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A STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING HOME CARE PHYSIOTHERAPY MANAGEMENT OF CHILDREN WITH CEREBRAL PALSY AMONG MOTHERS OF AFFECTED CHILDREN

¹AJITH KUMAR K, PhD scholar, Capital University, Koderma ²Dr. RAVI SHANKAR RAVI, Dean / Director Department of Physiotherapy, Capital University, Koderma

ABSTRACT

Objectives

The study was carried out To assess the pre-test knowledge on home care management of cerebral palsy for the mothers of affected children in experimental and control group, To compare the post-test level of knowledge score in experimental and control group, To evaluate the effectiveness of structured teaching program on home care management of cerebral palsy in the mothers of affected children and To find association between the post-test knowledge on home care management of cerebral palsy for the mothers of affected children and the variables among experimental and control group.

Materials and Methods

The study was carried out using a quantitative, true experimental design: the Randomized control trial method. The Randomized controlled trial method is an effective Method to balance the confounding factors between the experimental and control groups. The total sample consists of 120 in numbers of which 60 samples belong to the group-A (Monday, Wednesday, Friday) as an experimental group and 60 samples belongs to the Group- B (Tuesday, Thursday, Saturday]as a control group. Using a multi stage sampling Technique, two groups were selected through simple randomization (lottery) method and randomly assigned as experimental group and control group. The Neurology OPD and Physiotherapy department were again randomized in each 10 -12 mothers are selected Using simple randomization (lottery) method to alleviate the bias. Samples were selected Using a multi stage sampling with simple randomization. Pre-existing knowledge was Assessed for the mothers in both the groups using a structured questionnaire prepared by the investigator and validated by the Physiotherapy experts. Structured teaching Programme on home care management of cerebral palsy for the mothers of affected Children was given to the participants in experimental group using pamphlet, flex board nd flash cards. Control group was not provided with any intervention. Post test was Conducted in both the group after a week of intervention.

Results

The Physiotherapy results show that in experiment group, on an average, in post-test After having structured teaching programme, the mean difference of knowledge gain Score is in experiment group, none of them have inadequate level of score, 20.00% of Them have moderate level and 80.00% have adequate level of score. In the control group, 56.67% of them have inadequate level of score, 43.33% of them have moderate level and None have adequate level of score. Statistical significance was calculated using Chi square Test. The difference shows the effectiveness of structured teaching programme. There is a significant association between the knowledge gain score and the age, education, marital Status, mode of delivery and previous experience of the participants.

Conclusion

The study of Physiotherapy results showed that there is an effectiveness of a Structured teaching programme in the mothers of children affected with cerebral palsy on Physiotherapeutic home care management of these children. The paediatric nurses can Develop an educative material on home care management of children with cerebral palsy for an effective comprehensive care. Hence the researcher was interested in assessing the Knowledge and finding the effectiveness of prepared educative material among the mothers of affected children regarding home care management of cerebral palsy.

Key words – home care, physiotherapy management, cerebral palsy

INTRODUCTION

The child is a great gift to everyone that you will ever receive. Child health Depends significantly on the parental care which starts from the time of pregnancy and throughout the life. So, providing "good health" is most important on the part of the Parenting for the children with cerebral palsy. Cerebral palsy is a non-progressive motor and posture dysfunction. It can affect the whole body or part of the body say diplopia, Hemiplegic, focal paralysis etc.

Cerebral palsy may occur due to maternal infection, anorexia, prolonged labour, Damage to the motor centres in the brain during prenatal, intra natal and postnatal periods. In cerebral palsy many associated additional impairments may also be present. They may Manifest as mental Retardation (50-75%), speech disorder (25%), auditory impairments (25%), seizure disorder (25-30%), abnormalities of vision (40–50%), and behavioural Disturbances and so on.

Most children with cerebral palsy live at home with their families, at Care givers education is an important component it empowers the care giver and imprambfamilies role efficacy. During medical camp, which is conducted once in a month, the care Givers are given education relating cerebral palsy and allied areas. Field experts are Invited to interact with the care givers through which they gain a lot of insight Through such professional interactions tend regular classrooms at their Neighbourhood schools, and participate in a variety of community activities. As Adults, most continue to live in community settings, but one third live at home with Their parents, whose ability to continue care giving may decrease as they age. Twenty percent of adults with cerebral palsy are ambulatory, and 40% can walk with assistance; the remaining 40% are non ambulatory.

Physiotherapists play a role in caring with shared governance develops and recognizes the collaborative relationship with the family to empower and ensure the quality care to the client. Based on this model, the researcher depicts the importance of nurses in the physiotherapy department to impart knowledge to the mothers of cerebral palsy children as a part of

establishing collaborative relationship with family especially the mothers of children with cerebral palsy. The paediatric nurses can develop an educative material on home care management of children with cerebral palsy for an effective comprehensive care. Hence the researcher was interested in assessing knowledge on home care management of children with cerebral palsy among mothers of affected children.

METHODOLOGY

Sampling-

The study sample comprises of 60 in the experimental group and 60 in the control group. The population of the study was the mothers having children with cerebral palsy Who are attending Neuro- Physiotherapy Outpatient Department of SK Hospital, Trivandrum, Kerala.

The research design for this study is randomized control trial research design. Randomized Control Trial design is a quantitative, comparative and Controlled experiments in which an investigator studies the intervention in a series of Participants allocated randomly to each experimental and control group.

