

## COMPARISON OF FOOD HABITS OF IVF AND SPONTANEOUSLY CONCEIVED CHILDREN – A CROSS SECTIONAL STUDY

### **Dr. Sudipta Kar**

B.D.S. (Cal.), M.D.S. (W.B.U.H.S.), Ph.D. Faculty, Department of Paedodontics and Preventive Dentistry, Gurunanak Institute of Dental Sciences Research, Kolkata, West Bengal, India.

### **Dr. T. K. Pal**

B.D.S. (Cal.), M.D.S. (Lko.), Ph.D. (J.U.), Professor and HOD, Department of Oral and Dental Sciences, JIS University, Kolkata, West Bengal, India.

### **Dr. S. L. Seal**

M.D. (G & O) (Cal.), D.G.O. (Cal.), D.N.B., Professor and HOD, Department of Gynaecology and Obstetrics, Malda Medical College, Hospital, Kolkata, West Bengal, India.

### **Dr. Gautam Kumar Kundu**

B.D.S. (Cal.), M.D.S. (Cal.), Ex- Head, Department of Paedodontics & Preventive Dentistry, Guru Nanak Institute of Dental Sciences & Research, Kolkata West Bengal, India.

**Abstract:** Parents of IVF children are more concerned to their beloved child. So food habits are one of the most important parts of their life style. **Aims:** Aim of the study is to compare the food habits of IVF children and spontaneously conceived children of same age group. **Methods:** A random sample of 2 – 14 years old IVF children and spontaneously conceived children were included in the study. Available data were analyzed through suitable statistical analysis. Significant relationship was found between two groups in some arena of study. **Conclusion:** Through the obtained data, the present study shows that IVF children are better than spontaneously conceived children in the studied aspects.

**Keywords:** In vitro fertilization, Food, Junk, Children

**Introduction:** The couples who had gone through the treatment of IVF, many a times they had felt that IVF was an emotionally challenging method of treatment as well as expensive too. Very often, their residual treatment options remain limited. According to Shaw et al. (1988)<sup>[1]</sup> many couples considered IVF procedure was to be the end of the line. Newman and Zopuves (1991)<sup>[2]</sup> Lukse and Vacc (1999)<sup>[3]</sup> reported that people who seek IVF treatment were emotionally distressed and anxious than general population, Infertility may have different impact on younger individual rather than on relatively older people planning for IVF treatment. Older couples may not able to apply for the adoption in Netherlands. For these unfortunate couples IVF treatment may be last resource for having their own baby. This may stimulate excessive stress and anxiety during their phase of treatment. Louise Brown<sup>[5]</sup> and Durga<sup>[4]</sup> were considered as first and second test tube babies of the world respectively.

Probably present study is the first study on IVF children of West Bengal which is a part of an epidemiological study – a prospective observational study - carried out with an objective to evaluate the food preferences of IVF children.

**Materials & methods:** Oral health is one of the key indicators of overall health, wellbeing and quality of life. Oral health is a part of general health in childhood and is an important contributing factor in the normal development of a child. Oral health problems may influence and retard the general development of a child and ultimately it may adversely affect the quality of life of an individual.

**Place and period of the study:**

- i) Institute of Reproductive Medicine, West Bengal. (36 A/3, H. B. Block, Salt Lake City Sector 3, Kolkata, West Bengal, India),
- ii) Guru Nanank Institute of Dental Sciences & Research, 157/F, Nilgunj Road, Sahid Colony, Panihati, Kolkata, W.B., India.
- iii) Different Schools of West Bengal.

**Type of the study** – Cross sectional observational study.

**Study Population:** 2-14 years old IVF children and spontaneously conceived children.

**Study Period:** The cross sectional study which takes place from June 2018 to 2020.

**Sample Size:** Total Sample size 554 (A) 221 IVF Children, (108 boy/male, 113. girl/female) (B) 333 Spontaneously conceived children (164. boy/male, 169. girl/female)

**Sample Design:** Randomly selected sample of spontaneously conceived children & IVF Children were selected for the present study.

