



“KNOWLEDGE REGARDING UMBILICAL BLOOD STEM CELL BANKING AMONG ELIGIBLE COUPLES “

Pratibha Khagta*

Assistant Professor, Akal College Of Nursing, Eternal University, Baru Sahib.

*Corresponding Author

ABSTRACT

Cord blood is currently approved by the FDA for the treatment for nearly 80 diseases and cord blood treatments have been performed more than 35,000 times around the globe to treat cancer. **Objectives Of The Study:** The objectives of the study were to assess the knowledge regarding Umbilical cord stem cell banking among eligible couples, to find the association between knowledge score with selected demographic variables. **Materials & Methods:** Quantitative Descriptive study was carried out in selected areas of district Unna, Himachal Pradesh. Using non probability purposive sampling technique, 60 couples between the age group of 18-35 years were selected from selected areas. Data was collected using semi structured interview schedule. Data was analyzed by using SPSS software in terms of descriptive and inferential statistics. **Results:** The results of the study revealed that 26.66% had good knowledge, 61% subjects had “Average knowledge” and 11.66% of subject had poor knowledge related to current study. Hence, it can be concluded that majority of couples had moderate knowledge related to Cord blood stem cell banking. There were two demographic variables at level of significance. **Conclusion:** The current study reflected the moderate knowledge about Umbilical cord stem cell banking among eligible couples.

KEYWORDS : Knowledge, Demographic variables, Stem cell.

INTRODUCTION

Background Of The Study:

Umbilical cord blood is the blood that remains in the umbilical cord and placenta post delivery. Cord blood is containing blood forming stem cell that can be used to treat life threatening diseases including thalassemia, lymphoma and leukaemia, sickle cell anaemia and some are autism, cerebral palsy, spinal cord injury, type 1 diabetes, stroke, brain injury, autism and more.

Global Scenario:

The first umbilical cell bank was started at the New York blood centre in 1992. Public cord blood banks operate in all developed countries, and with most developing countries. By 2014 the, international cord blood banking network comprised over 160 public cord blood banks in 36 countries, with over 731,000 umbilical cord blood units stored.

More than 40,000 umbilical cord blood transplantation was done worldwide. Cord blood cell banking has been developed to the point that around the 800,000 units are being stored in public banks and more than 4 millions units in private banks worldwide.

India Scenario:

India's first private cord blood stem cell bank, 'Life cell' has been launched in Chennai, with an investment of Rs 12 cores. **India academy of Paediatrics** conducted a meeting on umbilical cord blood cell banking on 25th June 2016 in Pune; the consultative meeting was attended by expert in the field of umbilical cord blood stem cell transplantation working across India with the objective of to bring out consensus guidelines for umbilical cord banking in India.

The guidelines from the **Biotechnology and (ICMR) Indian Council of Medical research** are available to assist with the UCB issues and stem cells research. Roughly 0.25 per cent of the global share of umbilical cell banking transplantation is done and only the three (ICMR) Indian Council of Medical research licensed umbilical cord banks are operated in the India.

Need For The Study:

The umbilical cord fluid is fully loaded with the stem cell and they can treat more than 80 disorders. In India nearly the 70 per cent of patient who need bone marrow transplantation do not find a match with in his own family. According to the Kumar, stem cell transplantation has shown that the 50 per cent of success in treating the certain kind of cancers where the bone marrow unable to produce sufficient new cell to replenish blood cell. Where the Stem cell transplant has shown that the 70 -80 per cent success in treating non- malignant diseases like a plastic anaemia and they also told that the there is a lack of awareness about stem cell transplantation among the people.

Statement Of The Study:

A descriptive study to assess the knowledge regarding the umbilical blood stem cell banking among eligible couples in selected area of district Unna (HP).

Objective Of The Study:

1. To assess the knowledge of eligible couples regarding umbilical blood stem cell banking.
2. To find out the association between the knowledge score and selected variables.

Operational Definition:

Eligible Couple:

eligible refer to the married couples where in the wife is in reproductive age group 18 to 45 years.

Knowledge:

Knowledge refers to the justified statement possessed by eligible couples regarding the umbilical stem cell banking assessed by the structured questionnaire.

