



## Effect of an Interventional Programme on Knowledge and Practice of Mothers Regarding Feeding of Children with Cerebral Palsy

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### ABSTRACT

*The present study was aimed at evaluating the effect of an interventional programme on knowledge and practice of mothers regarding feeding of children with cerebral palsy attending Govt. Medical College Hospital, Thrissur. Pre experimental one group pre test post test design was selected for the study. The study was conducted in Government Medical College Hospital, Thrissur. Sample size was 30 mothers of children with cerebral palsy between 1-5 years. They were selected for the study by consecutive sampling. The tools used for data collection were semi structured interview schedule to collect socio personal data of mother and child, questionnaire to assess the knowledge of mothers regarding feeding of children with cerebral palsy and rating scale to assess the practice of mothers regarding feeding of children with cerebral palsy. The data were analysed by using descriptive and inferential statistics. The findings revealed that the interventional programme is effective in improving the knowledge and practice of mothers regarding feeding of children with cerebral palsy.*

**Key words:** *Interventional programme; knowledge and practice regarding feeding of children with cerebral palsy; mothers of children with cerebral palsy.*

Received 24.01.2023

Revised 15.02.2023

Accepted 17.03.2023

### INTRODUCTION

Cerebral palsy is the most common motor disability in childhood. Population based studies around the world report prevalence of cerebral palsy ranging from 1.5 to more than 4 per 1,000 live births or children of a defined age range [1].

The majority of children with Cerebral Palsy (93%) will experience feeding difficulties. Since cerebral palsy results in impairment of muscle groups, facial muscles can be affected. Impairment of facial muscles hampers child's ability to chew, suck or swallow creating a high risk for undernourishment, failure to thrive, malnutrition, growth delay and digestive difficulties. Children with Cerebral palsy experience oral-motor dysfunction (86%), gastroesophageal reflux (77%), chronic constipation (74%), swallowing disorders (60%) and abdominal pain (32%). Other conditions include pneumonia, vomiting, chronic pulmonary aspiration, diarrhoea, choking, drooling of saliva and flatulence. The child may take longer time and experience discomfort when eating. Dental problems may arise from excess drooling of saliva, longer meal times or from stomach acids following aspiration [2]. Approximately 25 percent of children with cerebral palsy struggle with aspiration. These all problems put them into complications and increase their mortality rate [3].

Children with cerebral palsy have a lot of special needs. They have muscular coordination problems, intellectual disabilities, problems with spasticity, problems speaking and problems breathing. Unfortunately feeding problems can result in life-threatening conditions if not treated aggressively. Parents help enforce the behaviour when children mimic their hand movements during feeding. Children with cerebral palsy often lack voluntary muscle control and fine skills needed [4].

Cerebral palsy is a widespread global issue. In the industrialized world, the incidence of cerebral palsy is about 2 per 1000 live births. In the United States, the rate is thought to vary between 1.5 to 4 per 1000 live births [5]. Data collected by the Cerebral Palsy Alliance Research Foundation (CPARF) reveals that approximately 17 million people across the world are live with some form of the cerebral palsy [6].

In India nearly 15-20% of physically disabled children are affected by cerebral palsy. Estimated incidence is around 3/1000 live births.<sup>7</sup>The child with CP require expert and quality care while feeding because of

poor motor control. Special diets may make swallowing easier. Proper positioning during feeding is essential to facilitate swallowing and to minimize the risk of aspiration. The family members and caregivers can assist the child in strengthening swallowing muscles to facilitate nutritional intake [8]. Proper awareness regarding effective feeding may help the mothers to ensure proper nutritional status of their children and also help to protect them from various complications associated with feeding [9].

A study to evaluate the effect of an interventional programme on knowledge and practice of mothers regarding feeding of children with cerebral palsy attending Government Medical College Hospital, Thrissur. In the present work, we shall evaluate the effect of an interventional programme on knowledge and practice of mothers regarding feeding of children with cerebral palsy and selected socio personal variables.