**Study Design:** A cross sectional study was conducted after informed consent was obtained from the concerned authorities and the guardians of children (consent form is given in appendix). Parents were approached to participate in present study. (287 IVF parents & 391 parents of spontaneously conceived children). Out the above total -221 IVF & 333 spontaneously conceived children’s guardians were agreed to participate in the present study. Above 554 children had fulfilled criteria of sample selection.

**Results**

**Table 1: Food preference wise distribution of 2-5 years aged children**

			Group		Total
			Spontaneous	IVF	
Food Preference	Home Made	Count	77	80	156
		% within Group	76.2%	84.9%	80.4%
	Junk Food	Count	24	14	38
		% within Group	23.8%	15.1%	19.6%
Total		Count	101	93	194
		% within Group	100.0%	100.0%	100.0%

**Chi-Square Tests**

	Value	Df	p Value
Pearson Chi-Square	2.331	1	0.127

**Table 2 : Food preference wise distribution of 6-10 years aged children**

			GROUP		Total
			Spontaneous	IVF	
Food Preference	Home Made	Count	61	68	129
		% within Group	39.9%	70.8%	51.8%
	Junk Food	Count	92	28	120
		% within Group	60.1%	29.2%	48.2%
Total		Count	153	96	249
		% within Group	100.0%	100.0%	100.0%

**Chi-Square Tests**

	Value	Df	p Value
Pearson Chi-Square	22.652	1	<0.001

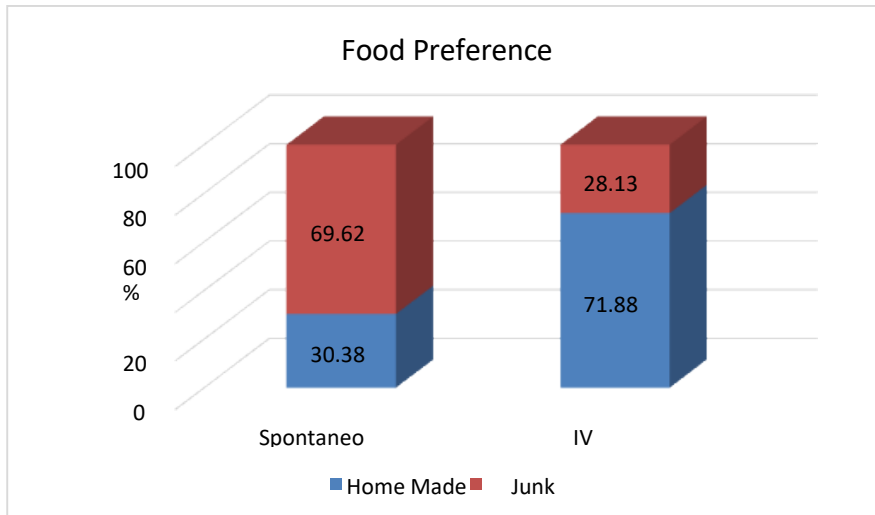
**Table 3: Food preference wise distribution of 11-14 years aged children**

			GROUP		Total
			Spontaneous	IVF	
Food Preference	Home Made	Count	24	23	47
		% within Group	30.4%	71.9%	42.3%
	Junk Food	Count	55	9	64
		% within Group	69.6%	28.1%	57.7%
Total		Count	80	32	111
		% within Group	100.0%	100.0%	100.0%

