

FEEDING PATTERN AND DEMOGRAPHIC PROFILE OF CHILDREN WITH INFANTILE TREMOR SYNDROME

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ABSTRACT

Background: infantile tremor syndrome is associate with Infant and maternal diet and demographic features. **Objective:** the objective was to know the feeding pattern and demographic features in children with infantile tremor syndrome. **Method and material:** this study was carried out among 50 children of age group 6 months to 2 year with clinical feature of ITS. Demographic data, dietary history of mother and child, anthropometry, clinical features and neuro developmental status were compared. **Result:** A total of 50 children [30 male and 20 female (were enrolled in this study .Maximum number of children (50%) were in age group 6-12 months. Majority (52%) were ST and SC. Most of children (64%) were from BPL family. Most of children (68%) were exclusive breast fed. **Conclusion:** association of infantile tremor syndrome with infant diet and socioeconomic status was clearly found.

Key words: Infant, feeding pattern, maternal diet.

INTRODUCTION

Infantile tremor syndrome is a clinical syndrome of infants and young children characterized by acute or gradual onset with mental and psychomotor changes, pigmentary disturbances of hair and skin, pallor and tremor (1).

Epidemiologically, mothers of infants with ITS are vegetarian in their dietary habits and therefore are at risk of vitamin B12 deficiency. Studies have repeatedly confirmed low vitamin B12 in the maternal serum (2,3,4 6) and in the breast milk.(4,5) Infants born to these mothers have suboptimal vitamin B12 stores at birth which get further depleted during infancy in the absence of external supplementation. (7)

Almost all the cases of ITS occur in exclusively breast-fed infants. Commonly weaning has never been initiated because of lack of appropriate guidance. Equally common is weaning failure due to anorexia, refusal to solid foods, and spitting. (8, 2, 3, 11) Even when weaning has been started, foods of animal origin including top milk are missing from the diet (2, 12) or given in insufficient quantity. (9, 10, 13)

MATERIAL AND METHOD

This study was conducted in Paediatric ward, Balchikitsalaya MB hospital Udaipur in collaboration with Govt. SK hospital Sikar, Rajasthan during a period from May2014 to Dec 2014.

Children of age group 6 month to 2 year clinical diagnosis of infantile tremor syndrome irrespective of socioeconomic background were enrolled. Enrolled children underwent a detailed workup according to predesigned data collection form. Information obtained including child personal data (address, age, sex, birth spacing and birth order); duration of breast feeding and timing of introducing complimentary feeding, child feeding status (exclusive breastfeeding, top feeding and complimentary feeding). Demographic data such as family characteristics such as rural or urban residence, parent education and socioeconomic status were noted. Socioeconomic status was assessed by modified Kuppuswamy scale. (14)

Anthropometric data, clinical data such as detailed developmental history and full systemic and neurological examination were noted.

Statistical analysis:

Over the study period 50 patients were enrolled according to inclusion and exclusion criteria. Permission was taken from the institutional ethical Committee. Result were then formulated and analyzed using Standard software of biostatistics (SPSS version 21) using the suitable statistical tests for statistical significance.

RESULT

Table 1: distribution of study population

age (months)	Male	Female	Total(n=50)
6-12 mo	20(40)	5(10)	25(50)
13-18 mo	9(18)	13(26)	22(44)
19-24 mo	1(2)	2(4)	3(6)

P =0.0015

Maximum number of Children (50%) was in the age group 6-12 months, followed by 44% in 13-18 months and only 6% in 19-24 months.

Higher numbers of affected boys (40%) were in the age group 6-12 months whereas majority of the

affected girls (26%) were in the age group of 13-18 months.

There was significantly associated with occurrence of ITS among age group 6-12 months.

Table 2: demographic profile of children in study population

Variables	Father	mother
Education		
High school	0	2(4)
Middle	6(12)	2(4)
Primary	22(44)	19(38)
Illiterate	22(44)	27(54)
Occupation		
Semi-professional	1(2)	2(4)
Clerical, shop owner, farmer	12(24)	2(4)
Skilled worker	4(8)	0
Semiskilled worker	4(8)	0
Unskilled worker	29(58)	2(4)
Unemployed	0	44(88)

Unskilled fathers and unemployed mothers of these ITS patients were significantly in higher number whereas significantly more numbers of parents were either illiterate or had only primary education.

Variables	Total (n= 50)
socioeconomic status	
Lower class	50(100)
Poverty	
APL	18(36)
BPL	32(64)
Religion	
Hindu	50(100)
Caste	
ST	26(52)
SC	12(24)
OBC	7(14)
GEN	5(10)

All patients were from Hindu families and lower socioeconomic status. Majority (52%) were scheduled tribe and schedule caste. Most of children (64%) were from BPL families.

Table 3: Feeding pattern of children of study population

Feeding pattern	6-12 m (n=25)	13-18 m (n=22)	19-24 m (n=3)	Total (n=50)
Exclusive BF	19(38)	15(30)	0	34(68)
BF and top milk	2 (4)	4(8)	1(2)	7(14)
BF and CF	4(8)	3(6)	2(4)	9(18)

Table 4: Clinical features of ITS

Features	Total (n=50)
Dark skin pigmentation	50(100)
Hypo pigmented hair	46(92)
Look	
Apathetic	38(76)
Interactive	9(18)
Irritable	3(6)
Palmer pallor	
No	1(2)
Some	23(46)
Severe	26(52)
Development	
Delayed	9(18)
Regression	41(82)
Hepatomegaly	31(62)
Tremor	26(52)

Most of children (68%) were exclusively breastfed. Majority of patients (76%) of 6-12 months were

exclusively breastfed followed by 68.18% in age group 13-18 months.

Exclusively breastfeeding pattern is exclusively associated with ITS.

All patients with ITS had dark skin pigmentation. The other significantly common manifestations were hypo pigmented hair (92%), palmer pallor (98%), apathetic look (76%) and regression of developmental milestone (82%).

18% patients had delayed milestones; tremor (52%) and hepatomegaly (62%) were also present in majority of these children. Hepatomegaly was present in all children of 19-24 months age group.

DISCUSSION-

In the study demographic profile and feeding pattern of infantile tremor syndrome was analysed.

So it is not a rare entity in southern Rajasthan where tribal population is high. The incidence has been reported to be 1.42% to 1.73% by various workers (11, 15, and 16).

Bajpai et al (13) in 1968, sachdev et al (15) in 1965, garg et al (17) in 1969 reported all children from lower socioeconomic status.

Rajkumar et al (11) in 1975, Arya et al (18) in 1988 reported majority from lower socioeconomic status. In our study all patients (100%) belong to lower socioeconomic status of family.

In our study 34(68%) patients are exclusive breast fed. In 6-12 months age group 19(76%) are exclusively breast fed. Remaining patients were on breast feeding with some added top milk or complimentary feeding.

Seven (14%) patients are on breastfeeding and top milk and most of time it was diluted animal milk. Complimentary feeding was also started in some patients but their amount was inadequate.

Breast feeding therefore can have opposite effects on status of different micronutrients in infants but the sum total effect on cognition may be positive.

CONCLUSION

ITS is strongly related to maternal and infant diet and has a clear association with adverse developmental consequences. This deficiency disease is eminently preventable by simple supplementation, food fortification or dietary modification. These facts have implications for millions of children in the developing world.

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