## ASSESSMENT OF FEEDING BEHAVIORS USING THE ARABIC VERSION OF THE INFANT AND CHILD FEEDING QUESTIONNAIRE

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#### **ABSTRACT:**

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**Background:** Infant and child feeding questionnaire (ICFQ) is an evidence-based technique that promotes early detection of feeding issues and facilitates the referral of at-risk babies and toddlers to appropriate care.

Aim of the work: The goal of this study is to evaluate eating habits in infants and kids with feeding disorders using the Arabic version of the Infant and Child Feeding Questionnaire (A-ICFQ), to aid in the early diagnosis of pediatric feeding problems.

Patients and methods: Caregivers of children aged 48 months or younger with and without known feeding problems (FP and NFP) were recruited to complete the A-ICFQ and demographic questionnaires. Responses to A-ICFQ questions were examined using receiver operating characteristic analysis and odds ratios to assess if questionnaire items distinguished between study groups.

**Results:** We recruited thirty caregivers of children who had FP and thirty caregivers of children who had NFP. A combination of two A-ICFQ questions and four feeding behaviors were the most important for distinguishing between sets.

Conclusions: A set of questions from the A-ICFQ showed that they have the potential to differentiate between FP and NFP groups. Future studies are recommended to determine whether the same group of A-ICFQ questions still could discriminate between FP and NFP groups by getting wider representation of participant samples and investigating the children across the selected age range by an equal distribution.

**Keywords:** dysphagia, pediatric feeding, deglutition, feeding disorder.

#### **INTRODUCTION:**

**Feeding** is the process that includes any part of eating or drinking, including gathering and preparing food and fluids for ingestion, sucking, or chewing that are required to prepare the meal before the actual swallowing process <sup>(1)</sup>.

**Swallowing** is a complicated physiological phenomenon that involves the concurrent contraction of the orofacial area,

pharynx, larynx, and esophageal muscles in succession (2).

A child with a *Pediatric feeding disorder* (*PFD*) is characterized by irregular eating methods and may have underlying causes that are dietary, physiological, psychological, or both <sup>(3)</sup>.

Avoidant/Restrictive Food Intake Disorder (ARFID) is characterized as an eating/feeding disorder in which children are unable to maintain proper nutrition and show

signs of food selectivity, low appetite, or fear or anxiety associated with eating; this disorder is unrelated to cultural feeding customs, food scarcity, abnormal body/ weight perception, or a coexisting physical or mental health issue <sup>(4)</sup>.

Pediatric swallowing disorders (Dysphagia) is a feeding and swallowing disorder that results from impairments in the upper esophagus, the pharynx, the larynx, and the mouth (including the mandible, lips, teeth, tongue, cheeks, and hard and soft palates). It also involves dysfunction of the motor or sensory aspects of swallowing <sup>(5)</sup>.

The Feeding Problems Infant and Child Feeding Questionnaire (ICFQ) was designed by expert multidisciplinary agreement in collaboration with caregivers of children with Pediatric Feeding Disorders <sup>(3)</sup>.

It is an evidence-based technique that is used to encourage early detection of feeding issues and provides a way for referring at-risk babies and toddlers to appropriate care <sup>(6)</sup>.

The original purpose of the ICFQ was for parents or other caregivers to self-assess their concerns regarding their child's feeding habits. As caregivers complete the ICFQ, anticipatory guidance cues are provided to illustrate the nature of the questions being asked <sup>(6)</sup>.

Feeding problems have been reported in 15% to 45% of typically developing children, in approximately 70% of children with chronic medical conditions and in approximately 80% of children with developmental disabilities <sup>(7)</sup>.

It is estimated that around 20-45% of infants and young children exhibit some form of feeding and swallowing difficulty, demonstrating various complications, such as slow weight gain, disrupted nutrition and acute choking <sup>(5)</sup>.

On the strength of medical and technical advancement, newborn and infant mortality has dramatically dropped, resulting in an increase in the number of children with eating and swallowing difficulties, and adequate care focuses not only on survival but also on improving quality of life (QoL) <sup>(5)</sup>.

Oropharyngeal dysphagia or feeding disorder in children with brain damage is reported to be 19.2%–99%. Rates increase with greater severity of cognitive impairment and decline in gross motor function <sup>(8)</sup>.

