RESEARCH ARTICLE

A DESCRIPTIVE STUDY TO ASSESS KNOWLEDGE REGARDING UMBILICAL CORD BLOOD BANKING AMONG WOMEN IN THE REPRODUCTIVE AGE

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Manuscript Info	*Abstract*

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Umbilical cord blood stem cells are the name given to the blood remaining in the umbilical cord and placenta after childbirth. Umbilical cord blood has the potential to be a huge source of primitive hematopoietic stem and progenitor cells that can be used to reconstruct the hematopoietic system and restore immunological function in individuals who require treatment. A descriptive research methodology was adopted in this study and 100 reproductive age group women in Sharda Hospital were selected in the present study. Convenience sampling technique was adopted for the data collection. The information was gathered via a knowledge questionnaire, which was used to assess knowledge regarding umbilical cord blood banking. The result revealed that 30 women had poor knowledge, 63 women had moderate knowledge and 7 had knowledge about umbilical cord blood banking. The importance of umbilical cord blood banking information was given among selected 100 participating women via the help of a pamphlet to raise awareness of uses of umbilical cord bloodbanking.

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Introduction:-

'' Every drop of Blood is life-saving to others because your baby has a special power to donate stem cells''

The blood that remains in the placenta and umbilical cord following childbirth is referred to as umbilical cord blood stem cells[1].Cord blood may represent a vast reservoir of primitive hematopoietic stem and progenitor cells that can be utilized to repair damaged immune systems and rebuild the hematopoietic system in patients in need of medical care. The blood that remains in the placenta and umbilical cord following childbirth is referred to as umbilical cord blood stem cells[2]. Cord blood has the potential to be an alternative source for bone marrow transplantation, and its use is emerging as a new area of treatment for paediatric and adult patients with haematological disorders, immunological defects, and specific genetic diseases.When the newborn is born, the umbilical cord is separated, and blood can be collected from the part of the umbilical cord that is still in place. Stem cells recovered from the blood in the remaining umbilical cord and placenta are called umbilical cord blood stem cells (UCB). UCB stem cells are unique and have many promising applications in the future[3].

According to WHO, 2018, the number of stem cell transplants annually is estimated to .be over 50,000. It is said that the number of transplants is increasing rapidly. More than 90% of blood-related disorders can be treated by transplanting stem cells if carried out in the early period[4]. Apollo Hospital in Chennai has successfully transplanted umbilical cord blood stem cells 70% of the time[5].An another study done in Dehradun to check knowledge regarding

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umbilical cord blood stem cell banking among antenatal mothers in 2022 it's also stated that the majority of the antenatal mothers (64.4%) had poor knowledge, (35.5%) had average knowledge and the remaining (0%) have good knowledge in the sample size of 90 antenatal mothers[1] .Over 30,000 cord blood transplants have been completed successfully so far throughout the world[6].

HLA-typed stem cell banks can be established due to umbilical cord blood containing a plentiful supply of hematopoietic stem cells that can be utilized for blood system restoration. Furthermore, these cells can be easily extracted and stored through cryopreservation. Additionally, umbilical cord blood has the potential to generate non-hematopoietic cells such as bone, brain, and endothelial cells[7].In India, the reproductive age group women are not aware of the importance of cord banking and those who know about it are mostly prefer for Private Banking[8].

Globally, over 3 million UCB units are in storage, with approximately 650,000 held in public banks and 2.5 million in private banks.Individual cord blood banks permit families to keep their own cord blood stem cells for their family members only[9]. Cord Life India, a top individual cord blood bank, requires an initial payment of Rs.5000 and an additional Rs. 1300 each month for the following years. Public cord blood banks provide complimentary cord blood storage to individuals who qualify as donors. They are typically funded by government or private sources, which is the reason they offer these services free of charge to the family[10].

Problem Statement
A study to assess knowledge and at regarding umbilical cord blood banking among women in the reproductive age group in Sharda Hospital, Greater Noida.

