

# A Comparative Study of Dietary Behavior of Institutionalized & Non-Institutionalized Intellectually Disabled Children

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**Abstract:** To compare the dietary behavior of institutionalized and non-institutionalized Intellectually Disabled children an observational study was conducted on 200 such children of Raipur district. Both purposive and random sampling techniques were adopted while selecting the samples and the sampling sites. Self-designed pre-tested dietary behavior schedule was administered among the parents and the caretakers of the children. There was a significant difference at .01 level, when the mean scores of mealtime behavior of both institutionalized and non-institutionalized subjects were compared. The results of the study indicate that children live in the institutions and receiving frequent trainings for better handling skills showed appropriate behavior than the children living with their parents at home.

**Keywords:** Intellectually disabled, Dietary behavior, Institutionalized, Handling skills, mealtime

## 1. Introduction

*Intellectual disability* is a disability characterized by significant limitations in both intellectual functioning and in adaptive behavior, which covers several everyday social and practical skills. This disability originates before the age of 18. Disabled people are often assumed to have poorer nutrition than their nondisabled counterparts; they are also vulnerable to poor nutritional care (Mallory et al 1993). The most common problems associated with malnutrition in disabled children is inadequate nutrient intake either due to feeding problems, problematic mealtime behavior or poor feeding knowledge among care providers. Sisson & Hasselt (1989) suggested that feeding problem can be divided into four categories a) lack of independent self-feeding skills, b) disruptive behavioral tantrum and theft of food during meal time, c) eating too much or too little, d) limited intake due to selection by type and texture of food resulting in dietary inadequacy. Researches have shown that mealtime difficulties have been estimated to occur in approximately 25% to 35% of normally developing children and approximately 33% of individuals with developmental disabilities (Gouge & Palmer 1978). Since problematic meal time behavior may reduce food consumption of intellectually disabled children, dietary counseling of the parents and other family members along with the training for developing feeding skills may be useful to counter the intake deficit. The present study was designed to compare the mealtime behavior of institutionalized children and children living with their parents.

## 2. Review of Literature

In a study by Sisson & Dixon (1996) the effectiveness of a token reinforcement program in improving mealtime behaviors of four Mentally Retarded, behaviorally disordered children was evaluated using the multiple baseline design across behaviors. Target behaviors included appropriate utensil use, appropriate napkin use, chewing with mouth closed, and good posture. Training was

implemented in a group setting and consisted of verbal instructions, modeling, manual prompts, and token reinforcement delivered at preprogrammed variable intervals signaled by a tape recording. Results showed acquisition of target behaviors in 20 to 40 sessions. O'Brien & Azrin (1979) conducted a study on developing proper mealtime behavior of the institutionalized Mentally Retarded children. The institutionalized Mentally Retarded children display a variety of insanitary, disruptive, and improper table manners. A program was developed that included (1) acquisition-training of a high standard of proper table manners and (2) maintenance procedures to provide continued motivation to maintain proper mealtime behaviors and decrease improper skills. Twelve retardates received acquisition training, individually, by a combination of verbal instruction, imitation, and manual guidance. The students then ate in their group dining arrangement where the staff supervisor provided continuing approval for proper manners and verbal correction and timeout for improper manners. The results were: (1) the trained retardates showed significant improvement, whereas those untrained did not; (2) the trained retardates ate as well in the institution as non-retarded customers did in a public restaurant; (3) proper eating was maintained in the group dining setting; (4) timeout was rarely needed; (5) the program was easily administered by regular staff in a regular dining setting. The rapidity, feasibility, and effectiveness of the program suggest the program as a solution to improper mealtime behaviors by the institutionalized Mentally Retarded children.

## 3. Problem Definition

Malnutrition often prevalent among intellectually disabled children may be due to a gamut of factors. The self-feeding deficits, poor handling skills and lack of training for behavioral modifications may be some of the important reasons behind the poor nutritional status of these children. In order to observe the differences in the meal time behavior of the intellectually disabled children living in Institutes meant for them and the children living with their parents at

home, this study was planned.