#### **AIM OF THE WORK:**

The aim of this work is to assess the feeding behaviors among infants and children with feeding problems using the Arabic version of the Infant and Child Feeding Questionnaire (A-ICFQ), in order to facilitate early detection of pediatric feeding problems.

#### **PATIENTS AND METHODS:**

This study is considered from the statistical point of view, a case control study. It was carried out at the Phoniatrics clinic; university Ain shams hospitals hospital Demerdash and Ain Shams University specialized hospital). Patients attending the dysphagia clinic investigated for inclusion and exclusion criteria. The study protocol has been approved by the Ain Shams Institute's Ethical Committee of Human Research.

#### Sample type and selection:

30 caregivers of children with known feeding problem and 30 caregivers of children without known feeding problems were included in this study. The cases were selected using a convenience sample based on the following inclusion.

#### **Inclusion criteria:**

- Age: birth to 4 years.
- Children with feeding problems.
- Native Arabic speakers.

## Application of the questionnaire to the tested groups:

- The Arabic Infant and child feeding questionnaire (AICFQ) was applied on caregivers of children involved in the study after obtaining their consent.
- For the illiterate caregivers, the phoniatrician read the statements of the questionnaire to them and checked their answers, but if the caregiver could not understand the questions, he/she was excluded.

#### **Ethical Considerations:**

- ➤ Informed consent was obtained from all participants after being informed about the process and aim of the study as well as applicable objectives.
- ➤ The protocol for the study has been authorized by the Ain-Shams Institute's Ethical Committee of Human Research. MS 257/2023.
- The study procedures did not have any negative consequences on the participants, or the service provided.

Personal data of people has been securely maintained by the principal investigators.

#### **Statistical analysis:**

The Statistical Package for Social Science (IBM SPSS) version 27 was used to collect, edit, code, and input the data.

#### **RESULTS:**

This study was conducted on a group of caregivers whose children complaining of feeding or swallowing problems and a group of caregivers of children without feeding or swallowing problems: 60 children involved in the study were distributed as follow:

- Regarding their gender: 31.7% were females (N=19) and 68.3% were males (N=41) Table (1).
- Regarding the age of children (in months), the median (IQR) is 18.5 (9-36.5) and the range is 2-47 Table (1).
- Socio-economic status of the children was classified into low=34 (56.7%), moderate=16 (26.7%) and high=10 (16.7%) Table (1)

**Table 1**: Demographic data of the studied children with age expressed in months:

Personal	Total No. = 60	
Child age in months	Median (IQR)	18.5 (9 – 36.5)
	Range	2 - 47
Child gender	Male	41 (68.3%)
	Female	19 (31.7%)
	Low	34 (56.7%)
Socio-Economic status	Moderate	16 (26.7%)
	High	10 (16.7%)

Table (1) shows that more than half of the children were males and were of low socio-economic class.

This study revealed that there was highly notable variation between cases and controls

with regard to the age and socio-economic status, while there is no significant difference between cases and controls regarding the gender as shown in Table (2).

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Table 2: Comparison between control set and cases set concerning demographic data.

Personal Data		Control group	Cases group	Test value	P-value	Sig.
		No. $= 30$	No. $= 30$	Test value	r-value	Sig.
Child again months	Median (IQR)	29.5 (13 – 41)	15 (6 – 32)	2 8624	0.004	HS
Child age in months	Range	8 - 47	2 - 44	-2.863≠		нэ
Child condon	Male	20 (66.7%)	21 (70.0%)	0.077*	0.781	NS
Child gender	Female	10 (33.3%)	9 (30.0%)	0.077**	0.781	IND
	Low	11 (36.7%)	23 (76.7%)			
Socio-Economic status	Moderate	11 (36.7%)	5 (16.7%)	10.085*	0.006	HS
	High	8 (26.7%)	2 (6.7%)			

P-value > 0.05: Non significant; P-value < 0.05: Significant; P-value < 0.01: Highly significant \*: Chi-square test; ≠: Mann-Whitney test

The study revealed that there was highly statistical significance between cases and controls regarding questions no.8, 9, 12, 13, 14, 16, 17, 18, 20 and no.19 "feeding behaviors" items a, b, c, f, g, h, i, j, k, l, m, n, q, r & s and there was statistical significant

difference between cases and controls regarding questions no.5 and feeding behaviors" (items d, e, o & p). While there is no statistical significance between cases and controls regarding questions no.1, 2, 3, 4, 6, 7, 10, 11 & 15 as shown in Table (3).