Procedure -

Initially the permission was obtained from The Medical Superintendent of SK Hospital, Trivandrum, Kerala and HOD of Physiotherapy Department for conducting a Pilot study and main study was conducted from 02.11.2019 to 4.12.2019. As the study was proposed to be conducted within a span of four consecutive weeks for the sample selection, data collection which includes a pre-test and structured teaching program and Post-test. The total sample consists of 120 in numbers of which 60 samples belong to the Group-A (Monday, Wednesday, Friday) as an experimental group and 60 samples belongs To the Group- B (Tuesday, Thursday, Saturday]as a control group. Using a multi stage sampling technique, two groups were selected through simple Randomization (lottery) method and randomly assigned as experimental group and control Group. The neurology op and physiotherapy department are again randomized. In each 10 –12 mothers are selected using simple randomization (lottery) method to alleviate the bias. After the selection of the groups for the study, the investigator approached the mothers established good rapport and explained about the study. The mothers after understanding the importance of the study ensured full cooperation for the study and signed the informed consent. The mother in the group who met the inclusion criteria of the study were included in the study and were assured regarding confidentiality of their details. The data collection was done in the month of November. Pertest was conducted for the study subjects. It took about 10 min to complete the questionnaire. It was followed by the structured teaching programme for about 20min using the posters and handout. About 8 - 10 subjects were given pertest and teaching every day. As planned earlier post test was conducted at the end of the week using the

Same structured questionnaire.

As per the suggestions of the experts in statistics Monday, Wednesday and Friday One group of mothers of cerebral palsy children were attending known as group "A". Then Tuesday, Thursday and Saturday mothers of cerebral palsy children were Participating in the neurology op of physiotherapy is another group considered as group B. This assigned Group-A was experimental group and Group-B was control group. In Neurology op both groups were selected randomly among the mothers of affected children with cerebral palsy. The effect of the teaching will be equal to the level of knowledge gained after the Intervention minus the level of the knowledge before the intervention.

Group	Pre-test	Intervention	Post-test
Experimental	01	Х	02
Control	01	-	02

01: Pre-test before the administration of structured teaching Programme X: Administration

- Of structured teaching programme
- 02: Post test after the administration of structured teaching programme in experimental
- Group and without structured teaching programme in control group.

Using this design, the effectiveness of the teaching programme was identified by Balancing the effect of extraneous variables between the experimental and the control Groups. It eliminates the effects of extraneous variables. It helps to identify whether the structured teaching programme has brought the gain in knowledge or opposed to the other extraneous variables.

Tools used for data collection

The tool used for the research purpose consists of a structured questionnaire with

- Two parts:
- Section A Demographic details
- Section B Multiple choice questions on knowledge on home care management of

Cerebral palsy children.

Development of the data collection instrument

Data collection tools are the procedures or instruments used by the researcher to evaluate or measure the key variables in the research problem. Evaluation methods are the techniques for acquiring information for research purposes through direct evaluation and recording of phenomena.

The following steps were adopted in the development of the tool:

1. Review of literature provided adequate content for the tool preparation. Direct contact

With the patients and significant others during clinical posting

- 2. Opinion of experts from medicine, surgery and Physiotherapy departments.
- 3. Construction of tools
- 4. Content validity.
- 5. Pre-testing of the tool.

6. Reliability of the tool and instruments used was ascertained by rater- inter rater

Reliability.

Description of the tool

The tool was developed by the investigator after reviewing the related literature and guidance from experts in the field. The instrument used for this study is the Interview schedule which included the demographic profile, the specific questions on knowledge regarding home care management of the children with cerebral palsy.

<u>SECTION A</u>: Consist of demographic data of mother of children with Cerebral palsy Which includes mother's age, education, occupation, monthly family income, marriage type, maternal history, place of delivery, method of delivery, person conducted delivery, Child's age, sex, birth weight, miles stones, the cry of the child, first feed, birth defects, Age at which diagnosed.

<u>SECTION B</u>: It consists of interview schedule to assess the Knowledge of mothers regarding cerebral palsy.

The interview schedule consists of 15 questions.

General Information – 4 questions.

Causes – 4 questions.

Clinical manifestations – 2 questions

Diet and management – 2 questions

Preventive measures – 3 questions

Scoring Key: Total number of items: 30

Total Score: 100

MEASUREMENT OF KNOWLEDGE

Adequate >76 %

 $Moderate \ 51-75\%$

Inadequate <50%

RESULTS

The results are presented under the following sections

Section I Description of demographic variable in experimental and control group

Section II Deals with the existing knowledge of mothers regarding home care physiotherapy management of cerebral palsy in both experimental and control group before the structured teaching programme (Pre-test level of knowledge)

Section III Comparison of pre-test knowledge level in both experimental and control group.

Section IV Each domain wise post-test level of knowledge of mothers in experimental and control group in various domains.

Section V Comparison of post-test knowledge level in both experimental and control group.

- **Section VI** Domain wise comparison of pre-test means knowledge score.
- **Section VII** Domain wise comparison of post-test means knowledge score.

Section VIII Comparison of pre-test and post-test level mean knowledge score (Experimental group)

Section IX Comparison of Pre-test and post-test level mean knowledge score (Control group)

Section X Comparison of pre-test and post-test level of knowledge score(Experimental group)

Section XI Comparison of pre-test and post-test level of knowledge score (control group)

Section XII Effectiveness of structured teaching programme and generalization of knowledge gain score

Section XIII Association between post-test level of knowledge score and demographic variables (experimental group)

Section XIV Association between post-test level of knowledge score and demographic variables (control group)