Objective:-
1. To assess the level of knowledge regarding umbilical cord blood banking among antenatal mothers.
2. To find out the association between level of knowledge with demographic variables.

Hypothesis
H01: There will be a significant association between levels of knowledge score with selected demographic variables.
Variables
Two types of Variables were identified in the study which are:
Study variable:
Knowledge regarding umbilical cord blood banking among women in the reproductive age group in Sharda Hospital, Greater Noida.

Demographic variables:
Demographic details of the selected women are - age in years, Gravida, Week of gestation, religion, education status of mother and father, occupation status of mother and father, type of family, and monthly income of the family.

Delimitations of Study:
1. The present research was limited to women who are attending , Sharda Hospital Greater Noida, Uttar Pradesh.
2. The sample size was limited to 100.

Methods:-
1. Study design: Non-experimental descriptive design was selected for this study.
2. Setting: The setting of the study was Sharda Hospital , Greater Noida.
3. Selection of participants: women of the Reproductive age group at Sharda Hospital and a convenience sampling technique was used.
4. Sample size: There were a total of 100 reproductive age group women as the sample size in this study of Sharda Hospital,Greater Noida.
Data Collection Tools And Techniques :

Section A (Demographic Perfoma):
This section consists of age in years, Gravida, Week of gestation, religion, education status of mother and father, occupation status of mother and father, type of family, and monthly income of the family.

Section B (Self-Structured Questionnaire):
The self-structured knowledge-based questionnaire was constructed by the researcher. The knowledge questionnaire comprised of 20 items.

It consists of various questions regarding the introduction about the umbilical cord, its purpose, duration, procedure, storage, price etc. Each item was given 1 point for the right answer and 0 points for the wrong answer. Study Participants were asked to respond to the questionnaire by providing a tick mark in the questionnaire.

1	1-15	Good	30
2	16-30	Moderate	63
3	31-46	Severe	7

Table 1:-FrequencydistributionofdemographicvariablesN=100

DEMOGRAPICVARIABLES	Frequency n	Percentage %
Ageinyearof theparticipant		
<=25Years	46	46
>25Years	54	54
Gravida		
Primigravida	47	47
Multigravida	53	53
WeekOfGestation		
8-17weeks	30	30
17-26weeks	55	55
27-40weeks	15	15
AnypastobstetricalHistory		
Yes	37	37
No	63	63
Religion		
Hindu	72	72
Muslim	20	20
Sikh	4	4
Christianandothers	4	4
Educational statusofMother		
NoformalEducation	16	16
PrimaryEducation	39	39
SecondaryEducation	32	32
GraduateandAbove	13	13
Occupational StatusofMother		
Housemaker	71	71
PrivateEmployee	15	15
GovernmentEmployee	10	10
Business	4	4
Educational statusofFather		
NoformalEducation	11	11
PrimaryEducation	28	28
Secondary Education	28	28
Graduate and Above	33	33

OccupationofFather		
Unemployed	10	10
Privateemployee	55	55
Governmentemployee	29	29
Business	6	6
Types ofFamily		
Nuclear	49	49

Joint	40	40
Extended	11	11
MonthlyIncomeofFamily		
20,000-30,000	14	14
30,000-40,000	42	42
40,000-50,000	33	33
50,000above	11	11

The table -provides a demographic overview of 100 participants, highlighting variouscharacteristics. The age distribution is nearly even, with 46% aged ≤25 years and 54%aged >25 years. Regarding pregnancy status, 47% are primigravida, while 53% aremultigravida.Mostparticipants(55%)areinthe17-26weeksgestationperiod