### **Hypotheses**

(All hypotheses are tested at 0.05 level)

H<sub>1</sub>: There is a significant difference in mean knowledge score of mothers regarding feeding of children with cerebral palsy before and after interventional programme.

H<sub>2</sub>: There is a significant difference in mean practice score of mothers regarding feeding of children with cerebral palsy before and after interventional programme.

H<sub>3</sub>: There is a significant correlation between knowledge and practice of mothers regarding feeding of children with cerebral palsy.

H<sub>4</sub>: There is a significant association between knowledge of mothers regarding feeding of children with cerebral palsy and selected socio personal variables.

H<sub>5</sub>: There is a significant association between practice of mothers regarding feeding of children with cerebral palsy and selected socio personal variables.

### **Conceptual frame work**

Conceptual frame work for the present study is based on Betty Neuman's system model of nursing.

## **MATERIAL AND METHODS**

### **Research approach**

Quantitative approach

### **Research design**

Pre experimental one group pre test post test design.

### **Independent variable**

Interventional programme on knowledge and practice of mothers regarding feeding of children with cerebral palsy.

### **Dependent variable**

Knowledge and practice of mothers regarding feeding of children with cerebral palsy.

### **Setting of the study**

The present study was conducted in Pediatric department, Government Medical College Hospital, Thrissur.

### **Population**

Mothers of children with cerebral palsy attending Government Medical College Hospital, Thrissur

### **Sample and Sampling technique**

Sample consists of 30 consecutively selected mothers of children with cerebral palsy between 1-5 years attending Government Medical College Hospital, Thrissur.

### **Sample size**

30 mothers of children with cerebral palsy

### **Inclusion criteria**

Mothers of children with cerebral palsy who

- have children in the level of Level II – Level IV as per eating and drinking ability

Classification system

- are willing to participate in the study

- are able to comprehend Malayalam

### **Exclusion criteria**

Mothers of children with cerebral palsy who are on tube feeding

### **Tools and technique**

Tool –1

Semi –structured interview schedule to collect the socio personal data of the mother and child.

Technique: Interview

Tool- II

Structured questionnaire to assess the knowledge of mothers regarding feeding of children with cerebral palsy.

Technique: Self report

Tool- III

Rating scale to assess the practice of mothers regarding feeding of children with cerebral palsy.

Technique: Self report

#### **Content validity**

The content validity of the tool was done in consultation with 7 experts from the field of Paediatrics Medicines, Child health nursing and staffs from the department of Regional Early Intervention Centre (REIC). The calculated content validity index for tool 1 was 0.98, tool 2 was 0.97 and tool 3 was 0.96.

#### **Reliability of the tool**

Reliability of the tool was calculated using Cronbach's Alpha. The reliability coefficient of tool I is 0.82 and for the tool II it is 0.86.

#### **Pilot study**

Pilot study was conducted from 02.12.2019 to 07.12.2019 among mothers of children with cerebral palsy admitted in paediatric wards after obtaining ethics clearance from IEC and administrative sanction.

#### **Data collection process**

The investigators prepared a detailed protocol and obtained clearance certificate from Scientific Review Committee and Institutional Ethical Committee of Government College of Nursing Thrissur. Administrative sanction was obtained from HOD of Paediatrics and Medical superintendent, in Medical College hospital, Thrissur. Approval sanction was given by Kerala University of Health Science. The pilot study was conducted from 03.12 2019-07.12.2019. After presentation and approval of the pilot study, data collection was started. The study was conducted from 20.01.2020 to 29.02.2020 at New Medical College Hospital, Thrissur. The investigators selected 30 samples as per the selection criteria. From this 25 sample are selected from REIC, 3 of them from ward 18 and 3 from ward 3. They were selected by consecutive sampling. The purpose and nature of study was explained and an informed consent was taken from mothers.

