



## **Assess the Quality of Life amongst Antenatal Mothers with Gestational Diabetes Mellitus in a Selected Districts, Tamil Nadu, India**

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### **Authors' contributions**

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

### **Article Information**

DOI: 10.9734/JPRI/2021/v33i55B33854

### **Open Peer Review History:**

This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: <https://www.sdiarticle5.com/review-history/76675>

**Original Research Article**

**Received 05 October 2021**  
**Accepted 10 December 2021**  
**Published 13 December 2021**

## **ABSTRACT**

**Background:** Gestational diabetes Mellitus is defined as the diabetes diagnosed within the second or third trimester of pregnancy. Gestational Diabetes Mellitus 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.

**Objectives:** Were to assess the quality of life amongst antenatal mothers with Gestational Diabetes Mellitus and to associate the quality of life amongst antenatal mothers with the selected 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 Scale among antenatal 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. The result

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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 5points 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. And there is Significant Association of demographic variables of age, except age other demographic and Obstetrical variables are Not Significant and ( $X^2 - 56.16, P = >0.05$ ).

*Keywords: Quality of life; gestational diabetes; antenatal mothers.*

## 1. INTRODUCTION

Gestational diabetes Mellitus is defined as the diabetes diagnosed within the second or third trimester of pregnancy. Gestational Diabetes Mellitus is one of the most frequent metabolic diseases during pregnancy [1-3]. 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) [4]. Gestational Diabetes Mellitus 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 Gestational Diabetes Mellitus [5-7]. It refers to “Carbohydrate intolerance leading to hyperglycaemia of variable severity with onset or 1st recognition throughout pregnancy”. Maternal hyperglycaemia may cause fetal side effects which associated with this carbohydrate disorder, such as foetalmacrosomia, perinatal mortality, caesarean delivery, and preeclampsia [8,9]. 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 Gestational Diabetes Mellitus is important [10]. The prevalence of Gestational Diabetes Mellitus in United Kingdom was 5%. Moreover Gestational Diabetes Mellitus complicated about 4-14% pregnancies in United states of America. The trend of a Gestational Diabetes Mellitus is so increased markedly in Southeast Asian countries during the last two decades. According to national obstetrics registry. Malaysia report of 2009, prevalence of Gestational Diabetes Mellitus is 11.1% in Malaysia [11]. Recently, Prevalence of GDM was found to be 18% in HAPO (hyperglycaemia and adverse pregnancy outcome) study. World

Health Organization estimated that prevalence of Gestational Diabetes Mellitus 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 [12]. 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 (T2Diabetes Mellitus) identified early in the pregnancy and true Gestational Diabetes Mellitus which develop later [13-15]. Gestational Diabetes Mellitus constitutes a greater impact on diabetes epidemic because it carries a significant risk of developing T2DM to the mother and foetus later in life [16,17]. And it also affect the Quality of life in elated to Gestational Diabetes Mellitus [18]. The Objectives were to assess the quality of life amongst antenatal mothers with Gestational Diabetes Mellitus and to associate the quality of life amongst antenatal mothers with the selected demographic variable.

## 2. MATERIALS AND METHODS

Quantitative descriptive research approach was used to assess the quality of life amongst antenatal mothers with gestational diabetes mellitus. The study was carried out on the antenatal mothers who are subjected to Gestational Diabetes mellitus in selected districts, Tamil Nadu, India. The population comprises of antenatal mothers with gestational diabetes mellitus 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 mothers with gestational diabetes mellitus who fulfills the inclusion criteria of Antenatal mothers who are diagnosed with

Gestational Diabetes Mellitus and who are able to write and read in 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.

Section – 1: Describe of demographic variables of Antenatal Mothers with Gestational Diabetes Mellitus.

Section – 2: To Assess the knowledge of Antenatal Mothers with Gestational Diabetes Mellitus regarding Quality of Life.

Section – 3: To identify the Association of level of knowledge of Antenatal Mothers with Gestational Diabetes Mellitus regarding Quality of Life in the selected demographic and obstetrical variables.

### 3. 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 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 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 Mothers with gestational diabetes are graduate, 36.6% (11) of Antenatal Mothers with gestational diabetes had secondary educations, and 16.6% (05) of Antenatal Mothers with gestational diabetes had primary education, whereas 6.6% (02) of Antenatal 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 8<sup>th</sup> month of gestation and 7<sup>th</sup> month (N-09, 30%) of gestation whereas 20% of them are in the 6<sup>th</sup> month and nearly 16.6% of them are in the 9<sup>th</sup> month. Majority 76.6% (23) of the sample were belongs to Primi Gravida 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.

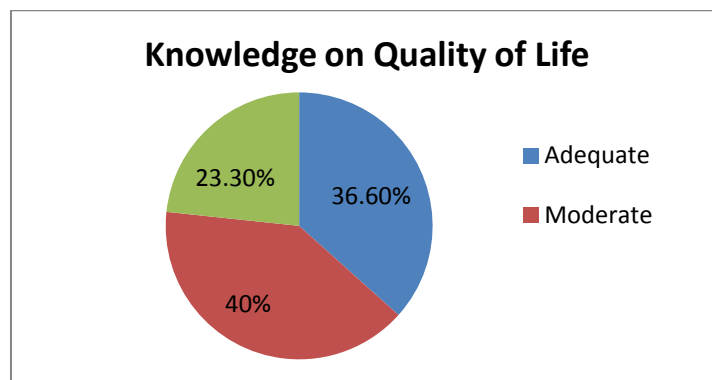


Fig. 1. Percentage distribution of level of knowledge on quality of life among antenatal mothers with gestational diabetes

**Table 1. The baseline demographic datas 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 0.023 (S)
		22-25Years	11	2	6		
		26-29Years	10	1	1		
		Above 30 Years	0	0	0		
		≥52,734	06	1	2		
2.	Income	26,355-52,733	02	1	0	10.129	Df-12 0.604 (NS)
		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		
3.	Education	<2,640	04	0	1	5.996	Df-6 0.423 (NS)
		Primary	05	0	3		
		Secondary	11	2	6		
		Graduate	12	5	6		
		Illiterate	02	0	1		
4.	Occupation	Private	13	3	6	1.912	Df-6 0.927 (NS)
		Self	05	1	2		
		Government	02	1	1		
		Housewife	10	3	3		
		6 <sup>th</sup> Month	06	0	4		
5.	Week of Gestation	7 <sup>th</sup> Month	09	1	4	8.666	Df-6 0.193 (NS)
		8 <sup>th</sup> Month	10	5	2		
		9 <sup>th</sup> Month	05	1	1		
6.	Gravid	Primi Gravid	23	6	10	1.662	Df-2 0.435 (NS)
		Multi Gravid	07	1	2		
7.	Past Obstetrical Complications	Thyroid	05	2	2	5.407	Df-4 0.248 (NS)
		Hypertension	02	0	0		
		Nil	23	6	11		

Significant at p <0.05 Ns – Not Significant

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.

#### 4. CONCLUSION

This study was carried out to assess the Quality of Life amongst Antenatal 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.

#### CONSENT

As per international standard or university standard, patients' written consent has been collected and preserved by the author(s).

#### ETHICAL APPROVAL

The study was approved by the institutional Human ethics committee.

#### COMPETING INTERESTS

Authors have declared that no competing interests exist.

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