#### 4. Methodology

An observational study was planned to compare the mealtime behavior of institutionalized Intellectually Disabled children with non-institutionalized Intellectually Disabled children. The study was carried out amongst 200 Intellectually Disabled children (aged 6 to 16 years) of Raipur district. Both purposive & random sampling procedures were adopted while selecting the sampling sites and the samples. Intellectually Disabled children of both the sexes with and without having any associated physical and mental problems were selected. Samples were selected from different schools specially meant for these children from Raipur district of Chhattisgarh state. Hundred institutionalized children and 100 non-institutionalized children were selected for the study. Self-designed pretested individual data sheet (IDS) was administered among the parents and caretakers of the Intellectually Disabled children. The contents of the schedule were divided into the following broad areas: Mealtime Behavior, Practice of Personal Hygiene at Mealtime, Handling skills for Table Utensils, Common Eating Problems. The four broad areas taken in the study for the assessment of Dietary Behavior were evaluated. The sum total of numerical ratings given to the criteria for each statement was termed as behavior score. The direction of the scoring depends on the behavior evaluated. Lower the score better the behavior.

#### 5. Results & Discussions

Any or all of the activities of a person, including physical actions, which are observed directly and mental activity; which is inferred and interpreted is called behavior. The manner in which a person acts or perform towards food can be termed as dietary behavior. The dietary behavior of the Intellectually Disabled children was evaluated using a schedule and the observations were analyzed.

A variety of behaviors shown by the selected subjects during meal time are depicted in Table no.1. The different parameters of mealtime behavior observed were divided into criteria like Always, Never and Sometimes. Some behavior like being rigid in the use of finger for food instead of spoon is commonly seen in these children. Table shows that 42 children were 'Always', 22 were 'Sometimes' and 132 were 'Never' showing this behavior.

**Table 1: Mealtime Behavior of the Subjects**

Behavior	Always	Sometimes	Never
Hang on the use of fingers instead of spoon	42	22	136
Move around during mealtime	22	18	160
Talk with mouthful	9	16	175
Do not eat without help	45	14	141
Do not accept disliked food	66	84	50
Do not treat foods clean	25	43	132
*Able to indicate when hungry	182	4	14
*Able to indicate when full	182	3	13
Aggressive behavior at meal time	62	31	107

\*The scores are reversed.

Self-feeding deficits are another area of concern in

Intellectually Disabled children. The number was 45 for the subjects who 'Always' needed help for taking their meals. Food selectivity and food refusal have been considered to be a common phenomenon among those with Intellectual Disability by researchers and clinicians (Riordan et al 1984). For individuals who have a preference of certain foods (e.g., food of a certain texture), their feeding difficulties are perceived as being of the food selective type. Food refusal, on the other hand, is a consequence of food selectivity whereby non-preferred foods are rejected during mealtime (Babbit et al 1994). In the present study 66 children were 'Always', 84 children were 'Sometimes' and 50 children were 'Never' showing the behavior of food refusal. Presence of any physical problem, anxiety or inability to express the feelings properly can cause aggression in these children. Aggression during meal time may affect the food intake and also put some extra burden and stress on the caretakers and parents. The table shows that 62 children were 'Always' found to be aggressive during mealtime while 31 children were found to be aggressive for 'Sometimes.'

**Table 2: Handling Skills for Table Utensils of the Subjects**

Observations	No. of children
Need no help	101
Act as directed	66
Need physical help	24
Unable to use	09

Table no. 2 depicts the Handling skills for table utensils of the subjects. When a person is unable to complete basic skills such as the use of utensil, neatness, table manners, and oral motor skills, the ability to eat properly decreases and the risk for developing a feeding problem increases. The ability to feed one-self independently is another area of concern that is prevalent within this population (O'Brien et al 1991; Cooper et al 1995). In the present study 24 children needed physical help and 09 children were unable to use the utensils while 66 children were able to do their work properly by following the directions given.