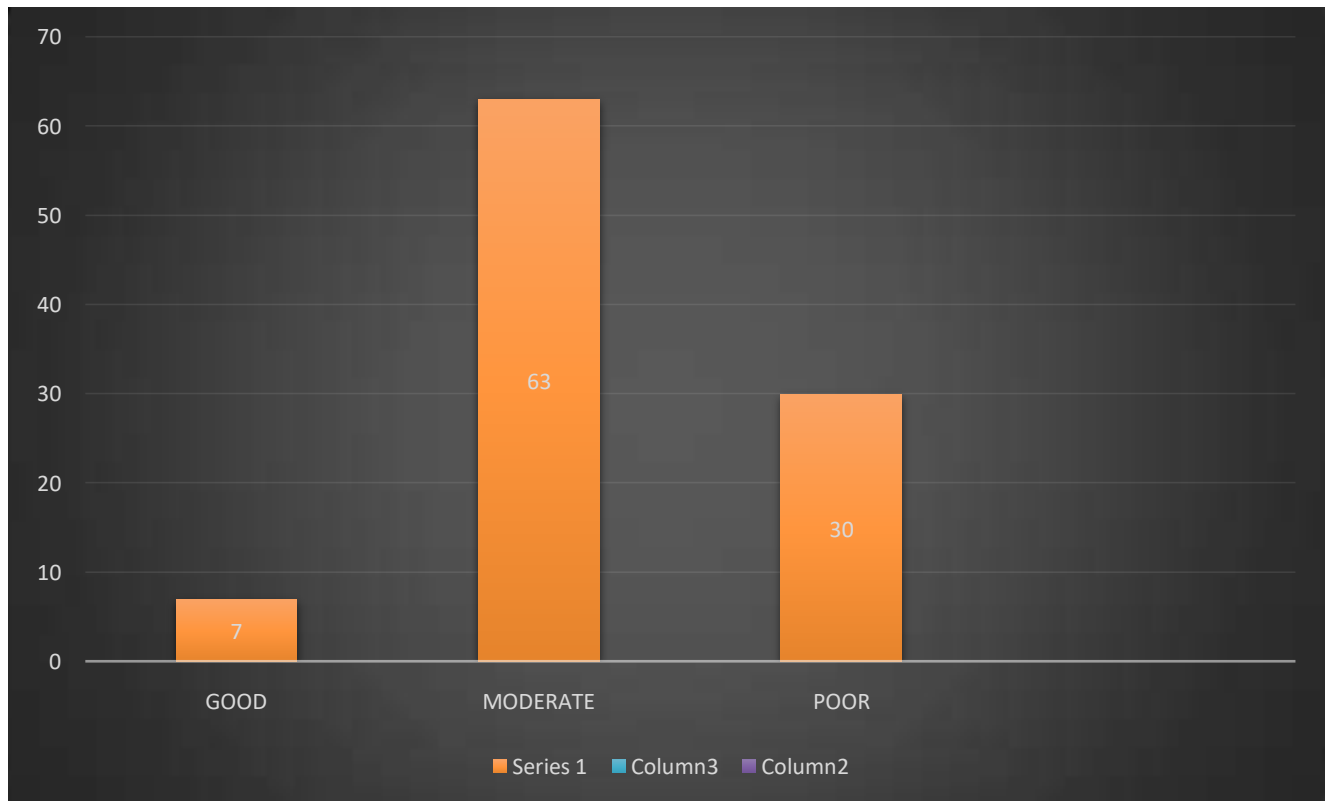**Table2:-**AssociationbetweendemographicvariableandknowledgeN=100

