

Effectiveness of instructional program on parents' knowledge up on dietary patterns for children with picky eating behavior at Al-Zahra Teaching Hospital in Al-Najaf Al-Ashraf City



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Abstract:

Objective: Assess parents' knowledge up on dietary patterns for children with picky eating behavior before providing instructional program.

Methodology: To achieve the aims of this study, this quasi-experimental design was conducted on children suffering from picky eating behavior assigned to study and control groups is used to study the effectiveness of instructional program on parents' knowledge toward dietary patterns for children with picky eating behavior at Al-Zahra Teaching Hospital. Questionnaires were developed to determine the effectiveness of the instructional program on parents' knowledge toward dietary patterns for children with picky eating behavior. The final instruments consisted of (4) parts First: concept of picky eating behavior in children (Includes four questions) Second: causes of picky behavior and dangerous factors (Includes eight questions) Third: symptoms of picky behavior (includes six questions) Fourth: importance of a child's picky eating behavior diet (consists of seven questions) Fifth: ways to deal with the child picky eating behavior in food (contains seven questions) Sixth: therapeutic and guiding measures for picky eating children (has thirteen questions).

Results: there is a non-significant difference in the study sample knowledge according to their residency, gender, child's age/years, and child's order in the family.

Conclusion: Parents in the study group who received the dietary instructional program different views and experiences on overall behaviors and attitudes about mealtime and daily food, demonstrating that the dietary instruction had a positive impact on child behavior.

Recommendation: Develop techniques to influence children's eating and general lifestyle habits while taking into consideration the environment and their family.

Keywords: Effectiveness, instructional program, Parents' Knowledge, dietary patterns, Picky Eating Behavior, Children.

INTRODUCTION

Picky eating is a common problem reported by parents of young children in many different countries and regions of the world, although overall prevalence rates vary considerably depending on the child's age and how picky eating is defined and measured. In the United States prevalence high as 50% have been in toddlers However, the impact of picky eating on the growth of children is still controversy (1). One longitudinal study of 1498 children aged 2.5, 3.5, and 4.5 years in found that picky eaters were twice as likely to be underweight at 4.5 years old than children who were never picky eaters . Picky eating is described as "a pattern of food intake marked by selective food rejection." This form of eating problem may have a negative impact on a child's growth and development (2). It may also cause major health problems, including malnutrition, anemia, and diabetic. One of the most prevalent issues that parents confront is picky eating. Children may acquire this behavior for a variety of reasons, but it is critical to understand the cause before deciding on a course of action. Picky eating has become a severe issue that affects many children and their families. There are a lot of things that could be behind this kind of behavior, the most common of which are sensory-motor problems (3). Parents reported that 20–60% of young children were not eating properly. In a research conducted in North America (year) that the 120 children aged two to four years were recognized as picky eaters, with picky eating incidence as high as 50 % in toddlers aged 19 to 24 months. Parents reported picky eating habits in half of the Chinese preschoolers aged 3-7 years (54 %). According to a recent research, 36 % Chinese preschoolers (ages 24–35 months) had picky eating habits (4). The development of picky eating may be affected by factors such as pressure to eat, personality factors, and parental practices/ feeding styles, including parental control and social influences, as well as

specific factors, such as the absence of exclusive breastfeeding, the introduction of complementary foods before 6 months. Effects of picky eating behavior on nutrition of the child and factors contributing to development of picky eating behavior (5).

Aims of the Study

Assess parents' knowledge up on dietary patterns for children with picky eating behavior before providing instructional program

METHODOLOGY

Research design: The study was designed as a quasi-experimental design using a test-retest approach for the study and control groups.

Setting: Teaching Hospital in Al-Najaf Al-Ashraf City, participants' parents' knowledge being tested in two periods pre-test, post-test-1.

Instrument: Picky eating behavior questionnaires based on the internal consistency reliability/alpha Cronbach technique. The reliability was determined through the use of Microsoft excel/ correlation function; also, the result is supported through the use of the SPSS Program version 22 / Reliability Analysis. In addition, the reliability can be determined through the use of Pearson's Correlation Formula. Two levels of responses (correct and incorrect) with two levels of scoring are (1) for the correct answer and (0) for the incorrect answers. Therefore, the levels of parents' knowledge levels are: Poor (mean of scores 0-0.33).Fair (mean of scores 0.34-0.67).Good (mean of scores 0.68 and more).

