

# A DESCRIPTIVE STUDY TO ASSESS THE KNOWLEDGE ON VITAMIN-C DEFICIENCY DISORDER AMONG MOTHERS OF SCHOOL GOING CHILDREN AT CHIDAMBARAM TALUK

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**ABSTRACT::** Vitamin C is a water-soluble vitamin that is necessary for normal growth and development. It is an antioxidant that helps maintain the connective tissue protein collagen, protects against infection, and helps iron absorption. Vitamin C (ascorbic acid) is a water-soluble vitamin, which is necessary in the body to form collagen in bones, cartilage, muscle, and blood vessels and aids in the absorption of iron. Dietary sources of vitamin C include fruits and vegetables, particularly citrus fruits such as oranges. Severe deficiency of vitamin C causes scurvy. Aim of the study was to assess the knowledge regarding Vitamin c deficiency disorders among mothers of school going children in selected rural area at Chidambaram Taluk, Cuddalore District, Tamil Nadu, and India. Non-experimental descriptive study design was selected for the study. The study was conducted on 30 mothers of school going children in Pinnathur village. Interview guide questionnaire were used to assess the knowledge of mothers of school going children. It was concluded that majority of mothers 19(63%) had inadequate knowledge, 6(20%) had moderately adequate knowledge and only 5(17%) of them had adequate knowledge regarding Vitamin c deficiency disorders. Hence it can be concluded that majority of mothers had in adequate knowledge regarding vitamin c deficiency disorders.

**Index Terms–Vitamin C.**

## I. INTRODUCTION

All citrus fruits and vegetables contain some amount of vitamin C such as green peppers, citrus fruits and juices, strawberries, tomatoes, broccoli, turnip greens and other leafy greens, sweet and white potatoes, mango, watermelon, Brussels sprouts, cauliflower, cabbage, winter squash, red peppers, raspberries, blueberries, cranberries, and pineapples [1-3]. Growing evidence has recently emerged that suggests vitamin C (or ascorbic acid), a powerful water-soluble antioxidant, may have significant benefits in regards to psychological functioning - namely emotionality and cognition [4].

Studies so far have found that ascorbic acid has been shown to decrease nomophobia and measures of fear in Japanese quail and broiler chickens [5-8], attenuate antigenic effects of prolonged exposure to loud noise in mice [9-11], decrease several forms of anxiety related behavior in rats [12], and enhance recognition memory in a novel object recognition test[13]. In humans, ascorbic acid has been found to reduce salivary cortisol, blood pressure, and subjective anxiety responses to a psychological stress or [14].

Vitamin C possesses antioxidant properties through its function as an electron donor and a broad spectrum radical scavenger [15]. It is suggested that it is through this mechanism that the vitamin may exert its anxiolytic effects [16]. Furthermore, vitamin C has also been identified as a neuro modulator of dopamine and glutamate-mediated transmission [17-20], which may be a further potential mechanism of action for the vitamin's anxiolytic effects and memory enhancing properties.

Aim of the study was to assess the knowledge regarding Vitamin c deficiency disorders among mothers of school going children in selected rural area at Chidambaram Taluk, Cuddalore District, Tamil Nadu, India.

## II. OBJECTIVES

- To assess the knowledge regarding vitamin-c , its uses , sources, deficiency and complication of vitamin c deficiency disorders among mothers of school going children.
- To find out the association between pretest knowledge on vitamin-c deficiency disorders among mothers of school going children with selected socio-demographic variables.

**III. MATERIAL AND METHODS:****RESEARCH APPROACH**

Quantitative research approach

**IV. RESEARCH DESIGN:**

Non experimental descriptive design.

**V. ASSUMPTIONS:**

The mothers may have inadequate knowledge regarding prevention of vitamin c deficiency diseases.

**VI. STUDY SETTING**

The study was conducted in Pinnathur Village at Chidambaram Taluk

**VII. POPULATION:**

The target population of the study was Mothers of school going Children

**VIII. SAMPLING TECHNIQUE AND SAMPLE:**

Sample consisted of 30 mothers of school going children of selected rural area in Pinnathur Village at Chidambaram Taluk and selection was done on the basis of convenience sampling technique used to select and collect the sample

**IX. CRITERIA FOR THE SAMPLE SELECTION****Inclusion criteria:**

Mothers who were residing in selected rural area of Pinnathur.

- Mothers of school children.
- Mothers who were present at the time of data collection.
- Mothers who were willing to participate.
- Mothers who were also read and understand Tamil.

**Exclusion criteria:**

- Mothers who were not willing to participate.
- Mothers who were ill during the study period.

**X. DESCRIPTION OF DATA COLLECTION INSTRUMENT**

The instrument consisted of two parts. Section–A; Consists of demographic data of the study subjects. It consists of demographic variables such as age of the mother, religion, educational status of the mother, family income, type of family, and source of information related to vitamin-c deficiency among mothers of school going children. Section–B; was a questionnaire on knowledge on vitamin-c , uses , sources and deficiency among mothers of school going children in rural area at Chidambaram Taluk. It was a Structured questionnaire prepared by the investigator to assess the knowledge regarding vitamin-c , its uses , regarding sources , causes, prevention and complications of vitamin-c deficiency among mothers of school going children . The questionnaire had closed ended questions with four options. For correct answers, score one was given. For the answer not known and incorrect answers score zero was given. Total score on knowledge was 20. Official permission was obtained from the village leader. All the participants were informed about the study and written consent was obtained from each of the participants. Information collected was kept confidential.