**Table 3: Practices of Personal Hygiene of the Subjects**

Behavior	Always	Sometimes	Never
Wash hands before meal	184	15	1
Wash hands after meal	185	14	1
Brush teeth after meal	177	18	5
Clean spilled foods	181	14	5

Practices of personal hygiene are also considered as a part of good dietary practices. The Table no.3 depicts that maximum number of children were washing their hands before and after meal, brushing teeth after meal and cleaning spilled food. It was found that all the practices of personal hygiene were being done only as per the directions given.

Table no. 4 depicts the comparison of Dietary Behavior between the subjects living in institute and the subjects living with parents. There was no significant difference found when practices of personal hygiene were compared. The data indicates that there was a significant difference at .01 levels when meal time behavior was compared. A significant difference at .05 levels was observed for handling skills of table utensils. The comparison shows that mealtime

behavior and handling skills for table utensils was appropriate and better in children living in institutions. The low mean scores of the children living in institutions shows better dietary behavior than the children living with their parents at home.

**Table 4:** Comparison of Dietary Behavior between the Institutionalized and Non-Institutionalized Children

Dietary Behavior	Mentally Retarded Children				‘t’
	Living in institutes (n=100)		Living with parents (n=100)		
	Mean	S.D.	Mean	S.D.	
Behavior during meal time	13.61	2.34	15.16	3.93	3.38**
Practices of Personal Hygiene during meal time	4.33	0.79	4.52	0.88	1.60(NS)
Handling Skills for table utensils	3.18	1.54	3.60	1.37	2.03*

\*\* Significant at .01 level  
 NS Not Significant

## 6. Conclusion

It can be concluded from the present study that problematic mealtime behavior displayed by intellectually disabled children may put extra burden on caretaker and parents in maintaining good health and nutritional status of these children. Since problematic meal time behavior may reduce food consumption, training of communication, handling and self-feeding skills may be useful to counter the intake deficit. A comprehensive interdisciplinary dietary approach can help in bringing these children into the mainstream. However the mealtime behavior and handling skills were found to be better in the Institutionalized children due to constant training given in the Institutions as well as by the motivation of the peer group.

## References

[1] O'Brien, C. Bugle, and N. H. Azrin (1972) Training and maintaining a retarded child's proper eating J .ApplBehav Anal. Spring; 5(1): 67-72.

[2] Gouge AL, Ekvall SW. (1975) Diets of handicapped children: Physical, psychological and socioeconomic correlations. American Journal of Mental Deficiency; 80(2):149-157.

[3] J. L. Matson (Ed.), Handbook of behavior modification with the mentally retarded (2<sup>nd</sup> edition) . 225-251. New York, N.Y.: Plenum Press

[4] Riordan, Mary M. Brian A. Iwata\*, Jack W. Finney, Marianne K. Wohl, Alison E. Stanley Fall 1984 Behavioral Assessment and Treatment of Chronic Food Refusal in Handicapped Children Volume 17, Issue 3, pages 327-341

[5] Sisson, k A & Van Hasselt, V.B. (1989) Feeding disorder. In JK Luiselli (Ed) Behavioral Medicine and developmental disabilities (pp 45-73). New York: springer-verlag.

[6] O'Brien, S., Repp, A. C. Williams, G. E., & Christophersen, E. R. (1991) . Pediatric feeding disorders. Behavior Modification, 15, 394-418.

[7] Mallory BL, Nichols RW, Charlton JI and Marfo K (1993): Traditional and changing views of Disability in developing societies: causes, consequences, cautions. Durham: world Rehabilitation Fund- the International Exchange of Experts and Information in Rehabilitation, the University of New Hampshire, NC, USA

[8] Babbitt, R. I., Coe, D. A., Cataldo, M. F., Kelly, K. J., Stackhouse, C., & Perman, J. A. (1994). Behavioral assessment and treatment of pediatric feeding disorders . Developmental and Behavioral Pediatrics, 15, 278-291.

[9] Cooper, L. J., Wacker, D. P., McComas, J. J., Brown, K., Peck, S. M., Richman, D., Drew, J., Frischmeyer, P., & Millard, T. (1995). Use of component analysis to identify active variables in treatment packages for children with feeding

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