

# Assess the knowledge on umbilical cord blood banking among antenatal mothers at a selected hospital, Chennai.

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**Abstract:** The blood collected in the umbilical cord is said to be a rich origin of stem. The blood contains stem cells which are also known as haematopoietic cells and these cells can convert into any types of organs in the body. These stem cells collected from the umbilical cord can heal genetic diseases related to blood and immune system like cancer, blood disorders and several life-threatening diseases. Aim- To estimate the level of antenatal mother's knowledge concerning umbilical cord blood banking. Methods: The level of antenatal mother's knowledge was estimated by using a descriptive research design. Antenatal mothers of total 60 samples were elected for the study from mothers attending antenatal OP. Demographical variables and the level of knowledge among antenatal mother concerning umbilical cord blood banking were collected by using structured interview. Result: The current knowledge level of antenatal mother on umbilical cord blood banking portrays that 46(77%) had inadequate knowledge, 12(20%) had moderate knowledge and the antenatal mothers with adequate knowledge were found to be 2(3%). Conclusion: Thus this study finding indicate that antenatal mother's knowledge in regard to umbilical cord blood banking was inadequate.

**Keywords:** Knowledge, Attitude, Umbilical cord blood banking, Antenatal Mothers.

## I.INTRODUCTION

During antenatal period a single life line that act as the binding bridge between the placenta and the fetus is called umbilical cord. It does not only aid as the fetal life supporter but further holds the ability to support life even after the baby is born [6]. The blood present in the umbilical cord just after the delivery of a child is abundant in stem cells. It also contains a different variety of stem cells which serves as the building blocks. The damaged cells throughout the body can be replaced or repaired through stem cells and it can also be used as medical treatment in the future [2]

The stems cells are body's raw material from which all other cells with special functions are generated. More than 80+ diseases including leukemia, lymphoma etc can be treated by using stored umbilical cord blood.[4]

Blood in the cord is more advantageous and also considered more effortlessly obtainable comparing to another type of stem cells drawn from bone marrow and blood which are

collected from other peripherals. Stem cell can be collected without causing any harm to the baby or mother from all types of deliveries conducted under appropriate conditions delivered by any trained health care professionals [8]. Numbers of advantages of cord blood include less chance of transmitting viral infection, decreased chance of human leukocyte antigen HLA-matched and HLA-mismatched stem cell transplants, ease of collection with little risk to both mother and baby and easy availability[1]. The procedure for collection of blood from the umbilical cord for banking is done within 10 minutes after the baby is born by cutting the cord and by using aseptic technique the blood is drained through gravitational force and blood of more than 75 ml from the cord of the fetal end is collected into a blood bag and it is then stored after barcoding [4, 9].

According to WHO, 2018, the transplant of the stem cell which are done annually is estimated to be more than 50.000 and it is said that transplantation is speedily increasing. More than 90% of the blood related disorders can be treated by the transplantation of the stem cell if the transplantation is carried out in the early period [7].

Apollo Hospital, Chennai has achieved 70% success rate in umbilical cord blood stem cell transplantation [11]. Chaithanya Hospital, Pune, has been treating 78% of transplantation of stem cell have in treating diabetic polyneuropathy. Follow-up statistics show that improvement was experienced by 67% after stem cell therapy [10].

During the clinical experience the researcher had observed the need to create realization about umbilical cord blood banking also to improve the antenatal mother's knowledge about its effectiveness when used as the treatment options if the blood taken out from umbilical cord is stored for banking. The mother must know about the issues that are involved in cord blood banking as mothers holds the greatest responsibility in taking care of the child. Moreover mothers need to recognize about umbilical cord blood banking so that they can provide correct information to the people and prevent the child from various diseases. This motivated the investigator to explore the awareness among antenatal mother.

II. RESEARCH METHODOLOGY

The level of antenatal mothers knowledge in regard to umbilical cord blood banking was carried out by using quantitative research approach and non experimental descriptive design was used. Using non-Probability sampling technique mothers of 60 samples who fulfilled the inclusion criteria were selected as a sample for the study, after explaining the purpose to the samples the informed consent in a written form was taken from the selected samples and data was collected using structured interview questionnaire. Result analysis was done by using descriptive and inferential statistic.

2.1 .Description of the tool

**PART I-** It includes demographic variables such as age, mother’s educational status, occupation, type of family, total income, numbers of blood donated, duration of marriage, parity, gestational age in weeks, sources of information received.