**Table 3**: Comparison between control set and cases set concerning answer of Arabic Infant and Child Feeding Questionnaire (A-ICFQ) among the studied children.

Questions		Controls group	Cases group	Test	ъ .	a.
		No. = 30	No. = 30	value	P-value	Sig.
1. D	No	7 (23.3%)	14 (46.7%)	2.500*	0.058	NIC
1. Does your baby like to be fed?	Yes	23 (76.7%)	16 (53.3%)	3.590*		NS
2. Do you feed your baby (Does your baby eat)	No	20 (66.7%)	21 (70.0%)	0.077*	0.701	NC
more often than every 2 hours?	Yes	10 (33.3%)	9 (30.0%)	0.077*	0.781	NS
3. Does your baby (child) let you know when	No	6 (20.0%)	6 (20.0%)	0.000*	1.000	NC
he is hungry?	Yes	24 (80.0%)	24 (80.0%)		1.000	NS
4.5 4.1 11 (135) ( 19	No	9 (30.0%)	16 (53.3%)	2.2<0.t	0.067	NC
4. Do you think your baby (child) eats enough?	Yes	21 (70.0%)	14 (46.7%)	3.360*		NS
5. How long does it usually take to feed your baby (child)? (in minutes)	<5 = Less than 5 minutes	1 (3.3%)	6 (20.0%)			
	5:30 = From 5 to 30 minutes	28 (93.3%)	20 (66.7%)	6.705*	0.035	S
	>30 = More than 30 minutes	1 (3.3%)	4 (13.3%)			
6. Do you often have to do anything special to	No	12 (40.0%)	9 (30.0%)	0.659*	0.417	NS
help your baby (child) eat?	Yes	18 (60.0%)	21 (70.0%)	0.039		IND
7. Does your child let you know when he is	No	2 (6.7%)	7 (23.3%)	3.268*	0.071	NS
full?	Yes	28 (93.3%)	23 (76.7%)	3.208**	0.071	IND
8. Do you have concerns about your baby's	No	23 (76.7%)	12 (40.0%)	8.297*	0.004	HS
(child's) weight?	Yes	7 (23.3%)	18 (60.0%)	8.297*	0.004	нэ
9. Most of the time, does your child seem	No	1 (3.3%)	12 (40.0%)	11.882*	0.001	HS
content after eating?	Yes	29 (96.7%)	18 (60.0%)	11.882*	0.001	нэ
10. Do you enjoy feeding time with your baby	No	12 (40.0%)	13 (43.3%)	0.069*	0.702	NC
(child)?	Yes	18 (60.0%)	17 (56.7%)	0.069*	0.793	NS

