatted: Highlight

Formatted: Highlight

Formatted: Highlight

Comment [Wcu12]: Do you know now what type of referencing style do you used? and not recommendable to use authors dated referencing style. You are not correct, please try to correct whole.

Comment [Wcu13]: Better to talk about GDM in relation with quality of life (your outcome variables), you miss your outcome variables and try to talk about it.

mortality, caesarean delivery, and preeclampsia. Later in life, this affected community tends to suffer from more complications, such as type 2 diabetes mellitus and obesity, however. To avoid such health problems early diagnosis of GDM is important. (Crowther CA, Hiller JE 2005)^[2] The prevalence of GDM in UK was 5%. Moreover GDM complicated about 4-14% pregnancies in USA. The trend of GDM also increased markedly in Southeast Asian countries during the last two decades. According to national obstetrics registry. Malaysia report of 2009, prevalence of GDM is 11.1% in Malaysia. (Zahid Hussain, Zuraidah Mohd Yusoff, Syed Azhar Sulaiman, June 2014)^[3] Recently, pPrevalence of GDM was found to be 18% in HAPO (hyperglycaemia and adverse pregnancy outcome) study. WHO estimated that prevalence of GDM in India was about 40.9 million in 2009 & is expected to rise to 69.9 million by 2025. Thus making it an important public health problem in India (D. Lakshmi, 2018)^[4] Gestational Diabetes Mellitus is any degree of hyperglycaemia that is recognized for the first time during pregnancy. This statement includes cases of undiagnosed type 2 diabetes (T2DM) identified early in the pregnancy and true GDM which develop later. GDM constitutes a greater impact on diabetes epidemic because it carries a significant risk of developing T2DM to the mother and foetus later in life. And it also affect the Quality of life in elated to GDM. (Abdel Hameed Mirghani Dirar and John Doupis 2017)^[5] The aim of these Objectives of the Study was to assess the quality of life among antenatal mothers with Gestational Diabetes Mellitus and to associate the quality of life among antenatal mothers with the selected demographic variable.

Comment [Wcu14]: When first time you used better to use full form.

Comment [Wcu15]: ??????????//

Comment [Wcu16]: ??????

MATERIALS AND METHODS:

Quantitative descriptive research approach was used to assess the quality of life among antenatal care mothers with gestational diabetes mellitus. The study was carried out on the antenatal care mothers who are subjected to Gestational Diabetes in selected districts, Tamil Nadu, India. The population comprises of antenatal care mothers with gestational diabetes in the selected districts, Tamil Nadu, India. Sample is a representative unit of a target population, which is to be worked upon by the researchers during their study. In other words sample consists of subsets of units which comprise the population selected by the researcher to participate in the research project. The sample in the present study was the antenatal care mothers with gestational diabetes mellitus who fulfills the inclusion criteria of Antenatal care mothers who are diagnosed with Gestational Diabetes Mellitus and who are able to write and read in the study area Tamil. Sample Size: Sample size $n = [Np(1-p)] / [(d^2/Z^2)(N-1) + p(1-p)]$ Confidence Level: 95% Margin of Error: 5% Population: 50 Sample size: 60. Organization and Presentation of Data: The data gathered was tabulated, analyzed and interpreted using both descriptive and inferential statistics. Based on the objectives collected data was presented under the following headings

Comment [Wcu17]: Make in line with corrected research title.

Comment [Wcu18]: Why you not mixed approach? You try to describe quality of life in ANC mothers with GDM? Better to use mixed approach (qualitative and quantitative).

Comment [Wcu19]: Better to use other words, not seems project

Comment [Wcu20]: Better to be specific and try to correct in the abstract part also.

Section - 1: to describe Description of quality of life in demographic variables of Antenatal care Mothers with Gestational Diabetes.

Section - 2: to assess the knowledge of Antenatal care Mothers with Gestational Diabetes regarding Quality of Life.

Section - 3: to identify associated factors with Association of level of knowledge of Antenatal care Mothers with Gestational Diabetes regarding Quality of Life in the selected demographic and obstetrical variables.

