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RESEARCH ARTICLE

ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMMED REGARDING COLLECTION OF CORD BLOOD FOR STEM CELL THERAPY AT BRAM HOSPITAL OF RAIPUR

Ms. Tripti Goarya and Dr. Chandrakala Janghel

Associate Professor (Obstetrical And Gynecological Nursing) Govt. College of Nursing Raipur, Chhattisgarh.

Manuscript Info

Abstract

The stem cells, derived from the cord blood are hematopoietic stem cells. These have immense potential in curing blood related disorders like blood cancers, thalassemia etc. These can be useful in treating tissue related disorders of heart, bone, spinal cord etc. Stem cells are characterized by the ability to renew through mitotic cell division and differentiate into a diverse range of specialized cell types. Stem Cells are the basic building blocks of the body and have the potential to replenish other cells and give rise to number of tissues which constitute different organs. To conduct the study, 60 antenatal mothers are selected; the age range of subjects was 21 to 40 years. The need for the study arises after knowing those antenatal mothers were unaware and having inadequate knowledge regarding cord blood collection for stem cell therapy. The above facts created an interest to conduct a structured teaching programme to assess its effectiveness on knowledge and attitude of antenatal mother on cord blood collection for stem cell therapy. The pretest, the mean score of knowledge is 13.2 mean % is 50.7, & attitude is 31.58, mean % 63.16, the post test the mean score of knowledge is 18.1, mean % is 69.65. Attitude 38.05, mean % 76.1.

Introduction:-

Umbilical cord is the vital direct interlink between mother and fetus, which is always depicted as the relationship of an emotional bonding of motherhood, when mother gives birth, the blood that remains in the placenta and umbilical cord is referred as cord blood. This particular blood contains numerous hematopoietic stem cells that have the ability to differentiate into other cells and the ability to self-regenerate.

Cord blood stem cell research has been extensively explored worldwide to enhance human health in medical setting. Stem cells have tremendous promise to helping us to understand and treat a range of various diseases, injuries and other health- related conditions. Their potential is evident in the use of cord blood stem cells to treat diseases of the blood,treat diseases or injury to the bone, skin and surface of the eye.

Statement of The Problem

Assess the effectiveness of structured teaching programmed regarding collection of cord blood for stem cell therapy at bram hospital of raipur.

Corresponding Author:- Ms. Tripti Goarya
Address:- Associate Professor (Obstetrical And Gynecological Nursing) Govt. College of Nursing Raipur, Chhattisgarh.

Objective:-
1. To assess the pretest knowledge and attitude score of antenatal mother regarding cord blood collection for stem cell therapy.
2. To determine the effectiveness of structured teaching programme on cord blood collection for stem cell therapy.
3. To find out the association between pre test knowledge and attitude scores of antenatal mother on cord blood collection for stem cell therapy with selected demographic variables.

Materials and Methods:-
Sample- The sample for this study included antenatal mothers who meet inclusive criteria. It consists of 60 antenatal mothers. Samples were selected from Govt.hospital, Raipur.

Tools
1. Section – A-It deals with demographic variables, which includes Age, Religion, Gravida, Education, Occupation, Types of family, previous source on stem cell therapy.
2. Section – B-This section consists of structured questionnaire to assess the knowledge among antenatal mothers. It consists of 26 multiple choice questions. Scoring was done for each item. In each question there was only one right choice. Each correct answer was given a score of one and wrong answer carries score of zero. Knowledge was measured in terms of knowledge score. The total scores of knowledge were 26.
3. Section – C- A likert attitude scale was prepared by the investigator to assess the attitude of stem cell therapy among antenatal mothers. It consists of 10 statements. Each statement was scored.

Design -Pre experimental design -one group pretest post test
Intervention -To interpretation of data collected from 60 antenatal mothers admitted in govt. Hospital Raipur (C.G.). Analysis was done by using descriptive statistics (mean, mean percentage and standard deviation) and inferential statistics (t-test and chi- square test), Findings revealed that the improvement of knowledge and attitude towards the cord blood collection for the stem cell therapy.

Method And Procedure:-
First of all, 60 antenatal mothers were selected. Pre test were taken before the commencement of the study period. Similarly stem cell, cord blood collection regarding teaching programme was organized for antenatal mothers before. After seven days counselling post test data on knowledge & attitude checklist was again collected. Paired sample't' test was used to analysis the pre-post data on studied variables. The difference in pre-post mean scores (gain score) on knowledge & attitude among antenatal mothers were also correlated with each other. The results are presented in section A, B & C respectively.