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11. Does your child like having things in or	No	6 (20.0%)	11 (36.7%)	2.052*	0.152	NS
near his mouth?	Yes	24 (80.0%)	19 (63.3%)	2.032*	0.132	N2
12 D	No	6 (20.0%)	20 (66.7%)	12 202*	0.000	HS
12. Does your child sit up to eat?	Yes	24 (80.0%)	10 (33.3%)	13.303*	0.000	HS
13. Does your child eat foods that have	No	4 (13.3%)	17 (56.7%)	10 2014	0.000	110
different food flavors?	Yes	26 (86.7%)	13 (43.3%)	12.381*		HS
14. Does your child eat a variety of food	No	3 (10.0%)	21 (70.0%)	22.500*	0.000	HC
textures?	Yes	27 (90.0%)	9 (30.0%)	22.500*	0.000	HS
15. Do you often feed your child during the	No	16 (53.3%)	15 (50.0%)	0.067*	0.707	NG
night?	Yes	14 (46.7%)	15 (50.0%)	0.067*	0.796	NS
16. Does your child pick up food with his	No	4 (13.3%)	19 (63.3%)	15.064*	0.000	110
fingers?	Yes	26 (86.7%)	11 (36.7%)	15.864*	0.000	HS
17. Most of the time, do you give your child	No	3 (10.0%)	16 (53.3%)	10.015#	0.000	110
the same food the family eats?	Yes	27 (90.0%)	14 (46.7%)	13.017*	0.000	HS
9. Dogg vorm skild drink from a ovn?	No	2 (6.7%)	14 (46.7%)			
18. Does your child drink from a cup?	Yes	28 (93.3%)	16 (53.3%)	12.273*	0.000	HS
19. Does your child often do any of the following	g when you feed his	m (he eats)? [Check	all that apply]:		I	ı
a- Gets upset when his face is touched at the start of feeding.	No	29 (96.7%)	21 (70.0%)			
	Yes	1 (3.3%)	9 (30.0%)	7.680*	0.006	HS
b- Refuses to eat	No	25 (83.3%)	15 (50.0%)		0.006	
	Yes	5 (16.7%)	15 (50.0%)	7.500*		HS
c- Does not chew	No	28 (93.3%)	18 (60.0%)	9.317*	0.002	
	Yes	2 (6.7%)	12 (40.0%)			HS
	No	27 (90.0%)	20 (66.7%)		0.028	~
d- Does not swallow	Yes	3 (10.0%)	10 (33.3%)	4.812*		S
	No	28 (93.3%)	21 (70.0%)			_
e-Turns away from the breast, bottle, or cup	Yes	2 (6.7%)	9 (30.0%)	5.455*	0.020	S
	No	28 (93.3%)	16 (53.3%)			
f- Arches his body	Yes	2 (6.7%)	14 (46.7%)	12.273*	0.000	HS
	No	28 (93.3%)	11 (36.7%)			
g- Chokes	Yes	2 (6.7%)	19 (63.3%)	21.172*	0.000	HS
	No	27 (90.0%)	13 (43.3%)			
h- Coughs	Yes	3 (10.0%)	17 (56.7%)	14.700*	0.000	HS
	No	29 (96.7%)	12 (40.0%)			
i- Gags	Yes	1 (3.3%)	18 (60.0%)	22.259*	0.000	HS
	No	27 (90.0%)	16 (53.3%)			
J- Cries	Yes	3 (10.0%)	14 (46.7%)	9.932*	0.002	HS
			` ,			
	No	28 (93.3%)	19 (63.3%)			
k- Makes loud breathing noises		28 (93.3%) 2 (6.7%)	19 (63.3%) 11 (36.7%)	7.954*	0.005	HS
-	No Yes	2 (6.7%)	11 (36.7%)			
-	No		11 (36.7%) 22 (73.3%)	7.954* 9.231*	0.005	HS HS
l- Turns blue	No Yes No Yes	2 (6.7%) 30 (100.0%) 0 (0.0%)	11 (36.7%) 22 (73.3%) 8 (26.7%)	9.231*	0.002	HS
k- Makes loud breathing noises  l- Turns blue  m- Becomes limp or worn out before the end of feedings	No Yes No Yes No	2 (6.7%) 30 (100.0%) 0 (0.0%) 28 (93.3%)	11 (36.7%) 22 (73.3%) 8 (26.7%) 16 (53.3%)			
l- Turns blue m- Becomes limp or worn out before the end	No Yes No Yes	2 (6.7%) 30 (100.0%) 0 (0.0%)	11 (36.7%) 22 (73.3%) 8 (26.7%)	9.231*	0.002	HS

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o- Vomits after eating	No	27 (90.0%)	20 (66.7%)	4.812*	0.028	S
o- voinits after eating	Yes	3 (10.0%)	10 (33.3%)	4.812**	0.028	<b>ာ</b>
Duta handa in farant af the faran	No	28 (93.3%)	20 (66.7%)	6.667*	0.010	S
p- Puts hands in front of the face	Yes	2 (6.7%)	10 (33.3%)	0.007	0.010	3
q- Pushes away food	No	26 (86.7%)	15 (50.0%)	9.320*	0.002	HS
	Yes	4 (13.3%)	15 (50.0%)	9.320**		нз
	No	30 (100.0%)	18 (60.0%)	15.000*	0.000	HS
r- Tantrums	Yes	0 (0.0%)	12 (40.0%)	15.000*		нз
- Nove of the above	No	8 (26.7%)	30 (100.0%)	34.737*	0.000	HC
s- None of the above	Yes	22 (73.3%)	0 (0.0%)	34./3/*	0.000	HS
20.Based on the questions you have answered;	No	29 (96.7%)	4 (13.3%)	42.000*	0.000	110
do you have concerns about feeding your baby (Child)?	Yes	1 (3.3%)	26 (86.7%)	42.088*	0.000	HS