Comment [Wcu21]: In generally you miss action verbs and make correction with corrected title.

RESULTS AND DISCUSSION:

The majority of frequency and percentage distribution of samples with reference to age for the total sample of N-30 are from the age group of 22-25 years of antenatal care mothers with gestational diabetes mellitus about 36.6% and 33.3% of the samples from the age group 26-29 years and about 30% of the antenatal care mothers with gestational diabetes from the age group of 8-21 years. The sample size was (N-30) from this majority 30% (09) of them have their income as 13,161-19,758, 20% (06) of them have their income as $\geq 52,734$, 16.6% (05) of them have their income as 2,641-7,886, 6.6% (02) of them have their income 26,355-52,733, 10% (03) of them have their income 19,759-26,354, 3.3% (01) of

them have their income 7,887-13,160. Majority 40% of Antenatal care Mothers with gestational diabetes are graduate, 36.6% (11) of Antenatal Mothers with gestational diabetes had secondary educations, and 16.6% (05) of Antenatal care Mothers with gestational diabetes had primary education, whereas 6.6% (02) of Antenatal care Mothers with gestational diabetes are illiterate. The Majority of the Antenatal mothers with gestational diabetes were private employee and nearly 6.6% of the Antenatal mothers with gestational diabetes were government employee. Majority of antenatal mothers (N- 10, 33.3%) are having the gestational diabetes in the 8th month of gestation and 7th month (N-09, 30%) of gestation whereas 20% of them are in the 6th month and nearly 16.6% of them are in the 9th month. Majority 76.6% (23) of the sample were belongs to PrimiGravida and 23.3% (07) of the sample were belongs to Multi Gravida. Majority of them had nil past obstetrical complication but 6.6% (02) of them had pregnancy induced hypertension and nearly 16.6% (05) of them had thyroid. In this sample about 23.3% (7) of the antenatal mothers with gestational diabetes had inadequate quality of life whereas 40% (12) of the antenatal mothers with gestational diabetes had moderate quality of life and nearly 36.6% (11) of the antenatal mothers with gestational diabetes had adequate quality of life. Demographic Variable like Age had association with the Quality of life among antenatal mothers with gestational diabetes X^2 Value = 14.688 ($p < 0.05$) All the other demographic and obstetrical variables such as income, education, occupation, week of gestation, gravida and past obstetrical complications had no association with the Quality of Life.

UNDER PEER REVIEW

Table 1: The baseline characteristics of the Antenatal mother with gestational diabetes

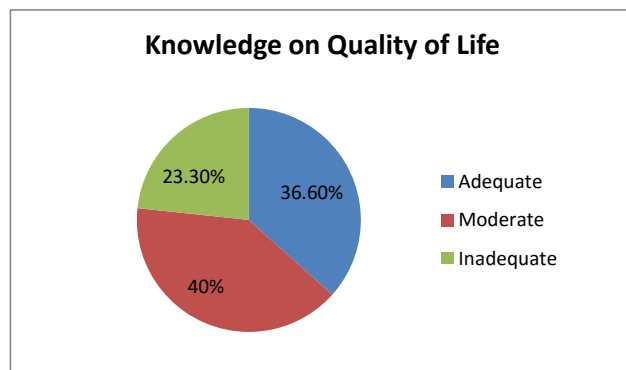
S. No	Characteristics	No of Sample	Knowledge			Chi Square	p Value
			In Adequate	Moderate	Adequate		
1.	Age	18-21Years	09	4	5	14.668	Df-6 (S) 0.023
		22-25Years	11	2	6		
		26-29Years	10	1	1		
		Above 30 Years	0	0	0		
2.	Income	>52,734	06	1	2	10.129	Df-12 (NS) 0.604
		26,355-52,733	02	1	0		
		19,759-26,354	03	1	1		
		13,161-19,758	09	2	4		
		7,887-13,60	01	0	1		
		2,641-7,886	05	1	4		
		<2,640	04	0	1		
3.	Education	Primary	05	0	3	5.996	Df-6 (NS) 0.423
		Secondary	11	2	6		
		Graduate	12	5	6		
		Illiterate	02	0	1		
4.	Occupation	Private	13	3	6	1.912	Df-6 (NS) 0.927
		Self	05	1	2		
		Government	02	1	1		
		Housewife	10	3	3		
5.	Week of Gestation	6 th Month	06	0	4	8.666	Df-6 (NS) 0.193
		7 th Month	09	1	4		
		8 th Month	10	5	2		
		9 th Month	05	1	1		
6.	Gravid	Primi Gravid	23	6	10	1.662	Df-2 (NS) 0.435
		Multi Gravid	07	1	2		
7.	Past Obstetrical Complications	Thyroid	05	2	2	5.407	Df-4 (NS) 0.248
		Hypertension	02	0	0		
		Nil	23	6	11		

