Journal of Population Therapeutics & Clinical Pharmacology

RESEARCH ARTICLE
DOI: 10.53555/jptcp.v30i5.2907

KNOWLEDGE REGARDING CORD BLOOD BANKING

Ms.Ankita B. Chaudhari[1*] Ms.Jinal Patel[2], Dr.N. Sivasubramanian[3], Patel Daksh V.[4] Patel Janvi K.[5], Patel Janvi S.[6], Patel Kenali K.[7], Patel Khushi K.[8], Patel Namrata M.[9]

[1*,2]Assistant Professor, Nootan College of Nursing, Sankalchand Patel University, Visnagar, Gujarat-384315, India.
[3]Professor, Nootan College Of Nursing, Sankalchand Patel University Visnagar, Gujrat-384315
[4-9] Fourth year B.sc Nursing Student, Nootan College Of Nursing, Sankalchand Patel University, Visnagar, Gujrat.-384315

***Corresponding Author:** Ms.Ankita B. Chaudhari
*Assistant Professor, Department of Medical Surgical Nursing, Nootan College of Nursing Sankalchand Patel University,Visnagar, Gujarat– 384315, India, Mobile No-8320293088
Email: jigichaudhari217@gmail.com

Abstract:
Introduction: As the baby is delivered and the navel is cut, blood can be taken from the part of the cord that is still attached to the placenta. 'Umbilical cord blood (UCB) stem cells' are stem cells that have been harvested from the placenta and umbilical cord. This blood, which has been considered medical trash for millennia since it is not useful for the mother or the infant, is an abundant source of stem cells.
Objective: The purpose of the study was to assess the public's knowledge about the banking of cord blood.
Methodology: Non-experimental survey was the methodology chosen for the investigation. Techniques for non-probability convenience sampling were used.
Conclusion: In the test, 34 (34%) of the 100 students had inadequate knowledge, 48 (48%) average knowledge, and 18 Good knowledge is (18%). The probability value of the chi square contingency table indicated that there was no correlation between the knowledge scores and the socio demographic variable.

Keywords: Students, cord blood banking.

Introduction:

The portion of the umbilical cord that is still connected to the placenta can be used to draw blood as a newborn is birth and cutting of the cord. 'Umbilical cord blood (UCB) stem cells' refers to stem cells that have been extracted from the placenta and umbilical cord. This blood, which is useless for the mother or the newborn child and has for a while discarded as medical waste, is a rich source of stem cells. Future applications for UCB stem cells are diverse and look very promising. Because of their naivety, these cells produce a donor-derived immune response that is less after transplantation then stem cells via other sources (bone marrow or peripheral cells), which are more likely to trigger graft against host reactions. (1)

Every organ and tissue in our bodies is made up of stem cells, which are a component of the hematopoietic system, the system that produces the many types of adult blood cells. They also serve as sort of internal repair system in many tissues, As long as the person or animal is still alive, cells will continue to divide nearly endlessly to produce other cells. These stem cells are not ethically debatable like embryonic stem cells. Despite its many benefits, UCB stem cells have some drawbacks. It needs to be collected properly. Adult recipients of stem cell transplants are still constrained by the processing and preservation of single UCB stem cell units. (2)

After the infant is delivered, In the process of the cord blood banking procedure, blood is taken from the placenta and umbilical cord. The cord blood is collected, stored in a cord blood bank, frozen. After the umbilical cord is severed during childbirth. The placenta's blood vessels and the segment of the umbilical cord that is still attached to it still contain some blood. Umbilical cord blood, which is taken after childbirth, is known. In many instances, a patient's own UCB may not be helpful as Furthermore, the disease's precursor present in the UCB stem cells. The following two options exist for banking UCB: 1) Private UCB organizations, where a newborn's UCB is kept for a fee. If a need arises, only the child or his family may use these UCB.2) Public UCB banks; these are akin to blood banks. Any expectant a woman might come here to sign up for a program that's free to donate UCB at the moment of delivery, and anyone else can use it for a fee. (3)

Methodology:

To accomplish the broad and comprehensive goal, a quantitative technique was used. Using the convenience sampling method with non-probability, a sample size of 100 was chosen. By using a structured knowledge questionnaire, information was gathered from Nootan College of Nursing Visnagr final-year B.sc. nursing students and GNM students. Knowledge questionnaire reliability was r = =0.07. After the data was gathered, it was analyzed using descriptive and inferential statistics, such as the frequency, percentage, mean, median, mode, standard deviation, and Chi-square test.