Univariate logistic regression analysis showed that Questions no. 8, 9, 12, 13, 14, 16, 17, 18 and 20 were found significantly associated with feeding disorders, while question no. 5 was not significantly associated with feeding disorders. Also the multivariate logistic regression analysis shows that the most important two questions associated with feeding disorders "Core Questions Distinguishing Groups" were found to be question no.20 (Based on the questions you have answered, do you have concerns about feeding your baby?) and question no.16 (Does your child pick up food with his fingers?) as shown in Table (4).

Regarding the feeding behaviors, the univariate logistic regression analysis showed that items a, b, c, d, e, f, g, h, I, j, k, m, n, o, p, q were found significantly associated with feeding disorders.

Also the analysis of multivariate logistic regression displays that the most important feeding behavior problems associated with feeding disorders "Feeding Behavior Problems Distinguishing Groups" were found to be item (n. Falls asleep before the end of feeding), item (I. Gags), item (f. Arches his body) and item (g. Chokes) as shown in Table (5).

**Table 4:** displays the analysis of univariate and multivariate logistic regression revealing the most important questions in the studied questionnaire distinguishing between cases and controls.

		Univari	ate		Multivariate				
	P-value	Odds ratio	Odds ratio 95% C.I.		P-	Odds ratio	95% C.	I. for OR	
	P-value	(OR)	Lower	Upper	value	(OR)	Lower	Upper	
5. How long does it usually take to feed your baby (child)? (in minutes)	0.564	0.713	0.226	2.254					
8. Do you have concerns about your baby's (child's) weight?	0.005	4.929	1.612	15.071	-	-	-	-	
9. Most of the time, does your child seem content after eating?	0.006	0.052	0.006	0.432	-	-	ı	-	
12. Does your child sit up to eat?	0.001	0.125	0.039	0.404	-	-	ı	-	
13. Does your child eat foods that have different food flavors?	0.001	0.118	0.033	0.422	-	1	1	-	
14. Does your child eat a variety of food textures?	0.000	0.048	0.011	0.198					
16. Does your child pick up food with his fingers?	0.000	0.089	0.025	0.323	0.016	0.031	0.002	0.518	
17. Most of the time, do you give your child the same food the family eats?	0.001	0.097	0.024	0.391	-	ı	1	-	
18. Does your child drink from a cup?	0.002	0.082	0.016	0.406	-	-	1	-	
20. Do you have concerns about feeding your baby (Child)?	0.000	188.500	19.782	1796.212	0.001	1056.253	19.203	58099.846	

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**Table (5)** shows the univariate and multivariate logistic regression analysis revealing the most important feeding behaviors in the studied questionnaire distinguishing between cases and controls.

		Univ	Multivariate					
	P-value	Odds ratio	95% C.I. for OR		P-value	Odds ratio	95% C.I. for OR	
	P-value	(OR)	Lower	Upper	P-value	(OR)	Lower	Upper
a-Gets upset when his face is touched at the start of feeding.	0.021	12.429	1.461	105.737	-	1	-	1
b- Refuses to eat	0.008	5.000	1.510	16.560	-	-	-	-
c- Does not chew	0.007	9.333	1.866	46.684	-	ı	-	1
d- Does not swallow	0.037	4.500	1.094	18.503	-	-	-	1
e- Turns away from the breast, bottle, or cup	0.032	6.000	1.172	30.725	-	1	-	-
f- Arches his body	0.002	12.250	2.464	60.910	0.023	11.927	1.412	100.743
g- Chokes	0.000	24.182	4.808	121.625	0.034	9.643	1.190	78.132
h- Coughs	0.001	11.769	2.919	47.458	-	1	-	-
i- Gags	0.000	43.500	5.205	363.522	0.019	19.913	1.626	243.862
j- Cries	0.004	7.875	1.958	31.675	-	ı	-	1
k- Makes loud breathing noises	0.011	8.105	1.612	40.766				
m-Becomes limp or worn out before the end of feedings	0.002	12.250	2.464	60.910	-	-	-	-
n- Falls asleep before the end of feeding	0.014	14.500	1.718	122.395	0.009	30.631	2.395	391.826
o- Vomits after eating	0.037	4.500	1.094	18.503				
p- Puts hands in front of the face	0.019	7.000	1.381	35.478	-	1	-	-
q- Pushes away food	0.004	6.500	1.820	23.213	-	-	-	-

