INTERNATIONAL JOURNAL OF SOCIAL SCIENCES BULLETIN
ISSN: (E) 3007-1917 (P) 3007-1909
Volume 3, Issue 5, 2025

IMPACT OF FAMILY STRUCTURE ON CHILDREN'S NUTRITION AND PSYCHOLOGICAL DISTURBANCES; JOINT AND NUCLEAR FAMILY SYSTEM

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DOI: https://doi.org/10.5281/zenodo.15355185

Received	Revised	Accepted	Published
15 March, 2025	15 April, 2025	29 April, 2025	07 May, 2025

ABSTRACT

The primary goal of present study was to examine nutritional deficiencies and psychological disturbances among children of joint and nuclear family system. It is hypothesized that there is likely to be positive relationship among nutritional deficiencies and psychological disturbances, nutritional deficiencies will predict psychological disturbances among children. The sample of current study contain (N=150). The sample was further categorized in different age's 4-7years (special needs children). Sample also contain on age, family system and residential level. Sample will be taken from Sehat medical complex the project of Universities of Lahore. For this purpose three instruments are used. (1) Conner rating scale by Dr Keith Conner (2) child hood autism spectrum test by Eric Schopler and (3) Food frequency questionnaire by Gladys Block by national cancer institute. In Recent study SPSS was used for analysis of data. Descriptive statistics will be calculated to assess mean, standard deviation and frequencies of the variable. Pearson product moment correlation will use to find relationship between autism, ADHD and nutritional deficiencies. Hierarchal Regression analysis will be used to find out prediction. The study will be beneficial to understand nutritional definiteness and psychological disturbances regarding family structures. This study will guide us how we improved our life by noticing the family structure. This study will help psychologist to make social intervention techniques for helping people choosing family system in worthy way.

Keywords: *ASD, ADHD, nutritional deficiencies, joint & nuclear family system.*

INTRODUCTION

Special needs are an umbrella covers those children who have disability in cognition, emotional, behavioural and on physical disability.

Current topic covers family structure regarding special needs. Family system consists of two types: joint and nuclear family system. Joint family consists of gathered family system where all members lived together and share responsibilities together. While nuclear family system indicates where one family lived with their children. Both family systems have some advantages and disadvantages.

As per joint family children and their parents faced multiple issues as per previous studies indicates that family structure influences child nutrition and mental health. Children in joint families receive better emotional support from elders and other members of family also, which leads to better psychological well-being (D, Amore. 2023).

Parenting responsibilities are also shared in joint families, which may lead to less level of stress

and improve the quality of life regarding child care (Devi, Y.S, 2023).

On the other hand, nuclear families tend to have heightened parental stress due to the full burden of household responsibilities and child care (Journal of Marriage and Family, 2019). Whereas nuclear family have a batter opportunity towards emotional bonding and growth of a child (Journal of Family Psychology, 2020), but they have less social support that may affect their psychological wellbeing.(Journal of Family Issues, 2018). Thus, both family systems have their own pros and cons regarding supportive context for child development by various degrees depending on social assistance and parental support (K.R, 2024)

For special needs children nuclear family provide more supportive and productive environment. Parents can devote all their time and attention to their child's unique needs, without the complexity and stressors of extended family members (Braden,B.B 2022). This one-on-one attention can be particularly beneficial for children with autism, ADHD, or other conditions that require specialized care.

Nuclear families can also provide a more peaceful and stable environment, which is essential for the betterment of special needs children. By limited family members people can easily focused on their goals and child that may reduced their anxiety and stress (Hartley, 2015). Additionally, nuclear families can provide a safer environment, with fewer people may triggers the behavioral issues.

One more important factor is child nutrition as both systems have nutritional support and deficiencies also so as per past Studies family structure plays a vital role on child nutrition and psychological well-being. As from joint family children got benefit of receiving support from family members, that may reduced the chances of suffering from any mental health issues (Haung,Z 2023). But increased the risk of nutritional deficiencies. In contrast, nuclear families have less emotional support that may increase the risk of psychological disturbances.(Grisbrook, M.A 2024). In turn this affects parent-child relationships negatively along with overall psychological well-being. But as per nutritional effects it is beneficial.