RESULTS

Table (1): Study Sample Demographic Characteristics

Demographic Data	Rating and Intervals	Statistics	Groups	
			Study	Control
Residency	Urban	Freq.	33	32
		%	82.5%	80.0%
	Rural	Freq.	7	8
		%	17.5%	20.0%
Gender	Male	Freq.	21	24
		%	52.5%	60.0%
	Female	Freq.	19	16
		%	47.5%	40.0%
Child's Age / Years	2 and less	Freq.	7	5
		%	17.5%	12.5%
	3-4	Freq.	9	8
		%	22.5%	20.0%
	4 -5	Freq.	24	27
		%	60.0%	67.5%
Child's Order in the Family	1-2	Freq.	25	34
		%	62.5%	85.0%
	3-4	Freq.	7	3
		%	17.5%	7.5%
	5 and more	Freq.	8	3
		%	20.0%	7.5%

%= percentage, freq. = frequency, χ^2 = chi-square value, p- value= probability value, NS= non-significance

The results of demographic characteristics shows that the highest percentage for categories was residency as 82.5% (n = 33) study group and (80%) (n = 32) in the control group with urban resident, the rural was 17.5% (n = 7) study group and 20% (n = 8) in control group. On the other hand, most participants are males 52.5% (n = 21) study group and the remaining 47.5. % (n = 19) are female, and the control group male 60% (n =24) and female 40% (n=16).17.5% (n = 7) 2 and less year old, 22.5% (n = 9) between 3- less than 4year old, 60% (n = 24) were 4 years and above in the study group, 12.5% (n = 5) 2 and less year old, and 20% (n = 8) between 3 - 4 year old, 67.5% (n=27) were 4 years and above in the control group. Most child's order in the family are 1-2, 62.5% (n = 25), and 3-4, 17.5% (n= 7) and 20% (n = 8) the remaining 5 and more are the study group, and 1-2, 85. % (n = 34), and 3-4, 7.5% (n= 3) and 7.5% (n = 3) the remaining 5 and more are the control group.

Table (2): Mean Difference (Paired Sample t-test) between the Control Group participants' Knowledge throughout Two Periods of Measurements (pre-test and post-test)

Main Studied Domain	Periods of measurements	Mean	Std. Deviation	Std. Error Mean	t-value	d.f.	p-value
Concept of picky eating behavior for children	Pre-test	.306	.192	.030	1.000	39	.323
	Post-test	.288	.156	.025			NS
Causes of picky eating behavior and risk factors	Pre-test	.050	.152	.024	1.778	39	.083
	Post-test	.069	.160	.025			NS
Symptoms of picky eating behavior	Pre-test	.054	.166	.026	1.433	39	.160
	Post-test	.067	.171	.027			NS
Importance of dietary system for picky eating behavior	Pre-test	.086	.246	.039	.189	39	.851
	Post-test	.089	.218	.034			NS
Ways to deal with picky eating child	Pre-test	.029	.098	.016	.935	39	.355
	Post-test	.038	.108	.017			NS
Therapeutic and guiding measures for selective children	Pre-test	.085	.241	.038	1.616	39	.114
	Post-test	.102	.242	.038			NS
Overall Knowledge	Pre-test	.102	.065	.010	1.463	39	.151
	Post-test	.109	.068	.011			NS

Table shows the assessment of participants' knowledge between the pre-test and post-test control group; there is no significant difference at P-value more than (0.05) among pre-test and post-test evaluation in the control group. This means there is improvement in the parents' knowledge after the program.

Table (3) Mean Difference (Independent Sample t-test) between the Study and Control Groups participants' knowledge at the pre-test

Main Studied Domain	Periods of measurements	Mean	Std. Deviation	Std. Error Mean	t-value	d.f.	p-value
concept of picky eating behavior for children	Study	.313	.210	.033	.139	78	.890
	Control	.306	.192	.030			NS
causes of picky eating behavior and risk factors	Study	.075	.213	.034	.604	78	.548
	Control	.050	.152	.024			NS
Symptoms of picky eating behavior	Study	.075	.213	.034	.487	78	.627
	Control	.054	.166	.026			NS
importance of dietary system for picky eating behavior	Study	.114	.288	.046	.477	78	.635
	Control	.086	.246	.039			NS
ways to deal with picky eating child	Study	.039	.121	.019	.435	78	.665
	Control	.029	.098	.016			NS
Therapeutic and guiding measures for selective Children	Study	.110	.270	.043	.437	78	.663
	Control	.085	.241	.038			NS
Overall Knowledge	Study	.121	.102	.016	1.012	78	.315
	Control	.102	.065	.010			NS

This table demonstrates statistically non-significant differences between the study and control groups in pre-test for domains in the parents' knowledge in all fields.