				Group				
			riment(n=30)					
Demographic variable	n	%	n	%				
Age of the child	l – 3 years	13	43.33%	15	50.00%	χ2=0.30P=0.86(NS)		
	4 – 6 years	12	40.00%	11	36.67%			
	7 – 10 vears	5	16.67%	4	13.33%			
Birth weight of the child	< 2kg	11	36.67%	15	50.00%	v2=2.51P=0.28(NS)		
-	3 kg	15	50.00%	9	30.00%			
	4 kg	4	13.33%	6	20.00%			
Cry of the child at birth	Soon after delivery	14	46.67%	16	53.33%	2=0.26P=0.61(NS)		
-	After some time	16	53.33%	14	46.67%			
	No cry	0	0.00%	0	0.00%			
Mothers Age	20 – 25 years	15	50.00%	17	56.67%	(2=0.27P=0.61(NS)		
	26 – 30 Years	15	50.00%	13	43.33%			
	31 – 35 Years	0	0.00%	0	0.00%			
Educational status of the	Primary School	11	36.67%	14	46.67%	(2=0.69P=0.70(NS)		
mother	High School	8	26.66%	6	20.00%			
	Graduate &Post Graduate	11	36.67%	10	33.33%			
Monthly Income of the	Below Rs.2091	1	3.33%	- 3	10.00%	(2=4.86P=0.56(NS)		
family	Rs.2,092 – 6,213	3	10.00%	- 3	10.00%			
	Rs.6,214 – 10,356	- 4	13.33%	2	6.67%			
	Rs.10,357-15,535	13	43.34%	8	26.66%			
	Rs.15,536 - 20,714	1	3.33%	- 3	10.00%			
	Rs.20,715 - 41,429	5	16.67%	5	16.67%			
	Above Rs.41,430	- 3	10.00%	6	20.00%			
Parity of the child	First	10	33.33%	13	43.33%	(2=1.75P=0.41(NS)		
_	Second	17	56.67%	12	40.00%			
	Third and above	3	10.00%	5	16.67%			
Age at Marriage	20 - 25 Years	24	80.00%	25	83.33%	(2=0.11P=0.73(NS)		
	26-30 Years	6	20.00%	- 5	16.67%			
	31 - 35 Years	0	0.00%	0	0.00%			
Marital Relationship	Consanguineous	9	30.00%	12	40.00%	(2=0.65P=0.41(NS)		
	Non Consanguineous	21	70.00%	18	60.00%			
Mode of delivery	Normal vaginal delivery	14	46.67%	16	53.33%	(2=0.27P=0.87(NS)		
	Forceps delivery	6	20.00%	- 5	16.67%			
	LSCS	10	33.33%	9	30.00%			
Motor difficulties also	Social stigma	28	93.33%	25	83.33%	(2=1.45P=0.22(NS)		
linked to	Psychosocial difficulties	2	6.67%	- 5	16.67%			
	Enjoyable life	0	0.00%	0	0.00%			
Place of delivery	Institutional delivery/Hospital	29	96.67%	29	96.67%	χ2=0.00P=1.00(NS)		
	Home delivery	1	3.33%	1	3.33%			

Fig 1-12 P>0.05 not significant

Table 1 shows the demographic information of mothers those who are participated for the following study on "A study to assess the effectiveness of structured teaching programme on knowledge regarding management of children with cerebral palsy among mothers of affected children in neurology outpatient department tat institute of child health and hospital for children, Neuro-Physiotherapy Outpatient Department of SK Hospital, Trivandrum, Kerala .Similarity of demographic variables distribution was assessed using chi square test

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Age of the child

Out of the total participants in the study 13 (43.33) and about 15 (50%) belongs to 1 to 3 years of age in experimental group and control group respectively. 12 (40%) belong to the age group of 4 to 6 years in experimental group and 11 (36.67%) in control group belongs to the age group of 4 to 6 years. About 5 (16.67%) in experimental group and 4 (13.33%) in control group belongs to the age group of 7 to10 years. 4 (13.30%) each in experimental group and control group belongs to the age group of 7 to 10 years.

Birth weight of child

Of the total number of mothers participated in the study the birth weight of the child below 2 kg; 11 (36.67%) in experimental group and 15 (50.00%) in control group, birth of child less than 2 kg about 15 (50%) in experimental group and 9 (30.00%) in control group and 3 kg of birth weight of child about 4 (13.33%) in experimental group and 6 (20%) in control group 4 kg of birth weight of child.

Cry of the Child at Birth

The period of child cry at birth soon after delivery 14 (46.67%) in experimental group and 16 (53.33%) in control group. About after some times 16 (53.33%) in experimental group 14 (46.67%) in control group. And about no cry 0 (0.00%) in experimental group and 0 (0.00%) in control group.

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Mother's Age

Out of total participated in the study as follows. 15 (50.00%) in experimental group and 17 (56.67%) in control group belongs the age of 20 to 25 years. 15 (50.00%) in experimental and 13 (43.33%) in control group belongs the age of 26 to 30 years about

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0 (0.00%) in experimental and 0 (0.00%) in control group belongs to the age group of 31 to 35 years.

Educational Status of the mother

According to the mother participated in the study were distributed as follows primary school 11 (36.67%) in experimental group and 14 (46.67%) in control group and about high school level 8 (26.66%) in experimental group 6 (20.00%) in control group about and graduate and post graduate 11 (36.67%) in experimental group and 10 (33.33%) in control group.

Monthly Income of the Family

Monthly incomes of the family of the participants were enquired according to the Kuppuswamy socio economic scale of 2018 which has categorized under the following range of income. 1 (3.33%) in experimental group and 3 (10.00%) in control group below Rs. 2092. 3 (10.00%) in experimental group 3 (10.00% in control group are earning their income scale between Rs. 2,092 to Rs. 6,213 per month. 4 (13.33%) in experimental groupand 2 (6.67%) in control group are earning Rs. 6,214 to Rs. 10,356 per month and about 13 (43.34%) in experimental and 8 (26.66%) in control group are having Rs.10, 357 to Rs.