S.no.	Demographic Variables	Frequency (n)	Percentage (%)
1	**Age of the mother**		
	21 – 25	15	25%
	26 – 30	23	38.33%
	31 – 35	14	23.33%
	36 – 40	08	13.34%
2	**Religion**		
	Hindu	23	38.33%
	Muslim	10	16.67%
	Christian	15	25%
	Others	12	20%
3	**Parity of the mother**		
	Primi Gravida	41	68.33%
	Multi Gravida	17	31.67%
4	**Education**		
	Illiteracy	12	20%
	Primary education	25	41.67%
	Middle education	15	25%
	Higher secondary education	11	18.33%

5	**Occupation**		
	Homemaker	13	21.66%
	Government employee	19	31.67%
	Private employee	14	23.34%
	Self - employee business	14	23.33%
6	**Type of family**		
	Nuclear family	38	68.33%
	Joint family	22	35.67%
7	**Previous knowledge**		
	Mass media	15	25%
	Health workers	25	41.67%
	Peer group	09	15%
	None	11	18.33%

Table 1:- Frequency and percentage distribution of demographic variables of antenatal mothers.

Table 1:- shows that majority 23(38.33%) of antenatal mothers were in the age group of 26-30 years, were Hindus 23(38.33%), were primi gravida,41(68.33%) Primi education 22(41.67%), govt. 19(31.67%) ,nuclear family 38(68.33%) , previous knowledge on cord blood from health worker 25(41.67).

Section b: Assess the pretest knowledge and attitude score of antenatal mother regarding cord blood collection for the stem cell therapy.

Table 2:- Analysis level of Pretest and Post Test Level of Knowledge and attitude regarding Cord Blood Stem Cell Therapy among Antenatal Mothers age group.

S.no	Socio data	Mean	SD	SE	Upper limit	Lower limit
	Age	15	1.37	0.17	17.68	12.31
1	Pre test knowledge	13.2	4.0	0.51	7.73	5.73
2	Post test knowledge	18.1	2.98	0.3	6.02	4.84
3	Pre test attitude	31.58	8.81	1.1	36.8	32.5
4	Post test attitude	38.05	7.23	0.9	39.8	36.8

The table 2 shows that in the pretest knowledge, mean score 15,SD is 1.37 and SE is 0.17 and pre test attitude mean score 31.58,SD is 8.81 and SE is 1.1, had inadequate knowledge.whereas in the post test knowledge after imparting structured teaching programme mean score18.1SD is 4.0 and SE is 0.51,and post test attitude mean score 38.05,SD is 7.23 and SE is 0.9 adequate knowledge regarding cord blood stem cell therapy among antenatal mothers

Section C: - Effectiveness Of Structured Teaching Programme On Cord Blood Collection For Stem Cell Therapy.

Table 3:- Comparison of pretest and post test knowledge scores regarding cord blood stem cell therapy among antenatal mothers N= 60.

s.no	Variables	Mean	Mean %	SD	df	T test	T table	Result
1	Pre	13.2	50.7	4.0	59	8.57	2.00	S
2	Post	18.1	69.65	2.98				

The table 3:-shows that in the pretest, the mean score of knowledge is 13.2 mean % is 50.7 with S.D is 4.0 whereas in the post test the mean score of knowledge is 18.1, mean % is 69.65 with S.D 2.98 at degree of freedom is 59. The paired tabulated t test value '2.00' is less than the calculated t test value '8.57' at 0.05% level of significance. Hence H0 is rejected and H1 is accepted and it is highly significant. This clearly shows that the structured teaching programme imparted to antenatal mothers had significant improvement in the post test level of knowledge regarding cord blood stem cell therapy.

Table 4:- Comparison of pretest and post test attitude scores regarding cord blood stem cell therapy among antenatal mothers   N=60.

s.no	Variables	Mean	Mean %	SD	df	T test	T table	Result
1	Pre	31.58	63.16	8.81	59	8.21	2.00	S
2	Post	38.05	76.1	7.23				

The table 4:-shows that in the pretest, the mean score of attitude is 31.58, mean % 63.16 with S.D 8.81 whereas in the post test the mean score of knowledge 38.05,mean % 76.1 with S.D 7.23 at degree of freedom 59. The calculated paired t'value of t = 8.21 is found to statistically significant at 0.05% level. This clearly shows that the structured teaching programme imparted to antenatal mothers had significant improvement in the post test level of attitude regarding cord blood stem cell therapy.

Section c: Association of Structured Teaching Programme on Knowledge and Attitude Regarding Cord Blood Stem Cell Therapy Among Antenatal Mothers

Table 5:- Association of knowledge level and attitude level regarding cord blood stem cell therapy among antenatal mother N=60.

S.no.	Variable	Poor	Average	Good	Chi square	Chi table	result
1	strongly disagree	1	1	0	4.431579		
2	Disagree	2	5	0			
3	Neither agree nor disagree	5	10	1			Not significant
4	Agree	5	20	1		15.51	
5	strongly agree	4	4	1			

The table 5:- shows that in the association between knowledge score and attitude score, the calculated chi square is 4.43,is less than tabular value 15.51,as level of significant 0.05,

Table 6:- Association of post test level of knowledge regarding cord blood stem cell therapy among antenatal mothers with selected demographic variables N=60.