Another important element with impact on nutritional and psychological outcomes of children is social support. Overall children from joint families enjoy a sense of security, stability and stronger support system to nurture motivation. On the contrary, nuclear families are more likely to have weaker social supports.

In conclusion, while joint family systems can provide additional support, the nuclear family system offers several benefits for special needs children. By providing a more tailored and supportive environment, a stable and predictable routine and effective communication and collaboration between parents, nuclear families can help special needs children thrive and reach their full potential.

In regard to nutrition, joint families have the batter resources of nutritional supplements. Research showed that children living in joint families had well-nourished, in comparison to children from nuclear families (Journal of Nutrition and Dietetics, 2018).

Special needs children are more vulnerable to nutritional deficiencies due to various factors, including feeding difficulties, food selectivity, and increased energy expenditure. Family dynamics, including family structure and socioeconomic status, can also impact the nutritional status of special needs children.

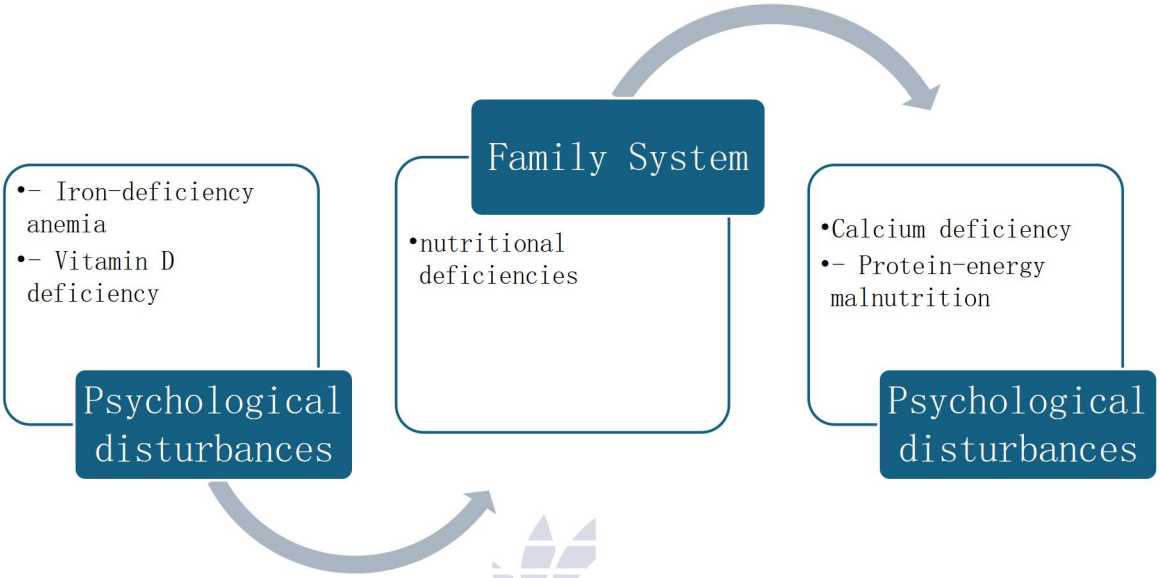
Research suggests that special needs children in joint family systems are at a higher risk of nutritional deficiencies. In joint families, one meal is prepared for the whole family even it is not beneficial for all family members by fulfilling their needs. (Journal of Autism and Developmental Disorders, 2018). Additionally, joint families may have limited resources, leading to food insecurity and inadequate access to nutritious food (Journal of Hunger and Environmental Nutrition, 2020).

In contrast, nuclear families may be better equipped to provide individualized nutrition for special needs children. Nuclear families often have more resources and can devote more time and attention to their child's unique needs (Journal of Developmental and Behavioral Pediatrics, 2020).