15,535 per month 1 (3.33%) in experimental group and 3 (10.00%) in control group are

Rs. 15,536 to Rs. 20714 per month, 5 (16.67%) in experimental group 5 (16.67%) in control group are earning Rs. 20715 to Rs. 41429 per month, 3 (10.00%) in experimental group 6 (20.00%) in control group are earning above Rs. 41430 per month as their total monthly income of the family.

Parity of the Child

Out the total participants in the study parity of the child first 10 (33.00%) in experimental group and 13 (43.33%) in control group and about second child 17 (56.67%) in experimental group 12 (40.00%) in control group and about third and above 3 (10.00%) in experimental group and 5 (16.67%) in control group.

Age at Marriage

According to the marriage of the mother 20 to 25 years 24 (80.00%) in experimental group and 25 (83.33%) in control group and about 26 to 30 years 6 (20.00%) in experimental group and 5 (16.67%) in control group and about 31 to 35 years 0 (0.00%) in experimental group and 0 (0.00%) in control group

Marital Relationship

According to the consanguineous marriage 9 (30.00%) in experimental group and 12 (40.00%) in control group and about non consanguineous marriage 21 (70.00%) in experimental group and 18 (60.00%) in control group

Mode of Delivery

Out of the total participants in the study of mother normal vaginal delivery 14 (46.67%) in experimental group and 16 (53.33%) in control group and about forceps delivery 6 (20.00%) in experimental group and 5 (16.67%) in control group and about LSCS 10 (33.33%) in experimental group and 9 (30.00%) in control group

Motor Difficulties also linked to

According in this study motor difficulties also linked to social sigma 28 (93.33%) in experimental group and 25 (83.33%) in control group and about psychosocial difficulties 2 (6.67%) in experimental group and 5 (16.67%) in control group and about enjoyable life 0 (0.00%) in experimental group and 0 (0.00%) in control group.

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Place of delivery

The period of child birth place of delivery institutional delivery / hospital 29 (96.67%) in experimental group and 29 (96.67%) in control group and about home delivery 1 (3.33%) in experimental group and 1 (3.33%) in control group.

Table 2: EACH DOMAINWISE PRETEST PERCENTAGE OF KNOWLEDGE ON HOME CARE MANAGEMENT OF CEREBRAL PALSY

	Domaina	No. of	Min –	St	udy	Control	
	Domains	questions	score	Mean	%	Mean	%
1	General information	4	0-4	1.80	45.00%	1.93	48.25%
2	Causes	3	0 - 3	1.23	41.00%	1.33	44.33%
3	Signs and symptoms	4	0 -4	1.90	47.50%	2.03	50.75%
4	Homecare management	5	0 -5	2.53	50.60%	2.67	53.40%
5	Feeding material& Feeding position	2	0 -2	.93	46.50%	1.00	50.00%
6	Posture of the CP children	2	0 -2	1.03	51.50%	1.07	53.50%
7	Special school& community Support organization	2	0-2	.93	46.50%	.97	48.50%
8	Preventive measures	3	0-3	.87	29.00%	.90	30.00%
	TOTAL	25	0 - 25	11.23	44.92%	11.97	47.88%

Table 2 shows each domain wise percentage of knowledge score. In experiment group, they are having maximum knowledge in Posture of the CP children (**51.50%**) and minimum knowledge score in Preventive measures (**29.00%**). Overall knowledge score is 44.92%.

In control group, they are having maximum knowledge in Posture of the CP children (53.50%) and minimum knowledge score in Preventive measures (30.00%).Overall knowledge score is 47.88%.

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Table 3: PRETEST LEVEL OF KNOWLEDGE

	Experiment group		Con	trol group	Chierrentet
	n	%	n	%	Chi square test
Inadequate	22	73.33%	20	66.67%	
Moderate	8	26.67%	10	33.33%	χ2=0.27 P=0.86(NS)
Adequate	0	0.00%	0	0.00%	
Total	30	100.00%	30	100.00%	

Fig 13 P>0.05 not significant NS

Table 3 assess the level of knowledge score = *not significant* in experiment and control group. In experiment group, 73.33% of them are having inadequate level of score, 26.67% of them are having moderate level and none are having adequate level of score.

In control group, 66.67% of them are having inadequate level of score, 33.33% of them are having moderate level and none are having adequate level of score. Statistical significance was calculated using chi square test.

Score interpretation

Total score = 25 min=0 max=1

LEVEL	SCORE	% OF SCORE
Inadequate	0-12	0-50%
Adequate	13-18	76-100%
Moderate	19-25	51-75%

Table 4: EACH DOMAINWISE POSTTEST PERCENTAGE OF KNOWLEDGE ON HOMECARE MANAGEMENT OF CEREBRAL PALSY

		No. of	Min –	St	udy	Control	
	Domains	questions	Max score	Mean	%	Mean	%
1	General information	4	0 – 4	3.37	84.25%	2.03	50.75%
2	Causes	3	0 – 3	2.43	81.00%	1.43	47.67%
3	Signs and symptoms	4	0 – 4	3.10	77.50%	2.10	52.50%
4	Homecare management	5	0 – 5	4.23	84.60%	2.70	54.00%
5	Feeding material& Feeding position	2	0-2	1.43	71.50%	1.10	55.00%
6	Posture of the CP children	2	0-2	1.60	80.00%	1.13	56.50%
7	Special school& community Support organization	2	0-2	1.57	78.50%	1.03	51.50%
8	Preventive measures	3	0 – 3	2.40	80.00%	.93	31.00%
	TOTAL	25	0 - 25	20.13	80.52%	12.47	49.88%

Table 4 shows each domain wise percentage of knowledge score. In experiment group, they are having maximum knowledge in Homecare management (84.60%) and minimum knowledge score in Feeding material & feeding position (71.50%). Overall knowledge score is 80.52%.