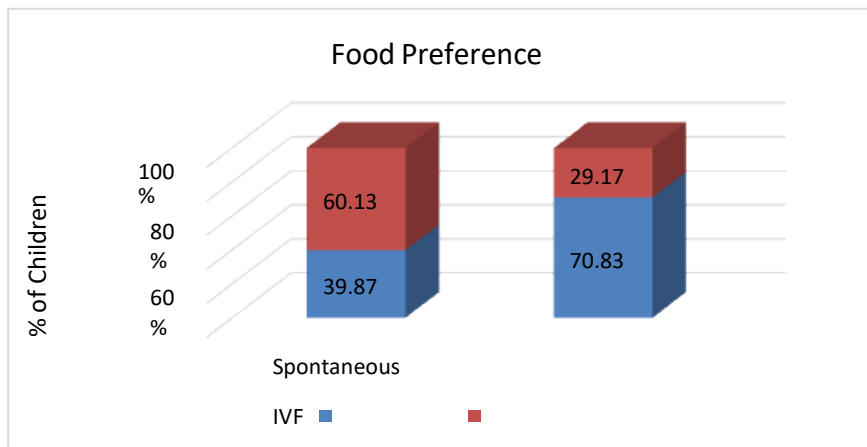
**Chi-Square Tests**

	Value	Df	p Value
Pearson Chi-Square	16.063	1	<0.001

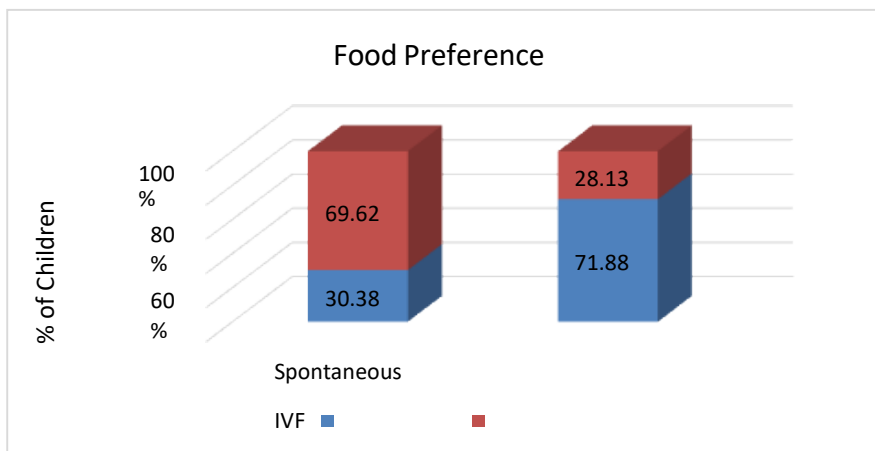
**Figure 1: Food preference wise distribution of 2-5 years aged children**



**Figure 2: Food preference wise distribution of 6-10 years aged children**



**Figure 3: Food preference wise distribution of 11-16 years aged children**



Initially no statistically significant result was found in 2-5 years, but in 6-10, and 11-14 years age group statistically significant difference was observed. (Table 1-3 and Figure 1-3).

**Discussion:** At the time of observation of food preference in the age group of 2 to 5 years we found 76.2 % of spontaneously conceived children preferred homemade food and 23.8 % preferred junk food. On the other hand 84.9 % of IV children preferred homemade food and 15.1 % preferred junk food and the result was not statistically significant (P value was 0.127). (Table 1 and Figure 1)

At the time of observation of food preference in the age group of 6 to 10 years we found 39.9 % of spontaneously conceived children preferred homemade food and 60.1 % preferred junk food. On the other hand 70.8% of IV children preferred homemade food and 29.2 % preferred junk food and the result was statistically significant (P value was less than 0.001). (Table 2 and Figure 2)

At the time of observation of food preference in the age group of 11 to 14 years we found 30.4% of spontaneously conceived children preferred homemade food and 69.6% preferred junk food. On the other hand 71.9% of IVF children preferred homemade food and 28.1 % preferred junk food and the result was statistically significant (P value was less than 0.001). (Table 3 and Figure 3)

This kind of result was observed maybe due to the parental supervision of IVF and spontaneously conceived children where nearly same in younger age like 2 to 5 years. When the age advances children are having their own taste sensation resulting in foundation of their own food habit. IVF children may be more protected by their family and less habituated in taking junk food. So, statistically significant inclination towards homemade food rather than junk food was found in older IVF children group. This kind of food habit is actually helpful in reducing the number of obese children in older age group. No previous study is found involving IVF children in this type of new field of research. Hence, no comparison is presently possible with the previous study.

**Conclusion:** There are scopes for longitudinal study with more parameters which will help the future researcher to accumulate more information about IVF children. On the basis of that information a specific dietary guidance can be formulated to invite further studies in this unexplored field.

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