Studies have shown that special needs children in joint family systems are more likely to experience nutritional deficiencies, including:

- Iron-deficiency anemia
- Vitamin D deficiency
- Calcium deficiency
- Protein-energy malnutrition

These deficiencies can contributed towards cognitive impairment, behavioural problems, and other health issues in special needs children. In conclusion, special needs children in joint family systems are at a higher risk of nutritional deficiencies due to factors such as limited resources, food insecurity and inadequate individualized nutrition.



Rational of study:

This study aims to investigate the prevalence and predictor of nutritional deficiencies in special needs children in different family systems. Specifically the study will examine the relationship between family structure (joint and nuclear) and nutritional outcomes in special needs. Special needs children are a vulnerable population with unique nutritional needs. Family dynamics including family structure and socio economic status, can impact the nutritional statuses of these children. Despite the importance of nutrition for special needs children, there is limited research on the prevalence and predictors of nutritional deficiencies in this population. While the existing studies have primarily focused on nutritional deficiencies of typically developing children, with limited attention to special needs children. Furthermore most studies focuses on socio economical status outcomes but fewer explored the family structure.

Hypothesis:

H1: there is likely to be a positive relationship between psychological disturbances and nutritional deficiencies among the children of joint family system

H2: Nutritional deficiencies will predict psychological disturbances among the children of joint family system.

Objectives:

To find out comparison between joint and nuclear family regarding psychological disturbances and nutritional deficiencies of children.

Method:

- **Research Design**
- For the present study, cross sectional research design was adopted. In cross sectional studies, variable of interest in a sample of subject are studied once and the relationship between them is searched.(Hopkins, 2008).

Sample

In the present study, sample consisted of (N=50) special needs (ADHD and Autism), which were

selected through purposive sampling from Sehat medical complex hanjarwal branch. Age range was 4-7 years was included.
Data was collected from their parents also.

- **Instruments**

In this study, following scales were used to measure variables under study.

- **Demographic Sheet**

A demographic sheet was formulated to obtain the required information such as age, qualification, family system, birth order, socio economic status and residence of every participant. The entire participant was assessed that information would keep confidential.

- **Conner rating scale:**

This scale is developed by Dr Keith Conner,(1970) who developed 73 item questionnaire from systematically questioning through parents.. Later it was expended and further developed by the team of researchers. Now parent version is available in short foam and it consists of 27 items. It consists of not true at all to very much.

- **Childhood autism spectrum test:**

This scale is developed by Eric Schopler, Robert J. Reichler and Barbara Rochen Ranner. This scale was designed to help in differentiating the children from autism and I.D. This scale consists of 15 items. This questions are quite general in nature and hence relatively of free specific to any sub population group. Score between 15-29 indicates no autism, 30-36 indicates mild to moderate autism and 37-60 indicated severe autism.

- **Food frequency questionnaire:**

This scale was developed by Gladys Block by national cancer institute While there isn't one single individual or organization credited with developing the food frequency questionnaire (FFQ) in its entirety, the concept and its evolution are attributed to a group of nutritionists and researchers, particularly those at the American National Cancer Institute, who developed the Diet History Questionnaire (DHQ) as a foundation. . As per its rating it indicates never taken any food for all the month for one year to 4+ times per day. This scale used to check the average amount of food intake by every child which is necessary for their growth.

Inclusion criteria:

- Special needs Children including ASD & ADHD
- People from rural area will be selected for study
- Parents of children with Non-specific mental retardation aged 3 to 10 years were selected.

Exclusion criteria:

- Adults with the psychological disturbances will not be the part of study.
- Participants were not included in the study if they have a diagnosed medical or any other psychological condition.

- **Procedure**

First of all participants (parents) were contacted personally. They were briefed about the topic of research, after taking permission from participants, they were directly approached in clinical settings.Instructions about the entire scales along with testing booklets were given to them. They were asked to response in all questionnaires according to their true feelings. Afterwards verbal instructions verbal instructions were provided to them regarding responding to instruments. At the end they were thanked for participating in the study.