#### **DISCUSSION:**

This study aimed to assess the feeding behaviors among infants and children with feeding problems using the Arabic version of the A-ICFQ, to enable early diagnosis of pediatric feeding issues. The ICFQ was originally developed by Barkmeier-Kraemer et al. (7) and is already used as a specific tool for the evaluation of feeding and swallowing disorders in infants and children aged from 0-4 years. It consists of 20 questions, from which 19 are yes/no questions and one question includes some feeding behaviors from which the participant chooses which behavior occur for his child upon feeding. Additionally, it was intended to raise awareness and increase the possibility of early intervention for kids who struggle with swallowing and eating. The study's findings are consistent with the idea that a portion of the ICFO's questions might be used as a screening tool. They may also offer a cuttingedge way to quickly send patients who need feeding specialists.

This current study showed that there was a significant notable difference between cases and controls concerning age and socioeconomic status. This is in accordance with the study of Barkmeier-Kraemer et al. (7) which found significant difference between cases and controls regarding the age. Barkmeier-Kraemer et al. (7) discovered that the FP group's children were older than the NFP group's (P < 0.0001) and mentioned the following explanation for this finding, that an interdisciplinary team often sees children with chronic FPs in the average age of 2 to 3 years and that in order to attain equitable representation across age groups, future studies will build upon the existing data. This is in contrast with this current study revealed that children within the FP (feeding problem) set were younger than those within the NFP (non-feeding problem) set which can be explained by more referral of this age group by the pediatricians to this study's clinical setting in which the caregivers were seeking medical advice. Another explanation could be differences between the sample sizes of the two studies as in this current study we recruited 60 caregivers while in the study of *Barkmeier-Kraemer et al.* (7) 121 caregivers were recruited.

Lewinsohn et al. <sup>(9)</sup> created a multivariate tool to assess young children's problematic eating habits, 93 mothers completed the questions for their 36-month-old children, and it was found the factor scores for boys and girls did not differ based on gender. This is in accordance with the current study which revealed no discernible gender difference existed between the cases and the controls.

The results of this study indicated that for most of the questions, there was a statistically significant difference between the cases and controls. This is in accordance with the study of *Barkmeier-Kraemer et al.* (7) which suggested that a subset of questions from the ICFQ may function as a screening tool.

Also in accordance with the study of Crist and Napier-Phillips (10) that developed the Behavioral Pediatrics Feeding Assessment Scale (BPFAS), a scale evaluating the behaviors of both child and parent in two negative feeding behaviors (1) frequency and (2) if the parent considered these behaviors as problems or not, found that in the clinical groups the frequency of feeding behavioral problems was markedly higher than in the control group. Also, this is in accordance with the study of Aziz et al. (11) which developed the Pediatric Dysphagia Screening Questionnaire (PDSQ) and found statistically significant difference in the questionnaire scores between the cases and controls.

Barkmeier-Kraemer et al. (7) in their study found that four of the studied questions were the most distinguishing between the 2 groups, these questions are: Question (20) do you have worries about your child feeding,

upon the questions you have answered?, question (4) Do you think your child is fed enough?, question (1) Does your child enjoy feeding? and question (6) Do you often need to do something unusual in order to help your child eat?. This is in contrast with this current study which revealed that the following two questions are the most distinguishing between the 2 groups question (20) do you have worries about your child feeding, upon the questions you have answered?, followed by question (16) Does your child pick up food with his fingers?, according to the results of the Univariate and multivariate logistic regression analysis.