Comment [Wcu22]: Better to be explanatory, make consistent with title

Comment [Wcu23]: Better to use wealth index rather income assessment.

Significant at p <0.05 Ns – Not Significant

Figure 1: Percentage Distribution of Level of Knowledge on Quality of Life among Antenatal Mothers with Gestational Diabetes. better to add study year and make inline with updated title.



Pie diagram shows that majority of the sample were moderate quality of life, whereas 36.6% of the sample were adequate quality of life and nearly 23.3% of the antenatal mothers with gestational diabetes were inadequate quality of life.

Conclusion: This study was carried out to assess the Quality of Life among Antenatal care Mothers with Gestational Diabetes. The study shows that majority of the antenatal mothers with gestational diabetes had Moderate Quality of Life. This study also indicates that quality of life had significant association with Age. But the quality of life is not significantly associated with the demographic variables like Income, Education, occupational status and also it is not associated with obstetrical variables.

Funding: Self

Conflicts of interest: Nil

Ethical Consideration: The study was approved by the institutional Human ethics committee.

References:

1. Marchetti D, Carrozzino D, Fraticelli F, Fulcheri M, Vitacolonna E. Quality of life in women with gestational diabetes mellitus: a systematic review. *Journal of diabetes research*. 2017 Oct; 2017.
2. Crowther CA, Hiller JE, Moss JR et al. For ACHOIS Trial Group Effect of treatment of Gestational Diabetes Mellitus on pregnancy Outcomes. 2005; 352(24)
3. Hussain Z, Yusoff ZM, Sulaiman SA. Gestational diabetes mellitus: Pilot study on patient's related aspects. *Archives of Pharmacy Practice Vol.* 2014 Apr 1:5(2).
4. Lakshmi D, Felix AJ, Devi R, Manobharathi M. Study on knowledge about gestational diabetes mellitus and its risk factors among antenatal mothers attending care, urban Chidambaram. *International Journal of Community Medicine and Public Health*. 2018 Oct;5(10):4388
5. Cheung KW, Wong SF. Gestational diabetes mellitus update and review of literature. *Reproductive System & Sexual Disorders*. 2012.
6. Iwanowicz-Palus G, Zarajczyk M, Pieta B, Bień A. Quality of life, social support, acceptance of illness, and self-efficacy among pregnant women with hyperglycaemia. *International Journal of Environmental Research and Public Health*. 2019 Jan16 (20):3941.
7. DirarAM, Doupis J. Gestational diabetes from A to Z. *World journal of diabetes*. 2017 Dec 15; 8 (12):489.
8. Cheung KW, Wong SF. Gestational diabetes mellitus update and review of literature. *Reproductive System & Sexual Disorders*. 2012.
9. Marchetti D, Carrozzino D, Fraticelli F, Fulcheri M, Vitacolonna E. Quality of life in women with gestational diabetes mellitus: a systematic review. *Journal of diabetes research*. 2017 Oct; 2017
10. Mokhlesi S, Simbar M, Tehrani FR, Kariman N, Majd HA. Quality of Life and Gestational Diabetes Mellitus: A Review Study Interventions. 8:9.

Comment [Wcu24]: How you measure it and you miss your operational definition part in your document!!!!!!

Comment [Wcu25]: Use this in the abstract part?