**VII.RESULTS AND INTERPRETATION**

Analysis is the method for rendering, quantitative, meaningful and providing intelligible information. So that the research problem can be studied and tested including the relationship between the variables. The data collected were analyzed using appropriate statistical methods and the results are presented in Section-I: Distribution of demographic variables, Section-II: Distribution of knowledge of the subjects regarding various aspects of vitamin-c deficiency among mothers of school going children, Section-III: Distribution of overall knowledge of the subjects towards vitamin-c deficiency among mothers of school going children and Section-IV: Distribution of association between the mean knowledge score of subjects with selected demographic variables regarding vitamin-c deficiency among mothers of school going children .

## Section-I:

Table -1: Distribution of the subjects according to their demographic variables

Sl. No	Demographic variables	Sub variables	No	Percentage
1	Age(in year)	a. 22--25 years	12	40
		b. 26-30 years	8	26
		c. >30 years	10	34
2	Religion	a. Hindu	25	83
		b. Christian	5	17
		c. Muslim	-	-
3	Educational status of the mother	a. Illiterate	5	16
		b. Primary	10	33
		c. Higher secondary	8	26
		d. Graduate	7	23
4	Family income	a. Below Rs. 5000	5	17
		b. Rs 5001-10,000	5	17
		c. Rs.10,001-15,000	10	33
		d. More thanRs. 15,000	10	33
5.	Occupation of the mother	a) Self employee	10	33
		b) House wife	5	17
		c) Coolie	7	23
		d) Government and private employee	8	27
6.	Type of family	a. Nuclear family	22	73
		b. Joint family	8	27
7.	Source of information	a. Television/ radio	8	26
		b. News paper	2	7
		c. Friends	10	33
		d. Health professionals	10	33

Table no 1 shows that the distribution of the subjects according to their demographic variables. Out of 30 samples, 12 (40%) of the subjects were in the age group of 22-25 years, 8 (26%) of the subjects were in the age group of 26-30 years and 10 (34%) of the subjects were above 30years of the age. Nearly 25 (83%) of the subjects were Hindu and 5 (17%) of the subjects were Christian and none of them were Muslims. Regarding educational status of the mother, 5 (16%) of the subjects were illiterate, 10 (34%) of them had primary education, 8 (26%) of them had studied up to higher secondary education, and 7 (23%) of them were graduates, Regarding the family income 5 (17%) of the subjects income was below 5000 rupees, 5 (17%) of the subjects income was between 5001-10,000 rupees, only 10 (33%) of the subjects were earned 10,001-15,000 rupees and 10 (33%) of the subjects were above 15,000 rupees. Regarding occupation of the mother 10(33%) of the subjects were self employee, 5 (17%) of the subjects were house wife, 7 (23%) of the subjects were coolie, 8 (26%) of the subjects were government or private employee. Regarding type of family, 22 (73%) of the subjects were from nuclear family,8 (27%) of them belonged to joint family. According to the source of information, 8 (26%) of the subjects knew about vitamin-c through television and radio, 2 (7%) of them through news paper 10 (33%) heard through their friends and 10 (33) of them knew about vitamin-c through health professionals.

## Section II

Table no 2: Distribution of knowledge of the subjects regarding various aspects of vitamin-c deficiency

S.no	Aspects	Inadequate knowledge		Moderately adequate knowledge		Adequate knowledge	
		No	%	No	%	No	%
1	Uses of vitamin-C deficiency	20	67	8	27	2	6
2	Sources of vitamin-C deficiency	25	84	3	10	2	6
3	Causes of vitamin-C deficiency	20	67	10	33	-	
4	Risk factors	22	73	8	27	-	
5	Clinical manifestations and diagnosis	20	67	8	27	2	6
6	Complication	30	100				
7	Management	25	84	3	10	2	6

Table 2 shows level of the knowledge of the subjects regarding various aspects of vitamin-c and its deficiency among mothers school going children. Out of 30 samples, 20(67%) of them had inadequate knowledge,8(27%) of them had moderately adequate knowledge, and only 2 (6%) of them had adequate knowledge regarding uses of vitamin-c deficiency among mothers of school going children . Nearly 25 (84%) of the subjects had inadequate knowledge, 3(10%) of them had moderately adequate knowledge and 2 (6%) of the subjects had adequate knowledge regarding sources of vitamin-c deficiency . Twenty (67%) of them had inadequate knowledge,10(33%) of them had moderately adequate knowledge, and none of them had adequate knowledge regarding causes of vitamin-c deficiency . Regarding risk factors of vitamin c deficiency, 22(73%) of the subjects had inadequate knowledge, 8(27%) of them had moderately adequate knowledge and no one had adequate knowledge. Regarding clinical manifestations and diagnosis, 20 (67%) of the subjects had inadequate knowledge, 8 (27%) subjects had moderately adequate knowledge, 2(6%) of the subjects had adequate knowledge. 25 (84%) of the subjects had inadequate knowledge, 3(10%) of them had moderately adequate knowledge, 2 (6%) of the subjects had adequate knowledge regarding management of vitamin-c deficiency among mothers of school going children. Regarding complications of vitamin-c deficiency mothers of under five children 30(100%) of the subjects had inadequate knowledge, none of them had moderately and adequate knowledge.