MATERIALS & METHODS

Quantitative Descriptive study was carried out in selected areas of district Unna, Himachal Pradesh. Using non probability purposive sampling technique, 60 couples between the age group of 18-35 years were selected from selected areas. Pilot study was conducted among 6 non-study subjects s Data was collected using semi structured interview schedule. Data was analyzed by using SPSS software in terms of descriptive and inferential statistics.

The tool consists of two sections including the demographic variables Age, gender, education, Occupation, Monthly family income, No of children.

Structured questionnaire to assess knowledge regarding umbilical cord stem cells. Semi structured interview schedule consists of multiple choice questions.

RESULTS & DISCUSSION

DATA ANALYSIS AND INTERPRETATION:

Table 4.1.1: Frequency And Percentage Distribution Of Personal Profile Of The Subject N=60

Sr. No.	Variables	Categories	Frequency (f)	Percentage (%)
1.	Age	18 – 26 years	46	76.7%
		27 – 35 years	14	23.3%
2.	Gender	Male	14	23.3
		Female	46	76.7
3.	Education status	No. Formal education	1	1.7
		Primary education	10	16.7
		Secondary education	32	53.3
		Graduate or above	17	28.3
4.	Occupation status	Government employee	1	1.7
		Private employee	16	26.7

Sr. No.	Variables	Categories	Frequency (f)	Percentage (%)
5.	Monthly income	Home maker	33	55.0
		Self employee	10	16.7
		30,000 / - or less	51	85.0
		31,000 / - 40,000/	7	11.7
		41,000/ - 50,000/-	2	3.3
6.	No. of children	50,000/- or more	0	0
		0 – 1	43	71.7
		2 – 3	17	28.3
		4 – 5	0	0
		5 or above	0	0

Table 4.1.1: The table shows that the majority 46 (76.7%) of couples were in the age group 18 to 26 years. In gender females are more involved that is 46 (76.7%). As per education, in the study among 1 (1.7%) of respondents have no. formal education, 10 (16.7%) of respondent were primary education and the majority 32 (53.3%) of respondent were Secondary education. In this study among the study subjects 33 (55.5%) were home maker and 16 (26.7%) have private employee. According to the monthly income of the family, 51 (85.0%) have monthly income 30,000 / - or less/month. In this study among the study subject 43 (71.7%) have 0 – 1 No. of children's and 17 (28.3%) have 2 – 3 no. of children's.

N= 60

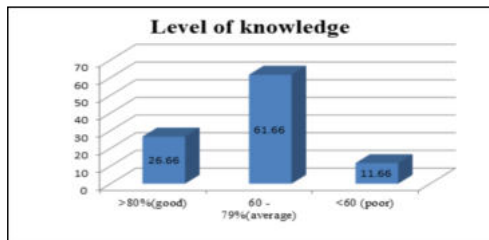


Figure 4.1.1: Level Of Knowledge.

Assessment of knowledge among eligible couples age group (18 – 35) years depicts that majority of couples have average knowledge (61.6%) related to umbilical blood stem cell banking and 26.66% have good knowledge and 11.66% have poor knowledge about umbilical blood stem cell banking.

Table 4.1.2: Association Of Selected Demographic Variables With Knowledge Of Eligible Couples Related To Umbilical Stem Cells Banking. N= 60

Sr. No	Variables	Categories	Chi- Square	df	P- value
1.	Age	18 – 26 years 27 – 35 years	8.046	11	NS 0.709
2.	Gender	Male Female	5.446	11	NS 0.908
3.	Education status	No. Formal education Primary education Secondary education Graduate or above	25.588	33	NS 0.818
4.	Occupation status	Government employee Private employee Home maker Self employee	33.980	33	NS 0.420
5.	Monthly income	30,000 / - or less 31,000 / - 40,000/ 41,000/ - 50,000/- 50,000/- or more	39.144	22	0.014*
6.	No. of children	0 – 1 2 – 3 4 – 5 5 or above	17.643	11	0.090*

*Significant at level $p < 0.05$ level, NS (Non significant) at level $p > 0.05$ level

Table 4.3.1: This table depicts the association of selected demographic variables with knowledge of eligible couples related to umbilical stem cell banking. The table indicates the level of significance the level of 0.014 among monthly income of couples and significant level 0.090 in case of no. of children.