Ethical Consideration:-

- The participants were brief about the nature and the purpose of the study. Rapport was established by assuring them of the confidentiality of their personal information and its use of research purpose only. Written consent was from all the participants individually. Then scales were administrated to all research participants.

Statistical Analysis

- Quantitative Research design is used for this study. Data is entered into SPSS systematically. Frequency tables, correlation, regression and t test we used for this research.

Results

The aim of study was to investigate the prevalence and predictor of nutritional deficiencies and psychological disturbances regarding family structures. Further the study is interested in findings the differences in family

systems (joint and nuclear). After completion of data, different statistical analyses were used for the analysis of results including reliability coefficient, Pearson correlation analysis, and t-test.

Table 1

Frequency and Percentage of a Participants (n = 90)

Demographic variables	*f*	(%)
Age		
4-5	100	66
6-7	50	34
Family system		
Nuclear	34	77
Joint	116	23
Residence		
Rural	72	48
Urban	78	52

Table 1 shows the frequency and percentage of age, family system and residence. Children age 4-5 (*f*=100, 66%) and 6-7 (*f*=50, 34%). Children belong to nuclear family (f=34, 77%) are less as compare to joint family system (f=116, 23%). Children belongs to rural area (f=72, 48%) are less as compare to urban area (f=78%, 52%).

Table 2

Correlation Matrix for all the Variables Used in the Study (n=150)

Variables	*1*	*2*	*3*
1	~		
2	-.02**	~	
3	.09**	-.24	~

Note. 1 =stress, 2= frustration3=perceived quality of life. *p < .05. **p < .01.

Table 3 describes negative correlations among asd and fqq scales. Results suggest that Autism have significant negative correlation with macro nutrients, mean while ADHD have also significant negative correlation with macro nutrients.

Table 3

Multiple Regression Analysis Showing the Effect of nutritional deficiencies and psychological disturbances among children.

		Unstandardized Coefficients		Standardized Coefficient		
Model	***R²***	***B***	***SE***	***β***	***t***	***p***
ASD	.244	-.538	.177	-.242	-3.03	.003
ADHD		.17	.157	.089	1.11	.265

**P<.00

Two predictors were simultaneously entered into the model: ADHD &ASD Together, these predictors accounted for 50.0% of the variance in nutritional deficiencies amongst Children. Brand food nutritional deficiencies (β=.244) positively predicts autism in children while nutritional deficiencies is not the predictor of adhd among children.

Table 4

Comparison of children regarding family systems family systems(N = 148)

	Joint ()N=		*Nuclear (n=)*			*95% CI*		*Cohen's d*
Variables	M	*SD*	M	*SD*	*t*(298)	*UL*	*LL*	
ASD	32.13	8.79	25.35	11.83	3.64	10.46	3.10	

ADHD	67.24	9.54	160.76	14.65	3.04	10.67	2.27
FFQ	69.62	20.73	65.55	26.42	.94	10.59	-4.4

Note. ASD= Autism spectrum disorder, FFQ=Food frequency questionnaire.
*$p < .05$. **$p < .01$.

Results in Table 5 demonstrate the mean differences of autism and its effect on nutritional supplements. The mean difference is found to be significant on autism and frequency of life regarding family structure. It implies that family system were play important role regarding to psychological disturbances and nutritional deficiencies.

Summary of Results:

Summary of Results According to frequency table, demographic statistics showed that sample comprise of males 60 boys and 90 girls .and 100 were 4-5 years old and 50 were 6-7 years old And 72 were belonging to rural residency and 78 belonged to urban one. And 34 were belongs to nuclear family and 116 were belongs to joint family system. According to correlation results: there is a negative relationship between autism and macro nutrients. As per regression analysis, nutritional deficiencies were the predictor of autism. According to t test, children who belong from joint family were more psychologically disturbed. Moreover nutriti0onal deficiencies also seem by the children of joint family.