In control group, they are having maximum knowledge in Posture of the CP children (56.50%) and minimum knowledge score in Preventive measures (31.00%). Overall knowledge score is 49.88%.

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Table 5: POST TEST LEVEL OF KNOWLEDGE

	Experiment group		Con	trol group	Chi amana taat
	n	%	n	%	Chi square test
Inadequate	0	0.00%	17	56.67%	
Moderate	6	20.00%	13	43.33%	$\chi^{2=43.57}$ P=0.001***(S)
Adequate	24	80.00%	0	0.00%	
Total	30	100.00%	30	100.00%	

Fig 14*** P<0.001 significant S= significant

Table 5: Assess the level of knowledge score in experiment and control group. In experiment group, none of them are having inadequate level of score, 20.00% of the mare having moderate level and 80.00% are having adequate level of score. In control group, 56.67% of them are having inadequate level of score. Statistical significance was calculated using chi square test.

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Cable 6: DOMAINWISE	COMPARISON OF	F PRETEST MEAN	KNOWLEDGESCORE

	Experiment		Control		Mean	Student	
Knowledge on	Mean score	SD	Mean score	SD	difference	independent t-test	
General information	1.80	1.35	1.93	1.28	-0.13	t=0.39P=0.69(NS)	
Causes	1.23	1.07	1.33	1.09	-0.1	t=0.36P=0.72(NS)	
Signs and symptoms	1.90	1.42	2.03	1.35	-0.13	t=0.37P=0.71(NS)	
Homecare management	2.53	1.38	2.67	1.30	-0.14	t=0.38P=0.70(NS)	
Feeding material& Feeding position	.93	.87	1.00	.91	-0.07	t=0.29P=0.77(NS)	
Posture of the CP children	1.03	.81	1.07	.87	-0.04	t=0.15P=0.87(NS)	
Special school& community Support organization	.93	.91	.97	.89	-0.04	t=0.14P=0.88(NS)	
Preventive measures	.87	1.14	.90	1.09	-0.03	t=0.11P=0.90(NS)	
Total	11.23	2.31	11.97	2.63	-0.74	t=1.15P=0.25(NS)	

Fig 15: Table 6: compare the pretest knowledge score in experiment and control group. Considering Overall Knowledge, Experiment group mothers are having 11.23 knowledge score and control group mothers are having 11.97 knowledge score, so the difference is 0.74, this difference is small and it is not significant. It was tested using student independent t-test.

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E II	Experiment		Control		Mean	Student independent	
Knowledge on	Mean score	SD	Mean score	SD	difference	t-test	
General information	3.37	1.38	2.03	1.19	1.34	t=9.62 P=0.001***(S)	
Causes	2.43	1.07	1.43	1.10	1	t=4.42 P=0.001***(S)	
Signs and symptoms	3.10	1.21	2.10	1.32	1	t=7.92 P=0.001***(S)	
Homecare management	4.23	.77	2.70	1.26	1.53	t=7.56 P=0.001***(S)	
Feeding material& Feeding position	1.43	.77	1.10	.88	0.33	t=8.98 P=0.001***(S)	
Posture of the CP children	1.60	.72	1.13	.94	0.47	t=8.98 P=0.001***(S)	
Special school& community Support organization	1.57	.77	1.03	.89	0.54	t=8.98 P=0.001***(S)	
Preventive measures	2.40	1.16	.93	1.08	1.47	t=6.39 P=0.001***(S)	
Total	20.13	2.97	12.47	2.78	7.66	t=11.58 P=0.001***(S)	

Table 7: DOMAIN WISE COMPARISON OF POST TEST MEAN KNOWLEDGESCORE

Fig15***P<0.001 very high significant S= significant

Compare the posttest knowledge score in experiment and control group. Considering overall knowledge score, Experiment group mothers are having 20.13 knowledge score and control group mothers are having 12.47 knowledge score, so the difference is 7.66, this difference is large and it is significant. It was tested using Student independent t-test.

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Figure- Simple bar diagram with 2 Standard error compares the adult women pretest and Post test knowledge score



Table 8: COMPARISON OF PRE-TEST AND POST TEST MEAN KNOWLEDGE

SCORE (Experiment)

	Pre T	est	Post 7	Fest	Meen	
Knowledge on	Mean score	SD	Mean score	SD	difference	Student paired t-test
General information	1.80	1.35	3.37	1.38	1.57	t=4.63P=0.001***(S)
Causes	1.23	1.07	2.43	1.07	1.20	t=3.98P=0.001***(S)
Signs and symptoms	1.90	1.42	3.10	1.21	1.20	t=3.80P=0.001***(S)
Homecare management	2.53	1.38	4.23	.77	1.70	t=5.90P=0.001***(S)
Feeding material& Feeding position	0.93	.87	1.43	.77	0.50	t=2.19P=0.05*(S)
Posture of the CP children	1.03	.81	1.60	.72	0.57	t=3.19P=0.01**(S)
Special school& community Support organization	0.93	.91	1.57	.77	0.64	t=2.78P=0.01**(S)
Preventive measures	0.87	1.14	2.40	1.16	1.53	t=5.42P=0.001***(S)
Total	11.23	2.31	20.13	2.97	8.90	t=16.78P=0.001***(S)

Table 8: Compare the domain wise pretest and posttest knowledge score.

Considering overall Knowledge score, in pretest Experiment group adult women are having 11.23 knowledge score and in posttest they are having 20.13 knowledge score, so the difference is 8.90, this difference is large and it is significant. It was tested using Student paired t-test.