Demographic Variable	LEVEL OF KNOWLEDGE						Chi square	Df value
	Poor Knowledge		Average knowledge		Good Knowledge			
	n	%	n	%	n	%		
Age in year of the participant								
<=25 Years	19	41.30%	26	56%	1	2%	0.675(NS)	2
>25 Years	26	48.10%	26	48%	2	3.70%		
Gravida								
Primigravida	22	46.80%	24	51.10%	1	2.10%	0.859(NS)	2
Multigravida	23	43.40%	28	52.20%	2	3.80%		
Week Of Gestation								
8-17 weeks	15	50%	14	46.70%	1	3.30%	0.793(NS)	4
8-17 weeks	22	40%	31	56.40%	2	2%		
27-40 weeks	8	53.80%	7	46.70%	0	0%		
Any past obstetrical History								
Yes	17	45.90%	20	54.10%	0	0%	0.402(NS)	2
No	28	44.40%	32	50.80%	3	4.80%		
Religion								
Hindu	32	44.40%	38	52.80%	2	2.80%	0.849(NS)	6
Muslim	9	45%	10	50%	1	5%		
Sikh	3	75%	1	25%	0	0%		
Christian and others	1	25%	3	5.80%	0	0%		
Education status of Mother								
No formal Education	9	56.30%	6	37.50%	1	6.30%	0.514(NS)	6
Primary Education	19	49%	19	48.70%	1	2.60%		
Secondary Education	14	43.80%	17	53.10%	1	3.10%		
Graduate and Above	3	23.10%	10	76.90%	0	0%		
Occupation Status of Mother								
Housemaker	35	49.30%	33	46.50%	3	4.20%	0.145(NS)	6
Private Employee	2	13.30%	13	86.70%	0	0%		
Government Employee	6	60%	4	40%	0	0%		
Business	2	50%	2	50%	0	0%		
Education status of Father								
No formal Education	7	63.60%	4	36.40%	0	0%	0.066(NS)	6
Primary Education	18	64.30%	9	32.10%	1	3.60%		
Secondary Education	10	35.70%	18	64.30%	0	0%		
Graduate and Above	10	30.30%	21	63.60%	2	6.10%		

Occupation of Father								
Unemployed	8	80%	2	20%	0	0%	0.256(NS)	6
Private employee	23	41.80%	30	54.50%	2	3.60%		
Government	10	34.50%	18	62.10%	1	3.40%		
Business	4	66.70%	2	33.30%	0	0%		
Type of Family								
Nuclear	18	36.70%	30	61.20%	1	2%	0.101(NS)	4
Joint	24	60%	15	37.50%	1	2.50%		
Extended	3	27.30%	7	63.60%	1	9.10%		
Monthly Income of Family								
20,000-30,000	3	21.40%	11	78.60%	0	0%	0.088(NS)	6
30,000-40,000	23	54.80%	17	40.50%	2	4.80%		
40,000-50,000	17	51.50%	15	45.50%	1	3%		
50,000 above	2	18.20%	9	81.80%	0	0%		

(p<0.005significantlevel)S–SignificantandNS-NonSignificant.

Above table- depicts association between level of knowledge regarding umbilical cord blood banking among 100women in reproductice age group.. Based on chi-square test staticsthat there is no significant association betweenlevelofknowledgewithdemographicvariables(Age,Gravida,
weeksofgestation)regardingumbilicalcordbloodbankingamongwomeninreproductiveage group.

Section B: Distribution Of Level Of Knowledge Regarding Umbilical Cord Blood Banking Among Reproductive Age Group Women

Discussion:-

Present study depicts that among 100 women both primigravida and multigravidamothers. 63% had moderate knowledge about umbilicalcord blood banking ,30% hadpoorknowledgeaboutcordbloodbanking,7%hadadequateknowledgeaboutumbilical cord blood banking .which had similar results with other study conductedbyTomarSonamin(2022)Dehradunstudiedtheknowledgeregardingumbilicalcordblood banking .The final result of study suggested that 64% mother had Inadequateknowledge and 35%had average knowledge and 0%had good knowledge .AnotherstudyconductedbySudhanshuKumarinVishakhapatnamfrom Dec 2015 to2016.The result of study depicts 67% were aware and 33% had poor knowledge aboutumbilical cord blood banking especially who have lower socioeconomic status andeducationalstatus

Conclusion:-

30%hadpoorknowledge63%hadmoderateknowledgeand7%hadgoodknowledge about antenatal mother regarding umbilical cord. Socio-demographiccharacteristics such employment status, education of women associated with havingadequate knowledge about antenatal mothers regarding umbilical cord care where astype of family, religion, income had no relation with knowledge of antenatal mother regarding umbilical cord. Other more studies can be done in this are regarding distributing booklets regarding neonatal cord blood banking in large geographical area.

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