Comment [Wcu26]: How I can know? No author's list also and there contribution.

Comment [Wcu27]: Not full and I need the letter of support with reference number from ERB?????

Comment [Wcu28]: What type of referencing style???? Better to use **Harvard stle**.

11. Skevington SM. Measuring quality of life in Britain: introducing the WHOQOL-100. *Journal of psychosomatic research*. 1999 Nov 1;47(5):449-59.
12. Robin Varghese, Binny Thomas, Dr. Moza Al Hail, Dr. Abdul Rauf, Dr. Mona Al Sadi, Dr. Ayesha Al Sualiti, VirendraYadav "The Prevalence, Risk Factors, Maternal and Fetal outcomes in Gestational Diabetes Mellitus" *Int. J. Drug Dev. & Res.*, July-September 2012, 4(3): 356-368 Copyright © 2012 IJDDR, Binny Thomas et al.
13. Nielsen KK, Rheinlander T, Kapur A, Damm P, Seshiah V, Bygbjerg IC. Factors influencing timely initiation and completion of gestational diabetes mellitus screening and diagnosis-a qualitative study from Tamil Nadu, India. *BMC pregnancy and childbirth*. 2017 Dec 1; 17(1):255.
14. Morampudi S, Balasubramanian G, Gowda A, Zomorodi B, Patil AS. The challenges and recommendations for gestational diabetes mellitus care in India: A Review. *Frontiers in endocrinology*. 2017 Mar 24; 8:56.
15. Pantartzis KA, Manolopoulos PP, Paschou SA, Kazakos K, Kotsa K, Goulis DG. Gestational diabetes mellitus and quality of life during the third trimester of pregnancy. *Quality of Life Research*. 2019 May 15; 28(5):1349-54.
16. Mokhlesi S, Simbar M, Tehrani FR, Kariman N, Majd HA. Quality of Life and Gestational Diabetes Mellitus: A Review Study Interventions; 8:9.
17. Marchetti D, Carrozzino D, Fraticelli F, Fulcheri M, Vitacolonna E. Quality of life in women with gestational diabetes mellitus: a systematic review. *Journal of diabetes research*. 2017 Oct; 2017.
18. Larrabure-Torrealva GT, Martinez S, Luque-Fernandez MA, Sanchez SE, MascaroPA, Ingar H, astillo W, Zumaeta R, Grande M, Motta V, Pacora P. Prevalence and riskfactors of gestational diabetes mellitus: findings from a universal screening feasibility program in Lima, Peru. *BMC pregnancy and childbirth*. 2018 Dec 1; 18 (1):303.
19. World Health Organization. Measuring quality of life: The World Health Organization quality of life instruments (the WHOQOL-100 and the WHOQOL-BREF). WHOQOL-measuring quality of life. 1997.
20. Konstantinos A. Toulis, DimitriosG.Goulis, etal. Risk of diabetes mellitus in women with polycystic ovary syndrome. *Obstetrics and Gynaecology* 2009
21. ZahidHussian, Knowledge regarding gestational diabetes mellitus and its association with glycemc level. 2014.
22. D.Lakshmi, A John William Felix, R.Devi, M.Manobharathi (2018) knowledge about among antenatal mothers attending care urban Chidambaram its community med publishhealth2018:5 :4388-92
23. Ahmads. AlharthiKhalida. Althobaiti and khaleda. Alswat Saudi Arabiya between August and December 206 publish on 2018 ago 6(8) 1522-1526.
24. AbdullagAlnaim the Egyptian journal of hospital medicine 80(1) 560 -569 publish 2020
25. Robin Varghese, Binny Thomas, et al. The Prevalence, Risk Factors, Maternal and Fetal Outcomes in Gestational Diabetes Mellitus 2012
26. VarijaThathagari, VanajaDoddaiah. A study on prevalence and determinants of gestational diabetes mellitus, *Obstetrics and Gynaecology* 2016.
27. Manisha R. Gandhewar, Binti R. Bhatiyani, et al. prevalence of Gestational diabetes mellitus and its maternal and Fetal outcomes, 2017.