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Table 9: COMPARISON OF PRETEST AND POST TEST MEAN KNOWLEDGE

SCORE ((Control)
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	Pretest		Postt	est	Meen	Student naived t		
Knowledge on	Mean score	SD	Mean score	SD	difference	test		
General information	1.93	1.28	2.03	1.19	0.10	t=1.36P=0.18(NS)		
Causes	1.33	1.09	1.43	1.10	0.10	t=1.00P=0.32(NS)		
Signs and symptoms	2.03	1.35	2.10	1.32	0.07	t=0.52P=0.60(NS)		
Homecare management	2.67	1.30	2.70	1.26	0.03	t=0.43P=0.66(NS)		
Feeding material& Feeding position	1.00	.91	1.10	.88	0.10	t=1.36P=0.18(NS)		
Posture of the CP children	1.07	.87	1.13	.94	0.06	t=0.81P=0.42(NS)		
Special school& community Support organization	.97	.89	1.03	.89	0.06	t=0.81P=0.42(NS)		
Preventive measures	.90	1.09	.93	1.08	0.03	t=1.00P=0.32(NS)		
Total	11.97	2.63	12.47	2.78	0.50	t=1.54P=0.13(NS)		

Table 9: Compare the domain wise pretest and posttest knowledge score considering overall Knowledge score, in pretest control group mothers are having 11.97 knowledge score and in posttest they are having 12.47 knowledge score, so the difference is 0.50, this difference is small and it is not significant. It was tested using Student paired t-test.

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Table	10:	COMPARISON	OF	PRE-TEST	AND	POST	TEST	LEVEL	OF KNOWLED)GE
SCO	RE									

		Pretest			Posttest	Extended
	n %		n	%	McNemar's test	
Experiment	Inadequate	22	73.33%	0	0.00%	χ2=44.02
	Moderate	8	26.67%	6	20.00%	P=0.001***
	Adequate	0	0.00%	24	80.00%	(S)
	Total	30	100.00%	30	100.00%	
Control	Inadequate	20	66.67%	17	56.67%	χ2=3.05
	Moderate	10	33.33%	13	43.33%	P=0.08(NS)
	Adequate	0	0.00%	0	0.00%	
	Inadequate	30	100.00%	30	100.00%	

P = 0.01 Significant, P = 0.08 Not significant

Table 10: Assess the level of knowledge in pretest and posttest. Considering Experiment group, in pretest, 73.33% of them are having inadequate knowledge score, 26.67% of themare having moderate level of knowledge score and none of them are having adequate level of knowledge score. In posttest, none of them are having inadequate knowledge score, 20.00% of them are having moderate level of knowledge score and 80.00% of them are having adequate level of knowledge score. There is a significant difference between Pretest and posttest knowledge score. Pretest and posttest difference was calculated using Extended McNamara's test. Considering Control group, in pretest, 66.67% of them are having inadequate knowledge score, 33.33% of them are having moderate level of knowledge score and none of them are having adequate level of knowledge score. In posttest, 56.67% of them are having inadequate knowledge score, 43.33% of them are having moderate level of knowledge score and none of them are having adequate level of knowledge score. In posttest, 56.67% of them are having inadequate knowledge score, 43.33% of them are having moderate level of knowledge score and none of them are having adequate level of knowledge score. In posttest, 56.67% of them are having inadequate knowledge score, 43.33% of them are having moderate level of knowledge score and none of them are having adequate level of knowledge score. In posttest, 56.67% of them are having inadequate knowledge score, 43.33% of them are having moderate level of knowledge score and none of them are having adequate level of knowledge score. There is no significant difference between Pretest and posttest knowledge score. Pretest and posttest difference was calculated using Extended McNamara's test.

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Table 11: EACH DOMAINWISE PERCENTAGE OF KNOWLEDGE GAINSCORE

3	Domains	Pretest knowledge	Posttest knowledge	% of knowledge gain
	General information	45.00%	84.25%	39.25%
	Causes	41.00%	81.00%	40.00%
	Signs and symptoms	47.50%	77.50%	30.00%
Ħ	Homecare management	50.60%	84.60%	34.00%
srimer	Feeding material& Feeding position	46.50%	71.50%	25.00%
xpe	Posture of the CP children	51.50%	80.00%	28.50%
Ш	Special school& community Support organization	46.50%	78.50%	32.00%
	Preventive measures	29.00%	80.00%	51.00%
	OVERALL	44.92%	80.52%	35.60%
3	General information	48.25%	50.75%	2.50%
	Causes	44.33%	47.67%	3.34%
	Signs and symptoms	50.75%	52.50%	1.75%
	Homecare management	53.40%	54.00%	0.60%
ontrol	Feeding material& Feeding position	50.00%	55.00%	5.00%
S	Posture of the CP children	53.50%	56.50%	3.00%
	Special school& community Support organization	48.50%	51.50%	3.00%
	Preventive measures	30.00%	31.00%	1.00%
	OVERALL	47.88%	49.88%	2.00%

In Experiment group, in pretest adult women are having 44.92% of knowledge score and in posttest they are having 80.52%. so they gained 35.60% after structured teaching programme.

In control group, in pretest adult women are having 47.88% of knowledge score and in posttest they are having 49.88%. So, they gained 2.00% without structured teaching programme.