Table (4) Mean Difference (Independent Sample t-test) between the Study and Control Groups participants' knowledge at the post-test

Main Studied Domain	Periods of measurements	Mean	Std. Deviation	Std. Error Mean	t-value	d.f.	p-value
Concept of picky eating behavior for children	Study	.875	.266	.042	12.074	78	0.0001 HS
	Control	.288	.156	.025			
Causes of picky eating behavior and risk factors	Study	.906	.264	.042	17.175	78	0.0001 HS
	Control	.069	.160	.025			
Symptoms of picky eating behavior	Study	.888	.283	.045	15.681	78	0.0001 HS
	Control	.067	.171	.027			
Importance of dietary system for picky eating behavior	Study	.889	.303	.048	13.572	78	0.0001 HS
	Control	.089	.218	.034			
Ways to deal with picky eating child	Study	.864	.330	.052	15.064	78	0.0001 HS
	Control	.038	.108	.017			
Therapeutic and guiding measures for selective children	Study	.896	.234	.037	14.920	78	0.0001 HS
	Control	.102	.242	.038			
Overall Knowledge	Study	.886	.139	.022	31.882	78	0.0001 HS
	Control	.109	.068	.011			

S.D. = stander deviation, d.f= degree of freedom, p-value= probability, HS= significance

The study results presented in table show a highly significant difference in the parents' knowledge at a p-value less than 0.01. Statistical significance, the significant increase in the statistical mean in post-test compared to the pre-test (i.e., there is an improvement in the parents' level of knowledge following the application of instructional program on parents' knowledge toward patterns for children with PE).

Table (5) Relationship between the Study Groups Participants' Knowledge at the post-test and their Demographic Data

Demographic data	Chi-square Value*	d.f	p-value
Residency	.563	1	.453 NS
Gender	.478	1	.489 NS
Child's age/years	2.162	2	.339 NS
Child's order in the family	1.122	2	.571 NS

*The results of chi-square analysis are corrected by using the Fisher Exact Test because many cells have an expected count of less than 5. Table (5) study sample knowledge shows that there is a non-significant difference in the study sample knowledge according to their residency, gender, child's age/years, and child's order in the family, at a p-value greater than 0.05.

Table (6) Relationship between the Study Groups Participants' Knowledge at the post-test and the Family general information

Demographic and clinical data	Chi-square Value	d.f	p-value
Monthly income / ID	.171	1	.679 NS
Father's levels of education	4.479	4	.345 NS
Mother's levels of education	5.222	5	.389 NS
Father's occupation	.906	2	.636 NS
Mother's occupation	.060	1	.806 NS

*The results of chi-square analysis are corrected by using the Fisher Exact Test because many cells have an expected count of less than 5. Additionally, some of the variables are excluded from the chi-square analysis because the chi-square can't be used with 1X2 tables, minimum 2X2 table. Table (6) indicates no statistically significant association between the participants' knowledge and family general information at a p-value more than 0.05. at post-test.

DISCUSSION

Study found that parents' undergoing an educational program. Who did a study on "commitment mother and behavioral prevention of picky eating on toddlers," said that most parents use the same tactics to give their kids healthy and nutritious food and prevent them from becoming picky eaters ⁽⁶⁾. The majority of the current research children were male, with 21 (52.5%) in the quasi-experimental group and 24 (60%) in the control group. showed that the majority of the studied sample was male (53.2%). According to the current research, male children made up roughly 52.5 % of the overall sample group ⁽⁶⁾.

In a study of French toddlers, boys had stronger neophobia than girls regarding food fear. Another study indicated that 53.2% of the children were boys and 46.8% were girls, with 2470 children. The current study agreed with the study done in it found that the majority of the studied gender the male (53%). The current study found that the majority of children (60%) aged four years and older are picky eaters; this finding is consistent. previous research has shown that the prevalence of picky eating was relatively stable during early childhood, between 2.5 and 4.5 years ⁽⁷⁾.

parents or caregivers gain knowledge through information comprehension and instructional application to change children's behavior. Because education program items implemented contributed to its effectiveness. This table shows non-significant difference ($P > 0.05$) between the study and control groups regarding the specified socio-demographic factors. Control entails putting restrictions on the research situation to reduce biases while maximizing accuracy and validity. Put it differently; research control aims to minimize contaminated influences that might skew the connection between the variables of interest throughout the data analysis, it has been noted that there was no significant relationship between parents' knowledge of study groups with their genders. These findings came along with the present results of the study ⁽⁸⁾.