Results:

Table 1: Distribution of sample characteristics by socio demographic variable in terms of frequency and percentage.

Sr. No	Demographic variables		frequency	percentage
1	Age	18-19 year 20-21 year 22-23 year 24-25 year	11 78 8 3	11% 78% 8% 3%
2	Gender	Male Female	15 85	15% 85%
3	Attend any workshop	Yes No	66 34	66% 34%
4	Course of study	3rd year B.sc 3rd year G.N.M	60 40	60% 40%
5	Source of information regarding cord	Mass media Self reading Health personal Academic education	30 19 15 36	30% 19% 15% 36%
6	Have you had close family member or friend want to cord blood banking?	Yes no	55 45	55% 45%

Table 1: Display the percentages for the age categories of 18 to 19 (11%) and 20 to 21 (78%), 22 to 23 (8%), and 24 to 25 (3%).In comparison to women, who make up 85% of the population, men make up 15%. The workshop was attended by 66% of the population, while 34% did not. 60% of third-year GNM and 40% of third-year B.SC students.According to the mass media (30%), self-reading (19%), personal health (15%), and academic education (36%), the three main sources of knowledge on cords are. A close friend or family member wants to bank cord blood (55%) whereas a close friend or family member doesn't want to (45%).

Table 2:- Analysis and interpretation of knowledge

SR. NO.		FREQUENCY	PERCENTAGE
1	MEAN	13.98	13.98%
2	SD	5.34	5.34%
3	MEDIAN	50	50%

Table 2: show that frequency and percentage of mean, SD and median

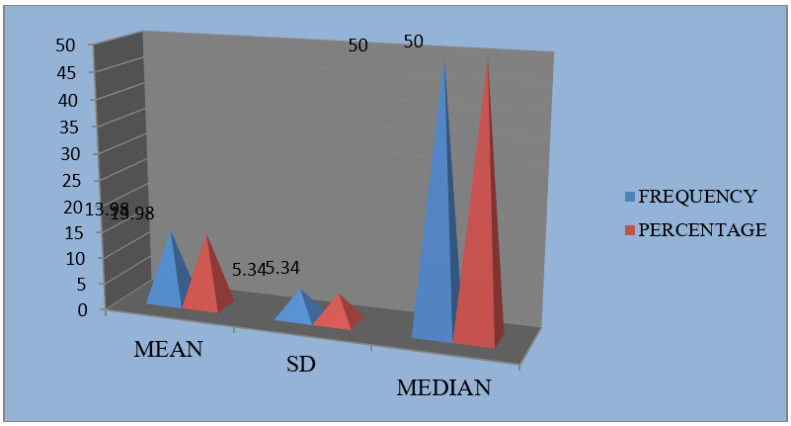

Fig 1: column diagram showing percentage of mean, median, SD

Table 3:- To determine the relationship between knowledge and the chosen demographic variable.

SR. NO.	DEMOGRAPHIC VARIABLE		F (%)	score			T- value	Chi - squre	result
				Mild	Moderate	Severe		x^2	
1	Age	18-19 year 20-21 year 22-23 year 24-25 year	11 78 8 3	5 23 2 1	4 12 4 1	2 43 2 1	0.101371	10.6052	NS
2	Gender	Male Female	15 85	7 24	4 13	4 48	0.103044	4.5452	NS
3	Attend any workshop	Yes No	66 34	20 12	10 10	36 12	0.123135	4.1889	NS
4	Course of study	3rd B.SC 3rd GNM	60 40	20 15	11 6	29 19	0.869627	0.2794	NS
5	Source of information regarding cord	Mass Media Self Reading Health personal Academic Education	30 19 15 36	11 5 3 11	4 6 5 6	14 8 7 19	0.596795	4.5943	NS
6	Have you had a close family member of friend want to cord blood banking?	Yes No	55 45	14 17	9 13	32 15	0.044405	6.2228	NS

S-Significant NS-Non significant
According to Table 3, there was no correlation between knowledge cord blood banking levels and the chosen demographic factor.