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Table 12: EFFECTIVENESS OF STRUCTERED TEACHING PROGRAMME ANDGENERALIZATION OF KNOWLEDGE GAIN SCORE

		Max score	Mean score	Mean Difference of knowledge gain score with 95% Confidence interval	Percentage of knowledge gain score with 95% Confidence interval		
Experiment	Pretest	25	11.23	8 90 (7 81 - 9 98)	35.60%		
Experiment	Posttest	25	20.13	0.00 (7.01 - 0.00)	(31.24%-39.92%)		
Control	Pretest	25	11.97	0.50	2.00%		
Control	Posttest	25	12.47	(-0.16 - 1.16)	(-0.64% -4.64%)		

Table 12: Shows the effectiveness of structured teaching programme on knowledge regarding management of children with cerebral palsy among mothers of affected children in Neuro-Physiotherapy Outpatient Department of SK Hospital, Trivandrum, Kerala.

In experiment group, on an average, in posttest after having STP, mothers havegained 35.60% more knowledge score than pretest score.

In control group, on an average, in post-test without STP, mothers have gained2.00% more knowledge score than pretest score.

This difference shows the effectiveness of structured teaching programme. Differences and generalization of knowledge gain score between pretest and post test score was calculated using and mean difference with 95% CI and proportion with 95% CI.

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Table 13: ASSOCIATION BETWEEN POST TEST LEVEL OF KNOWLEDGESCOREAND DEMOGRAPHIC VARIABLES (Experiment)

			ttest level	l o	f knowle	n			
Demographic variables			Inadequate		Moderate Adequate				Chi-square test
_	-	n	96	n	96	n	96		-
Age of the child	1 – 3 years	0	0.00%	6	46.15%	7	53.85%	13	γ2=9.80P=0.01**(S)
-	4 – 6 years	0	0.00%	0	0.00%	12	91.67%	12	~ ``
	7 - 10 years	0	0.00%	0	0.00%	5	100.00%	5	
Birth weight of the	< 2kg	0	0.00%	1	9.09%	10	90.91%	11	2=3.48P=0.17(NS)
child	3 kg	0	0.00%	5	33.33%	10	66.67%	15	
	4 kg	0	0.00%	0	0.00%	4	100.00%	4	
Cry of the child at	Soon after delivery	0	0.00%	5	33.33%	10	66.67%	15	(2=4.05P=0.04*(S)
birth	After some time	0	0.00%	1	6.67%	14	93.33%	15	
	No cry	0	0.00%	0	0.00%	0	0.00%	0	
Mothers Age	20 – 25 years	0	0.00%	6	40.00%	9	60.00%	15	χ2=10.50P=0.01**(S)
	26 – 30 Years	0	0.00%	0	0.00%	15	100.00%	15	
	31 – 35 Years	0	0.00%	0	0.00%	0	0.00%	0	
Educational status of	Primary School	0	0.00%	5	45.45%	6	54.55%	11	χ2=7.48P=0.02*(S)
the mother	High School	0	0.00%	1	12.50%	7	87.50%	8	
	Graduate &Post Graduate	0	0.00%	0	0.00%	11	100.00%	11	
Monthly Income of	Below Rs.2091	0	0.00%	0	0.00%	1	100.00%	1	χ2=8.08P=0.23(NS)
the family	Rs.2,092 – 6,213	0	0.00%	0	0.00%	3	100.00%	3	
	Rs.6,214 – 10,356	0	0.00%	0	0.00%	4	100.00%	4	
	Rs.10,357-15,535	0	0.00%	3	23.08%	10	76.92%	13	
	Rs.15,536 – 20,714	0	0.00%	0	0.00%	1	100.00%	1	
	Rs.20,715 – 41,429	0	0.00%	3	60.00%	2	40.00%	5	
	Above Rs.41,430	0	0.00%	0	0.00%	3	100.00%	3	
Parity of the child	First	0	0.00%	1	10.00%	9	90.00%	10	χ2=4.76P=0.09(NS)
	Second	0	0.00%	3	17.65%	14	82.35%	17	
	Third and above	0	0.00%	2	66.67%	1	33.33%	3	
Age at Marriage	20 - 25 Years	0	0.00%	4	16.67%	20	83.33%	- 24	χ2=0.83P=0.36(NS)
	26-30 Years	0	0.00%	2	33.33%	4	66.67%	6	
	31 - 35 Years	0	0.00%	0	0.00%	0	0.00%	0	
Marital Relationship	Consanguineous	0	0.00%	1	11.11%	8	88.89%	9	χ2=0.63P=0.42(NS)
	Non Consanguineous	0	0.00%	5	23.81%	16	76.19%	21	
Mode of delivery	Normal vaginal delivery	0	0.00%	2	14.29%	12	85.71%	14	χ2=4.28P=0.11(NS)
	Forceps delivery	0	0.00%	0	0.00%	6	100.00%	6	
	LSCS	0	0.00%	4	40.00%	6	60.00%	10	
Motor difficulties	Social stigma	0	0.00%	6	21.43%	22	78.57%	28	(2=0.53P=0.46(NS)
also linked to	Psychosocial difficulties	0	0.00%	0	0.00%	2	100.00%	2	
	Enjoyable life	0	0.00%	0	0.00%	0	0.00%	0	
Place of delivery	Institutional	0	0.00%	5	17 24%	24	82 76%		(2=0.58P=0.44(NS)
	delivery/Hospital	Ň	0.0070	Ľ		_	02.7070	29	
	Home delivery	0	0.00%	1	100.00%	0	0.00%	1	

NS=not significant S= Significant P> 0.05 not significant *P≤0.05 significant **P≤0.01 highly significant

Fig 16-19 Table no.13 shows the association between posttest level of knowledge and adult women demographic variables. Mothers with older children, mothers with children who cried sometime after birth, elder age mothers and more educated mothers have gained more knowledge than others. Statistical significance was calculated using chi square test.