Discussion

As per previous researches, nutritional deficiencies considered a concern in joint families, where extended family members and multiple generations live together. Ensuring adequate nutrition for all members can be challenging, particularly when there are varying dietary needs and preferences (Ruel et al., 2017; Kliemann et al., 2016). In these families many members showed nutritional deficiencies regarding protein deficiency, vitamin D deficiency, iron deficiency, and omega-3 fatty acid deficiency. By these deficiencies various health issues arraised, such as muscle wasting, weakness, fatigue, and anemia. Regarding Autism Spectrum Disorder (ASD), research suggests that nutritional deficiencies may play a role in its developmental delays (Rothenberg et al., 2018; Levine et al., 2018).

Folate and folic acid deficiency, vitamin D deficiency, and omega-3 fatty acid deficiency can lead to potential nutritional deficiencies that may further lead towards ASD. As per fetal brain development during pregnancy foliate and folic acid plays vital role, while vitamin D and omega-3 fatty acids are essential for brain development and function. (Parletta et al., 2016). Nutritional deficiencies, particularly during critical periods of fetal development or early childhood, may contribute to the risk of developing Autism Spectrum Disorder (ASD) (Schmidt et al., 2012; Surén et al., 2013). Some potential nutritional deficiencies that may contribute to ASD include folate and folic acid deficiency, vitamin D deficiency, and omega-3 fatty acid deficiency. Research has shown that maternal folic acid supplementation may reduce the risk of ASD in offspring (Rothenberg et al., 2018; Levine et al., 2018).

Vitamin D deficiency has also been linked to an increased risk of ASD, and some research suggests that vitamin D supplementation may have therapeutic benefits (Cannell, 2017; Saad et al., 2016). Omega-3 fatty acids are essential for brain development and function, and some research suggests that deficiency may contribute to the development of ASD (Parletta et al., 2016). Mostly in Joint families, people having limited financial resources, limited food preferences, and challenges in meal planning and cooking even with the multiple generations or extended family members have limited food and nutrition that may be at increased risk of nutritional deficiencies (Ruel et al., 2017; Kliemann et al., 2016). Ensuring adequate nutrition for all family members can be a complex task, particularly when there are varying dietary needs and preferences.

In conclusion, nutritional deficiencies may contribute to the risk of ASD, and joint families may be at increased risk of nutritional deficiencies due to various factors. By prioritizing nutrition and making informed food choices, joint families can promote overall health and well-being, reducing the risk of nutritional deficiencies and related health conditions.

Conclusion:

Special needs population increased day by day. Many important factors play a vital role here.

Our family system is a major factor of contributing vital role here. As in joint family people lived together and mothers are unable to give time to their children so many behaviors children adopting from the other members. Moreover nutritional factors plays a vital role here, as per findings of results the nutritional deficiencies leads towards autism in many cases.

Ethical Considerations

All research ethics such as informed consent, confidentiality, privacy and purpose of research gives by American Psychological Association was kept in mind before conducting research and Rapport was established by assuring them of the confidentiality of their personal information, written informed consent was taken from all the participants individually.

Research Gap

The knowledge gap in this study is the need to comprehend the intricate interactions among family system, nutritional deficiencies and psychological disturbances among children. To further understand the underlying causes, drives, and effects of these constructs, more study is needed. To get deeper insights, this investigation should include a wider range of participants, take into account various cultural and contextual elements, and use a mixed-methods approach.

Limitations:

- The research design cross section may limit causality between asd and nutritional deficiencies.
- Accuracy is also affected by self reported data that may cause biasness.
- Moreover more participants required for this study.
- Moreover control group also required for this study. One population with special needs and one population without special needs will be required for further study. Moreover cultural affects also araise for mealing habits and living standards of population.

Suggestions

- Further studies should be longitudinal for establishing the causality between asd and nutritional deficiencies.
- Further studies should be objective for nutritional statuses by using bio marks.
- Control group should be used for comparing the factors of asd and without asd population.

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