DISCUSSION:

In current study knowledge regarding the umbilical blood stem cell banking among eligible couples have average knowledge related to umbilical stem cells 37 (61.66%) and 16 (26.66%) couples have good knowledge and 7 (11.66%) were poor knowledge related to study. Hence, it can be concluded that majority of couples have aware regarding umbilical stem cell banking in district Unna.

A study conducted to examine the knowledge and attitude of Turkish mothers about umbilical stem cells and umbilical stem cell banking. This study determined that the 75.4% of mothers did not know about cord blood banking and 21.1% have learned about umbilical stem cell banking from the media and 22.4% of mothers did not want the cord blood to be preserved; 97.9% of them had no reason to refuse to preserve the cord in bank.

In this study, among selected demographic variables only monthly income (p value=0.014) and no. of children's (p value=0.090) was significantly associated with knowledge (p value is < 0.05 as per chi square test). While other variables have no significant knowledge as their p value is > 0.05 that is age (p value = 0.709), gender (p value = 0.980), education (p value is = 0.818), occupation (p value is = 0.420). A similar descriptive study to assess the knowledge and attitude regarding the umbilical blood and umbilical stem cell banking among Turkish mothers reveals that, the attitude of mother got better and their level of knowledge increased in accordance with their educational status ($p < 0.0001$). Mother's age and the no. of children they did not affect their knowledge and attitude.

CONCLUSION:

This study finding conclude that women had moderate knowledge regarding umbilical stem cells banking. Nursing administration and community health nurses helping to educate them regarding umbilical stem cells banking.

REFERENCES

- Louiza Z. Karagiorgou, Maria-Nikoletta P. Pantazopoulou, Nikolaos C. Mainas, Apostolos I. Beloukas, Anastasios G. Kriebardis. Knowledge about Umbilical Stem Cell Blood Banking among Greek citizen. Blood transfuse. 2014 Jan; 12(Suppl 1): s353-s360.
- Catherine R, Akishya M, Raji D, Revathi P, Saranya K, Shahana I, Suganthi S, Vinodh V. Knowledge and attitude regarding umbilical cord blood banking among antenatal mother in OPD at Pondicherry institute of medical science, Pondicherry. The New Indian Journal of OBGYN. 2020;6(2):97-100.
- Pandeyn Deeksha, Kaur Simar, Kamath Asha. Banking Umbilical Cord Blood (UCB) Stem Cell: Awareness, Attitude And Expectations of potential Donors from One of the Largest Donors from one of the largest potential Repository (India). May 2016;11(5).
- Vishal Gupta, Lipisha Agarwal, Priya Ballals, and Deeksha Pandey. Cord Blood Banking: Antenatal Care Provider's Roles and Responsibilities. Leonora Buzanska, 07 March 2019.
- Deeksha Pandey, Simar Kaur, Asha Kamath. Banking Umbilical Cord Blood (UCB) Stem Cell: Awareness, Attitude And Expectations of potential Donors from One of the Largest Donors from one of the largest potential Repository (India). May 2016;11(5).
- Fernandez, Conrad & Gordon, Kevi & Van den hof, Michiel & Tweel, Saureen & Baylis, Francoise. Knowledge and attitudes of pregnant women with regard to collection, testing and banking of cord blood stem cell. CMAJ: Canadian Medical Association journal, (2003);168:695-8.
- Aksa peter, Maria PT Angel, Aniet Bijo, Ani Rose Thomas, Aniu Mol, Varahese, Annie. The knowledge among student nurse regarding umbilical cord stem cell banking. Asoan Journal of Nursing Education and Research, 2017;7(4):505-508.
- Amandeep Kaur and Archana Garg. A descriptive study to assess the knowledge and attitude regarding stem cell and umbilical cord blood banking among antenatal women attending antenatal OPD of selected Hospitals, Hoshiarpur, Punjab. J Nur Today 2016;5:2456-1630.
- Aksa peter, Angel Maria P. T, Aniet Bijo, Ani Rose Thomas I Anuj Mol Varghese, Anni Thomas, Vineeth Joseph. The knowledge among student nurses regarding Umbilical Cord Stem Cell Banking. Asian Journal of Nursing Education and Research (2017);7(4):505-508.