## Section III

Table 3: Distribution of overall knowledge of the subjects towards vitamin-c deficiency

S.no	Level of knowledge	No	%
1	Inadequate knowledge	19	63
2	Moderately adequate knowledge	6	20
3	Adequate knowledge	5	17

Table 3 shows that the distribution of the overall knowledge of the subjects regarding vitamin-c deficiency among mothers of school going children. Out of 30 samples, 19(63%) of them had inadequate knowledge, 6(20%) of them had moderately adequate knowledge and 5(17%) of them had adequate knowledge on vitamin-c deficiency among mothers of school going children.

## Section-IV

Table 4: Association between the mean knowledge score of the subjects with selected demographic variables

Sl. No	Demographic Variables	Sub Variables	N	Mean	SD	(F/t) - value	P- Value
1.	Age	a.22--25 years	12	64.38	3.34	0.605	0.617 (NS)
		b.26-30 years	8	63.38	4.03		
		c.>30 years	10	63.13	7.92		
2	Educational status of the mother	a. Illiterate	5	63.33	2.80	0.616	0.611 (NS)
		b.Primary	10	63.13	7.92		
		c.Higher secondary	8	65.22	4.68		
		d.Graduate	7	66.25	3.86		
3.	Occupation of the mother	a.Self employee	10	63.13	7.92	0.203	0.893(NS)
		b.House wife	5	63.33	2.80		
		c.Coolie	7	64.86	4.81		
		d.Government and private employee	8	65.00	4.47		
4.	Family Income per month	a.BelowRs. 5000	5	63.33	2.80	0.247	0.783 (NS)
		b.Rs 5001-10,000	5	63.33	2.80		
		c.Rs.10,001-15,000	10	63.13	7.92		
		d.MorethanRs. 15,000	10	63.13	7.92		
5.	Religion	a.Hindu	25	65.64	4.41	1.124	0.340 (NS)
		b.Christian	5	63.00	5.34		
		c.Muslim	-	-	-		
6.	Source of information	a.Television/ radio	8	63.13	3.94	0.254	0.778(NS)
		b.News paper	2	64.53	5.61		
		c.Friends	10	63.13	7.92		
		d.Health professionals	10	63.13	7.92		

Table 4 shows the association between the mean knowledge scores of the subjects with selected demographic variables. There is no significant association found between mean knowledge scores and demographic variables such as age, educational status, occupation, family income, religion and sources of information of the subjects.

## XI. DISCUSSION

The present study showed that the knowledge of mothers regarding vitamin -C deficiency disorders highest percentage of mothers 63% had inadequate knowledge and 20% of the mothers had moderately adequate knowledge and 17% of them had adequate knowledge on vitamin-c deficiency among mothers of school going children. The uses of vitamin C, causes of vitamin C deficiency, Clinical manifestations and diagnosis 67% of them had inadequate knowledge on vitamin C deficiency among mother of school going children. The present study showed that there is no significant association found between mean knowledge scores and demographic variables such as age, educational status, occupation, family income, religion and sources of information of the subjects. So we should pay attention to this issue which peoples in rural area do not enough information about of vitamin C deficiency. Ravindran RD et al.,(2011)conducted a study to assess the prevalence of vitamin C deficiency was 73.9% (95% confidence Interval, CI 70.4,77.5) in 2668 people in north India and 45.7% (95% CI 42.5,48.9) in 2970 from south India. Only 10.8% in the north and 25.9% in the south met the criteria for adequate level of knowledge which supported the present study.

## XII.SUMMARY AND CONCLUSION

The study focused on knowledge regarding the uses of vitamin C, its sources, causes of vitamin C deficiency , risk factors , Clinical manifestations and diagnosis ,complication and management of vitamin C deficiency among mother of school going children. Considering the study findings an effort was made by the investigator and conducted a health teaching programme to all the subjects and awareness created regarding prevention of vitamin-c deficiency.

**XIII. NURSING IMPLICATION**

- Nurse researcher can encourage community health nurses to apply the research findings in their daily nursing care activities to teach about vitamin-c deficiency, treatment and prevention.
- The present study results can be utilized to conduct a study on large scale in order to create awareness on prevention of vitamin-c deficiency.
- Nurses need to take up the responsibility to create awareness among the school children and their parents to improve their knowledge about uses, sources, complication and prevention of vitamin –c deficiency.

**XIV. RECOMMENDATION**

- A similar study can be conducted at urban area
- The same type of study can be done on a large sample to validate the findings
- The similar study can be conducted using different teaching strategies.

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