There was also no significant difference in sex distribution ($P > 0.05$) between the study and control groups. This is in line with other studies that found no sex differences in fussy eating in a sample of Canadian preschool-aged children or in a review of studies on toddlers, which found no differences between boys and girls ⁽⁹⁾.

The present study findings revealed a non-significant association between the parent's knowledge and age at a p-value of 0.05. Indicated

that there were no statistically significant differences in age. Also, stated no statistically significant differences in age ⁽¹⁰⁾. "Picky eating—A risk factor for underweight in pre-adolescents in Finland" The present study's results indicated that there was no significant relationship between parents' educational level $p < 0.05$ ⁽¹⁰⁾.

CONCLUSION

According to the findings, the implementation instructional program session will positively change children's nutritional status and dietary patterns. The difference between the two groups is related to the effectiveness of the dietary instruction program that was given to the study group parents but not to the control group parents.

RECOMMENDATIONS

Develop techniques to influence children's eating and general lifestyle habits while taking into

consideration the environment and their family. More research is required to determine the long-term effect of such programs and how much of the achieved benefit in form of enhanced knowledge and abilities is sustained over time. Special training programs must be developed and implemented by the government in order for nurses in this field to get trained and certified as dietician nurses. Nurses will use this documentation and reference to evaluate an intervention aimed at preventing picky eating behaviors up on of toddler-aged children.

Conflict of Interest: The researchers report no conflict of interest.

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Ethical Clearance: The permission to proceed this study was obtained from the ethical committee in the college of nursing at University of Baghdad.

REFERENCES:

1. Karim, S. K. (2019). The clinical link of preschoolers' picky eating behavior with their growth, development, nutritional status, and physical activity in Iraq/Kurdistan region. *Journal of Ophthalmology*, 1(2).
2. Kwon, K. M., Shim, J. E., Kang, M., and Paik, H. Y. (2017). Association between picky eating behaviors and nutritional status in early childhood: Performance of a picky eating behavior questionnaire. *Nutrients*, 9(5), 463.
3. Chin, K. J., Asma, A., Yusof, H. M., Churak, P., and Latiffah, K. (2020). Does dietary adequacy reflect the cognitive performance of children? a study among the homeless children in Klang Valley, Malaysia. *IJUM Medical Journal Malaysia*, 19(3).
4. Choi, E. B., Lee, J. E., and Hwang, J. Y. (2018). Fruit and vegetable intakes in relation to behavioral outcomes associated with a nutrition education intervention in preschoolers. *Nutrition Research and Practice*, 12(6), 521-526.
5. Shettiwar, S., and Wade, M. (2019). Correlates of picky eating behavior in children and its effect on growth.
6. Fitriana, D. M., Arief, Y. S., & Krisnana, I. (2020). COMMITMENT MOTHER AND BEHAVIORAL PREVENTION OF PICKY EATING ON TODDLER. *Nurse and Health: Jurnal Keperawatan*, 9(2), 80-86.
7. Fernandez, C., Kasper, N. M., Miller, A. L., Lumeng, J. C., and Peterson, K. E. (2016). Association of

- dietary variety and diversity with body mass index in US preschool children. *Pediatrics*, 137(3).
8. Kim, J., Kang, S., and Kye, S. (2021). Association between Picky Eating Behavior, Growth, and Dietary Practices in Preschool Children. *Korean Journal of Community Nutrition*, 26(1), 1-11.
 9. Cole, N. C., An, R., Lee, S. Y., and Donovan, S. M. (2017). Correlates of picky eating and food neophobia in young children: a systematic review and meta-analysis. *Nutrition reviews*, 75(7), 516-532.
 10. Cardona Cano, S., Hoek, H. W., Van Hoeken, D., de Barse, L. M., Jaddoe, V. W., Verhulst, F. C., and Tiemeier, H. (2016). Behavioral outcomes of picky eating in childhood: a prospective study in the general population. *Journal of Child Psychology and Psychiatry*, 57(11), 1239-1246.