S.no	Variable	Poor	Average	Good	Chi square	Chi table	df	Result
1.	**Age**							
	21-25	4	10	1	2.270			NS
	26-30	6	15	2			6	
	31-35	5	9	0		12.59		
	36-40	2	6	0				
2.	**Religion**							
	Hindu	9	13	1	3.39	12.59	6	
	Muslim	2	8	0				NS
	Christian	4	10	1				
	Other	2	9	1				
3.	**Parity**							
	Primi	12	27	2	0.05	5.99	2	
	Multi	5	13	1				NS
4.	**Education**							
	Ilitarcy	7	5	0	9.69	12.59	6	
	Primary	5	16	1				NS
	Middle	3	10	2				
	High	2	9	0				
5.	**Occupation**							
	house wife	8	5	0	19.19	12.59	6	

govt job	2	16	1					
private job	3	10	1					S
Business	4	9	1					
6. **family type**								
Nuclear	11	25	2	0.040	5.99	2		
Joint	6	15	1					
7. **Source**								NS
mass media	5	10	0	3.607	12.59	6		
medical emp.	7	16	2					NS
peer grp	3	5	1					
none of them	2	9	0					

The table 6:- shows that the calculated chi square for age 2.27, df=6, and the table value 12.59 religion were calculated chi square is 3.39, df=6, table value is 21.03. Parity calculated chi square 0.05, df=42 table value 5.99. Education of antenatal mother calculated chi square 9.69, df=6 table value 12.59. the occupation of mother were calculated chi square 19.19, df=6, table value 12.59. The type of family of children were calculated chi square 0.040, df=2, table value =5.99   . The previously knowledge source were calculated chi square 9.92df=6, table value 12.59.
The calculated value of chi square of occupation is Significant.

Table 7:- Association of pre test level of attitude regarding cord blood stem cell therapy among antenatal mothers with selected demographic variables.

S.no	Variables	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Chi cal.	Chi table	df	Result
1	**Age**									
	21-25	0	1	3	4	1	28.44	21.03	12	
	26-30	0	1	4	5	3				S
	31-35	1	2	4	11	3				
	36-40	1	3	5	6	2				
2.	**Religion**									
	Hindu	1	4	4	8	2	9.581	21.03	12	
	Muslim	0	0	5	5	2				NS
	Christian	1	1	4	6	3				
	Other	0	2	3	7	2				
3.	**Parity**									
	Primi	1	4	9	15	4	0.018	9.49	4	NS
	Multi	1	3	7	11	5				
4.	**Education**									
	Illiteracy	0	1	3	7	3	13.36	21.03	12	
	Primary	0	3	4	5	3				
	Middle	1	2	3	8	1				NS
	High	1	1	6	6	2				
5.	**Occupation**									
	house	0	3	3	4	3		21.	1	

	wife						18.	03	2	
	govt job	1	1	5	5	3	88			
	private job	1	2	4	11	1				NS
	Business	0	1	4	6	2				
6.	**family type**									
	Nuclear	1	5	4	16	7	7.9 3	9.4 9	4	NS
	Joint	1	2	12	10	2				
7.	**Source**									
	mass media	1	1	3	7	2	9.9 2	21. 03	1 2	
	medical emp.	1	1	4	10	5				NS
	peer group	0	2	4	4	1				
	none of them	0	3	5	5	1				

The table 7:- shows that only The calculated chi square for age 28.44, df=12, and the table value 21.03. Religion were calculated chi square is 9.58, df=12, table value is 21.03. Parity calculated chi square 0.018, df=4, table value 9.49. Education of antenatal mother calculated chi square 13.36, df=12 table value 21.03. The occupation of mother were calculated chi square 18.88, df=12, table value 21.03. The type of family of children were calculated chi square 7.93, df=4,table value =19.49 .The previously knowledge source were calculated chi square 9.92df=12,table value 21.03.

Results:-
The calculated value of chi square of age Significant**.**

Discussion:-
In the present study it was observed with data analysis, interpretation and discussion of the data collected to interpretation of data collected from 60 antenatal mothers admitted in govt. Hospital Raipur (C.G.). Analysis was done by using descriptive statistics (mean, mean percentage and standard deviation) and inferential statistics (t-test and chi- square test), Findings revealed that the improvement of knowledge and attitude towards the cord blood collection for the stem cell therapy.

Summary
The umbilical cord is one of the richest sources of pure young stem cells in the human body. Stem cells are the very foundation of the human body. Every part of our body including blood, bone, skin and muscles are formed from master cells known as stem cells. Cord blood stem cells are master cells of our body used in the treatment of nearly 80 diseases, including wide range of cancers, genetic diseases and blood transplant. When a transplant is successful a healthy new immune system has been treated. Umbilical cord stem cells when preserve under cryogenic conditions have no expiration date, thereby providing life time benefit.

Conclusion:-
On the basis of results it may be concluded that effectiveness of structured teaching programme on knowledge and attitude regarding cord blood stem cell therapy among antenatal mothers. The results revealed that structured teaching programme is very effective in increasing the level of knowledge and attitude at p<0.01 level.

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