Discussion:
A study to determine the level of awareness about cord blood banking among third-year GNM and B.SC students in a particular area at Nootan College of Nursing, Visnagar. For the investigation, a total of 100 samples were chosen. 18 students have strong understanding about cord blood banking, 48 have average knowledge, and 34 have low knowledge.

Based on the study's goal, the outcomes are discussed.

OBJECTIVES
1)To assess the level of knowledge regarding cord blood banking among 3rd year B.SC nursing and 3rd year GNM students of nootan college of nursing visnagar .
2)To find an association between knowledge and their selected demographic variables.
3)To aware the student about cord blood banking.

First objective to assess knowledge regarding cord blood banking among different type of variable.
The majority are between the ages of 20 and 21 (83%), followed by 22 to 23 (8%), 18 to 19 (7%), and 24 to 25 (2%).

Second objective to find association between demographic variable
The majority of demographic factors are not significant.

Conclusion:
The study finds that updating and improving students' knowledge of cord blood banking was successful.

Future work and challenges:
1. To draw broad generalizations, a study of a comparable nature that can be conducted with a larger, more diverse sample size and over a longer period of time would be more appropriate.
2. To determine how much is known about cord blood banking, an experimental study can be done.
3. To evaluate knowledge, attitude, and practices about cord blood banking, a descriptive study might be carried out.
4. A comparable study can be replicated in another setting.

Author's contribution statement:
Ankita Chaudhari and Janvi K. planned, designed, collected, and analyzed this data; Daksh, Janvi S, Kenali, Khushi, and Namrata contributed to the final content and discussed the approach and findings.

Acknowledgement:
For giving me the chance to conduct the research, I am grateful to the president of Sankalchand Patel University.

Conflict of interest:
There is no stated conflict of interest.

References:

1. Cooper CA, Severson MR. Cord blood and tissue banking : supporting expectant parent's decision making. Int J Child Educ. 2013;28(2):62-8.
2. Fannin M. Personal stem cell banking and the problem with property. Soc Cult Geogr.2011;12(2):339-56.
3. Brown N, Kraft A. Blood Ties: banking the Stem Cell Promise. Tech Anal Start Manag. 2006;18(3/4);313-27.
4. Yoder MC. Cord blood banking and transplantation: advances and controversies. Curr Opin Pediatr.2014;26(2):163-8.
5. Kharaboyan L, Knoppers BM, Avard D, Nisker J. Understanding umbilical cord blood banking. What Women need To know before deciding. Womens Health Issues. 2007;17:277-80.
6. Fannin M. Personal stem cell banking and the problem with property. Soc Cult Geogr.2011;12(2):339-56.
7. Brown. Umblical cord blood banking. Journal of Pediatrics Nursing. 2006; Vol. 4 Issue.5, Pg No 40-43.
8. L.Kamala Devi. Umblical cord blood banking. A review. Nightingale Nursing Times. 2009; Vol-5, Issue. 7; Pg No.24.
9. Eapen A study to assess the knowledge regarding Umbilical cord blood banking. Indian Journal of Nursing Research. 2008; Vol. 4. Issue. 2; Pg No;43-46.
10. Bollard Catherine. Umbilical cord blood banking American Journal of Nursing. 2015; Vol 6, Issue 9 ;Pg No. 60.
11. Swapna Bhatia. Conditions affecting the reproductive health. Nightingale Nursing Times. 2004; Vol. 12. Issue;10,Pg No.61-64.
12. D kavitha. Umbilical cord blood banking. A new in the medical world. Kerala Nursing Forum. 2010. Vol-7, Issue-3, Pg No.44-45
13. Bharat pareek & shivani Sharma A textbook of nursing research &statistics 4th edition medical publisher(india).
14. BT basavanthappa, nursing research , second edition , jaypee brothers medical publisher(p) Ltd.
15. Varma V ,Tabassum N , Yadav CB< Kumar M, Singh AK, Singh MP,et al. Cord blood banking: An Indian perspective. Cell Mol Biol. 2016;62;1-5.
16. Ballen KK, Gluckman E, Broxmeyer HE. Umblical cord blood transplantation: the first 25 years and beyond. Blood . 2013;122:491-8.