Socio personal data sheet was used for collecting the information. The researcher assessed the knowledge using the structured questionnaire regarding feeding of children with cerebral palsy and the practice regarding feeding of children with cerebral palsy was assessed using rating scale. After that a structured interventional programme for a duration of 45 minutes including teaching session regarding feeding of children with cerebral palsy, demonstration session regarding various techniques and positions for feeding the child with cerebral palsy and discussion session which provide opportunity for mothers to share their personal experience regarding feeding of children with cerebral palsy was administered individually. After two weeks, post test knowledge and practice of the individual was assessed by using structured questionnaire and reported practice rating scale. The process was repeated on all working days for a period of 6 weeks until the desired sample size is achieved.

## **RESULTS AND DISCUSSION**

### **Section I: Description of socio-personal characteristics of mothers**

- Among study participants 30% of mothers belonged to the age group of 26-30 years with mean age of 31.20 years  $\pm$  6.01.
- Most (96.7%) of the mothers are married.
- More than half (56.7 %) of mothers were with secondary education.
- Majority (80.0%) of the mothers were belonged to nuclear family.
- Majority (76.7%) of the mothers belong to BPL category.
- Majority (76.7%) of the mothers had no complications during delivery.
- More than half (66.7%) of the mothers had caesarean delivery.
- More than half (63.3%) of the mothers had only one child.

### **Section II: Description of socio-personal characteristics of children**

- 30% of the children are in the age group of 1-2 and 3-4 years with mean age of 2.9 years  $\pm$  0.90.
- More than half (60.0%) of the children are male.
- Majority (70%) of the children are the first child of their family.
- Half (50%) of the children had the gestational age between 25-30 weeks.
- Half (50%) of the children had birth weight  $\leq$  2.5 kg.
- 20% of children had birth asphyxia during delivery.
- Majority (83.4%) of the children had spastic cerebral palsy.

- Majority (76.7%) of the children had Level IV eating and drinking ability as per EDACS classification system. It indicates that these children have significant limitations to eats and drinks safely because of their biting, chewing and swallowing are frequently affected.
- More than half (63.3%) of the children had seizure disorders. 10% had seizure disorders and vision impairment and 3.3% had seizure disorder and mental retardation.

### Section III: Effect of an interventional programme on knowledge of mothers regarding feeding of children with cerebral palsy

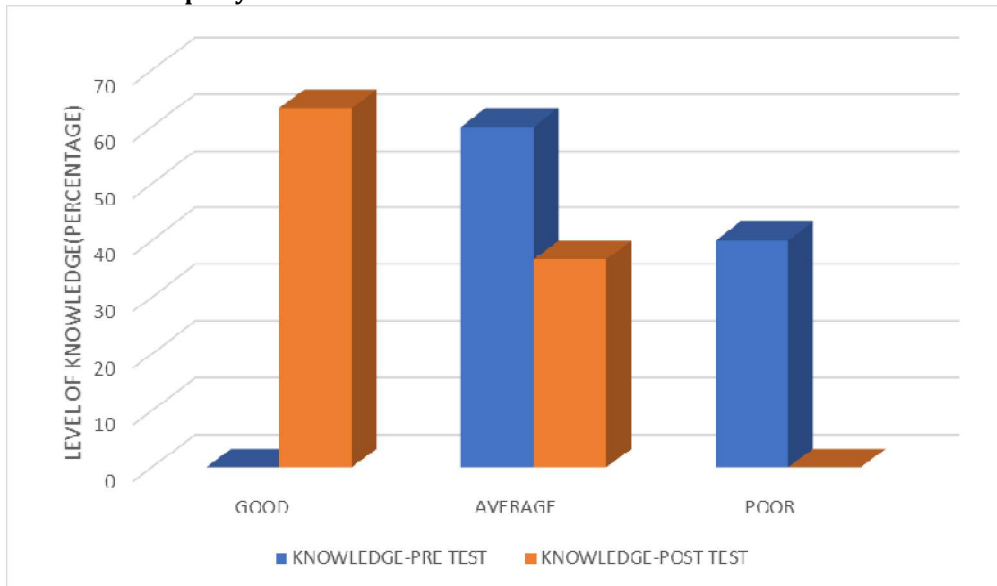


Fig 1: Effect of an interventional programme on knowledge of mothers regarding feeding of children with cerebral palsy