**PART II-** The level of antenatal mother’s knowledge with regard to umbilical cord blood banking is assessed by using checklist.

III .DATA ANALYSIS AND INTERPRETATION

Table 1: Frequency and percentage distribution of level of antenatal mothers knowledge in regard to umbilical cord blood banking.

Level of knowledge	Study group	
	No.	%
<b>Inadequate knowledge</b>	46	77
<b>Moderate knowledge</b>	12	20
<b>Adequate knowledge</b>	2	3

Table 1 portrays that 46(77%) had inadequate knowledge, antenatal mother who had moderate knowledge were found to be 12(20%) and antenatal mother with adequate knowledge were found to 2(3%).

FIGURE 1: Percentage distribution of level of antenatal mothers knowledge in regard to umbilical cord blood anking.

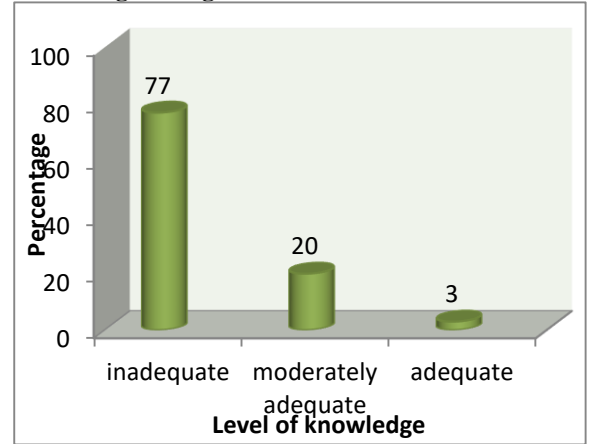


TABLE 2: Association of level of antenatal mothers knowledge in regard to umbilical cord blood banking.

Demographic Variables	Inadequate knowledge		Moderately adequate knowledge		Adequate knowledge		Chi-Square Value
	No.	%	No.	%	No.	%	
<b>Type of family</b>							$\chi^2=8.050$ d.f=2 p = 0.018 S*
Nuclear family	34	56.7	2	3.3	0	0	
Joint family	12	20.0	10	16.7	2	3.3	
<b>Source of information received</b>							$\chi^2=9.815$ d.f=4 p = 0.044 S*
Family	18	30.0	6	10.0	0	0	
Health care workers	24	40.0	6	10.0	0	0	
others	4	6.7	0	0	2	3.3	

\*p<0.05, S – Significant, N.S – Not Significant

Table 2 shows that the demographic variables sources of information received and types of family had shown significant association in statistics with level of antenatal mothers knowledge in regard to umbilical cord blood banking at p<0.05 level and the other demographic variables had not shown statistically significant association with level of knowledge regarding umbilical cord blood banking among antenatal mothers.

IV.DISCUSSION

The greatest responsibility of a parents starts at the time when a child is born. Parents are the basic care takers who play the most important role in upbringing a child’s. A child life depends greatly upon the decision taken at the time of birth.

What could be greater than giving the child a gift of healthier tomorrow. In order to be able to give every possible child a happier tomorrow and for the remaining life a parent needs to know about the important role and usefulness of umbilical cord blood banking.

The study finding shows that majority had inadequate knowledge which can be due to poor coverage of the information and educations in regard to banking of blood from umbilical cord. The supported study of the present study finding was Karagiorgou L.Z et.al (2014) who did a research study among Greek citizens on Knowledge about umbilical cord blood banking revealed that the information was either considered non-existent or inadequate by 85% of the respondents and 95% of people in Greek revealed more information regarding transplantation of blood from umbilical cord and blood storage or donation would be appreciated[5].

#### V.CONCLUSION

The study findings of the present study shows that the level of antenatal mothers knowledge in regard to umbilical cord blood banking portrays that 46(77%) had inadequate knowledge, antenatal mother with moderately adequate knowledge were found to be 12(20%) and antenatal mother with adequate knowledge were found to be 2(3%). Regarding association with demographic variables the greater influence regarding the knowledge received were family types and the information received sources. Thus with the present study findings the study concluded that the antenatal mothers knowledge in regard to umbilical blood cord banking is inadequate thus public awareness programs mainly in the health facilities needs to be organized to improve the knowledge of antenatal mother.

#### VI. CONFLICT OF INTEREST

The author declares that there was no conflict of interest aroused during the study.

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