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Table 14: ASSOCIATION BETWEEN POST TEST LEVEL OF KNOWLEDGESCORE AND DEMOGRAPHIC VARIABLES (Control)

		Posttest level of knowledge score						n	Chi -square test
			adequate	M	foderate	A	dequate		_
Demographic vari	iables	n	96	Ν	%	n	%		
Age of the child	1 – 3 years	9	60.00%	6	40.00%	0	0.00%	13	γ2=0.16P=0.92(NS)
-	4 – 6 years	6	54.55%	5	45.45%	0	0.00%	12	~ ~ ~ ~ ~
	7 - 10 years	2	50.00%	2	50.00%	0	0.00%	5	
Birth weight of the	< 2kg	6	40.00%	9	60.00%	0	0.00%	14	y2=3.80P=0.15(NS)
child	3 kg	6	66.67%	3	33.33%	0	0.00%	16	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~
	4 kg	5	83.33%	1	16.67%	0	0.00%	0	
Cry of the child at	Soon after delivery	9	56.25%	7	43.75%	0	0.00%	15	χ2=0.02P=0.96(NS)
birth	After some time	8	57.14%	6	42.86%	0	0.00%	15	
	No cry	0	0.00%	0	0.00%	0	0.00%	0	
Mothers Age	20 - 25 years	11	64.71%	6	35.29%	0	0.00%	11	χ2=1.03P=0.31(NS)
	26 – 30 Years	6	46.15%	7	53.85%	0	0.00%	8	
	31 – 35 Years	0	0.00%	0	0.00%	0	0.00%	11	
Educational status of	Primary School	7	50.00%	7	50.00%	0	0.00%	1	χ2=0.54P=0.76(NS)
the mother	High School	4	66.67%	2	33.33%	0	0.00%	3	
	Graduate &Post Graduate	6	60.00%	4	40.00%	0	0.00%	4	
Monthly Income of	Below Rs.2091	3	100.00%	0	0.00%	0	0.00%	13	χ2=5.43P=0.49(NS)
the family	Rs.2,092 - 6,213	2	66.67%	1	33.33%	0	0.00%	1	
	Rs.6,214 - 10,356	0	0.00%	2	100.00%	0	0.00%	5	
	Rs.10,357-15,535	4	50.00%	4	50.00%	0	0.00%	3	
	Rs.15,536 - 20,714	2	66.67%	1	33.33%	0	0.00%	10	
	Rs.20,715 - 41,429	3	60.00%	2	40.00%	0	0.00%	17	
	Above Rs.41,430	3	50.00%	3	50.00%	0	0.00%	3	
Parity of the child	First	7	53.85%	6	46.15%	0	0.00%	24	χ2=1.10P=0.57(NS)
	Second	8	66.67%	4	33.33%	0	0.00%	6	
	Third and above	2	40.00%	3	60.00%	0	0.00%	0	
Age at Marriage	20 - 25 Years	15	60.00%	10	40.00%	0	0.00%	9	χ2=0.94P=0.62(NS)
	26- 30 Years	2	40.00%	3	60.00%	0	0.00%	21	
	31 - 35 Years	0	0.00%	0	0.00%	0	0.00%	14	
Marital Relationship	Consanguineous	5	41.67%	7	58.33%	0	0.00%	6	χ2=0.67P=0.41(NS)
	Non Consanguineous	12	66.67%	6	33.33%	0	0.00%	10	
Mode of delivery	Normal vaginal delivery	9	56.25%	7	43.75%	0	0.00%	28	χ2=1.65P=0.43(NS)
	Forceps delivery	4	80.00%	1	20.00%	0	0.00%	2	
	LSCS	4	44.44%	- 5	55.56%	0	0.00%	0	
Motor difficulties	Social stigma	15	60.00%	10	40.00%	0	0.00%	29	χ2=0.67P=0.41(NS)
also linked to	Psychosocial	2	40 00%	3	60.00%	0	0.00%	1	
	difficulties								
	Enjoyable life	0	0.00%	0	0.00%	0	0.00%	13	
Place of delivery	delivery/Hospital	16	55.17%	13	44.83%	0	0.00%	12	χ2=0.79 P=0.37(NS)
	Home delivery	1	100.00%	0	0.00%	0	0.00%	5	

NS=not significant P> 0.05 not significant

Table No 14 shows the association between mothers" posttest level of knowledge and their demographic variables. None of the demographic variables are significantly associated with their posttest level of knowledge score. Statistical significance was calculated using chi square test.

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CONCLUSION

Cerebral palsy is a serious motor disorder that appears in early life. The expectation that improved obstetrical and neonatal care would decrease the rate of this condition. The Indian Academy of cerebral palsy has recommended the need of the district cerebral palsy centres. Cerebral palsy centres in each district of India will bring together parents and the professionals who are serving children with cerebral palsy, for better development and rehabilitation by joint efforts. The centre will provide multidisciplinary management under one roof. It will also be a meeting place of "family" and a place for future planning and research. This will be a platform for the society and the nation to notice that they have abilities in disability and can also contribute to the society as useful citizens. The knowledge of the mothers with cerebral palsy children are influenced by a successful way of organizing health education/teaching programme. This study results show that the

Majority of the respondents had inadequate knowledge and poor health care practice which motivated the investigator to conduct structured teaching on various aspects like definition of disease condition, causes, clinical manifestations, investigations, treatment, preventive measures and parental education regarding caring practices. This study helped the investigator to develop an informational module on cerebral Palsy with the aim of encouraging family participation, support and reinforcing the need of caring of the cerebral palsy children. This structured teaching with informational module was to improve the knowledge that inculcates good health care practices among the respondents. Hence it is concluded that structured teaching promotes knowledge of homecare physiotherapy management among mothers of children with cerebral palsy

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