- None of the mothers had good knowledge regarding feeding of children with cerebral palsy before the interventional programme whereas 63.3% had good knowledge after the interventional programme.
- 60% of mothers had average knowledge regarding feeding of children with cerebral palsy before the interventional programme whereas after the interventional programme only 37.7% of the participants had average knowledge.
- 40% of mothers had poor knowledge regarding feeding of children with cerebral palsy before the interventional programme whereas after the interventional programme none of the participants had poor knowledge.
- The mean knowledge score of mothers regarding feeding of children with cerebral palsy after the interventional programme ( $9.77 \pm 1.47$ ) was significantly higher than that of before the interventional programme ( $5.07 \pm 1.94$ ).
- The computed t value was 16.08 with a p value of 0.001. As the obtained p value was less than 0.05, the null hypothesis was not accepted. It is interpreted that there is a significant difference in mean knowledge scores of mothers regarding feeding of children with cerebral palsy before and after the interventional programme. Hence it is inferred that the interventional programme is effective in improving the knowledge of mothers regarding feeding of children with cerebral palsy.

### Section IV: Effect of an interventional programme on practice of mothers regarding feeding of children with cerebral palsy

- None of the mothers had very good regarding feeding of children with cerebral palsy before the interventional programme whereas 63.33% had very good practice after the interventional programme.
- 36.67% of mothers had fair practice regarding feeding of children with cerebral palsy before the interventional programme whereas after the interventional programme none of the participants had fair practice.
- The mean practice score of mothers regarding feeding of children with cerebral palsy after the interventional programme ( $44.77 \pm 8.18$ ) was significantly higher than that of before the interventional programme ( $63.57 \pm 7.13$ ).

- The computed t value was 13.59 with a p value of 0.001. As the obtained p value was less than 0.05, the null hypothesis was not accepted. It is interpreted that there is a significant difference in mean practice scores of mothers regarding feeding of children with cerebral palsy before and after the interventional programme. Hence it is inferred that the interventional programme is effective in improving the practice of mothers regarding feeding of children with cerebral palsy.

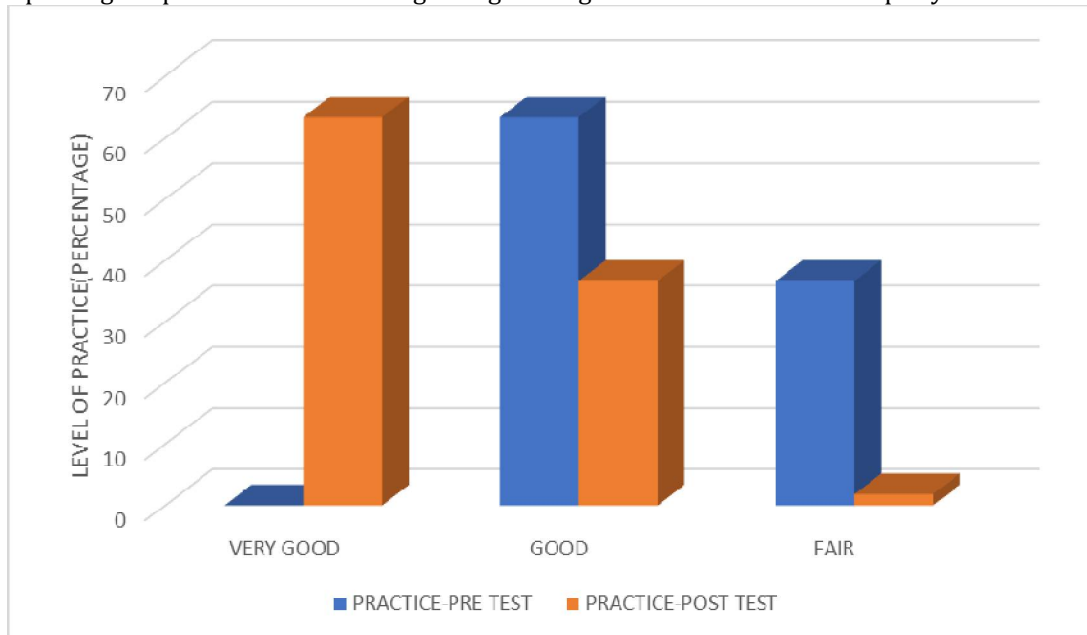


Fig 1: Effect of an interventional programme on knowledge of mothers regarding feeding of children with cerebral palsy

**Section V: Relationship between knowledge and practice of mothers regarding feeding of children with cerebral palsy**

**Table1: Relationship between knowledge and practice of mothers regarding feeding of children with cerebral palsy (n=30)**

Variables	Karl Pearson correlation coefficient (r)	p value
Knowledge		
Practice	0.37*	0.044

\* Significant at 0.05 level

- The computed Karl Pearson’s correlation coefficient ‘r’ value of knowledge and practice of mothers regarding feeding of children with cerebral palsy is 0.370 with a p value of 0.044. Since the p value was significant at 0.05, null hypothesis was not accepted. So it is concluded that there is a moderate positive correlation between knowledge and practice of mothers regarding feeding of children with cerebral palsy.

**Section VI: Association between knowledge of mothers regarding feeding of and selected socio personal variables.**

- There was no significant association between knowledge of mothers regarding feeding of children with cerebral palsy and selected socio personal variables.

**Section VII: Association between practice of mothers regarding feeding of and selected socio personal variables.**

- There was a significant association of practice of mothers with type of delivery and educational status.

**CONCLUSION**

The study revealed that the interventional programme was effective in order to formulate a positive change in knowledge and practice of mothers regarding feeding of children with cerebral palsy.

### LIMITATIONS

- Accessibility of the sample was limited to only a small geographical area, Thrissur district.

### RECOMMENDATIONS

- Similar study can be conducted with both experimental and control group.
- Regular awareness programme on feeding of children with cerebral palsy can be initiated in hospitals and community settings.
- Longitudinal studies can be conducted to find out the long term impact of the interventional programme.

### NURSING IMPLICATIONS

The main focus of nursing practice is to reduce the mortality and morbidity rate and to improve the quality of life. The nurses should supervise the mothers while they feed their children. Different methods of teaching can be used to improve the awareness. Nurse educator's focuses on early intervention programme for children with cerebral palsy that emphasize on feeding practices, follow up and its importance that help the care givers to take care of their children. Nurse administrators can join in hands with Government agencies in order to plan the programme that will ensure overall wellbeing of children with cerebral palsy. She can act as leader in order to formulate the anonymous groups of care givers of children with cerebral palsy. The research scholars should be encouraged to focus on this area for further findings to add the evidence based practices which in turn results in improvement of quality of the nursing profession.

**CONFLICT OF INTEREST**-None declared

### ACKNOWLEDGEMENT

The researchers wish to thank all the faculty in Govt College of Nursing and Pediatric medicine department, Govt Medical College, Thrissur for their contribution and technical assistance rendered in the research.

**FUNDING RESOURCES:** None

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### CITATION OF THIS ARTICLE

Indu P C, Jeena Saji. Effect of an Interventional Programme on Knowledge and Practice of Mothers Regarding Feeding of Children with Cerebral Palsy. *Bull. Env.Pharmacol. Life Sci.*, Vol 12 [4] March 2023: 127-132