Barkmeier-Kraemer et al. (7) also stated that out of 17 tested feeding behaviors, 9 behaviors were significant and that the combination of the following 3 behaviors, "Falls asleep before the end of feedings," "Refuses to eat," and "Does not swallow" was the most important to detect the presence of FP. This is in contrast with this current study which revealed that out of 16 significant feeding behaviors, 4 behaviors were the most distinguishing between the 2 groups which are "Falls asleep before the end of feedings", "Gags", "Arches his body" and "Chokes".

The study of *Lewinsohn et al.* (9) reported that food spitting out during eating and turning nervous when food was limited were the most common child feeding issues noticed by mothers. Other common behavior problems among children were having a tantrum if they rejected food, sometimes accepting food and other times reject it, choking during feeding, moving away from food and moving food aside or throwing it. This is in accordance with the current study which revealed some common child feeding behaviors as refusing to eat, not chewing, turning away from the breast, bottle, or cup, choking, pushing away food and having a tantrum.

The study of *Aziz et al.* (11) stated that the highest rates denoting the presence of a

disorder were in swallowing abilities with different consistencies and weight loss or failure to gain it, taking a long time to finish a meal and difficulty biting and chewing. This is in accordance with the current study which revealed that most of children with FP had the following behaviors during feeding: don't chew or swallow, don't eat a variety of food textures, take longer time finishing a meal and that most of their caregivers have concerns about their children's weight.

Crist and Napier-Phillips (10) stated that there was developmental influence on patterns of food refusal behavior. Thus, younger children engaged in the following behaviors: tantrums, spitting out food as ways of food refusal and crying, but older kids did the following behaviors: negotiate the food that will be eaten, talking in order to delay eating, leave the table during feeding. This is in accordance with the current study which following child feeding revealed the behaviors: crying, having a tantrum, putting hands in front of the face, refusing to eat, not chewing, turning away from the breast, bottle, or cup, pushing away food and falling asleep before the end of feeding.

Crist and Napier-Phillips (10) recruited healthy children and those with feeding problems with the ages from 9 months to 7 years & revealed that mealtime duration beyond thirty minutes were accompanied with feeding problems and this finding also including older children too & that the behavior, "let's food sit in his/her mouth and does not swallow it" was the most behavior related to the length of mealtimes. This is in contrast with the current study which revealed that 13.3% (n=4) of cases took more than 30 minutes to finish the meal. 66.7 % (n=20) took between 5 to 30 minutes and 20 % (n=6) took less than 5 minutes, this could be explained by the difference in ages between the two studies as in the current study the children recruited were younger.

#### **Conclusion:**

A set of questions from the A-ICFQ showed that they have the potential to differentiate between FP and NFP groups. Future studies are recommended to determine whether the same group of A-ICFQ questions still could discriminate between FP and NFP groups by getting wider representation of participant samples and investigating the children across the selected age range by an equal distribution.

#### **Recommendations:**

Further studies with larger sample size could be of value for assignment of this questionnaire. More studies to compare between the results of the questionnaire and other objective measures which detect feeding and swallowing disorders.

#### **Conflict of interest:**

No conflict of interest.

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# تقييم سلوكيات التغذية باستخدام النسخة العربية من استبيان تغذية الرضع والأطفال رغدة عاطف محمد الشحات ، نهلة عبد العزيز الرفاعي ، نشوي محمود عثمان

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المقدمة: مشاكل التغذية هي مجموعة غير متجانسة من الاضطرابات التي لها أسباب عديدة تعطل اكتساب عادات التغذية المناسبة للعمر يتسم الطفل المصاب باضطراب تغذية الأطفال بأنه لا يتغذى بالطريقة المتوقعة وقد يكون لديه مسببات و / أو عواقب غذائية وطبية و/أو نفسية اجتماعية. يعاني هؤلاء الأطفال من صعوبات تغذية مزمنة تتميز بمشاكل البلع ، والسلوكيات المدمرة لوقت تناول الطعام ، والتفضيلات الغذائية الصارمة التي تؤدي إلى نقص المغذيات، والفشل في إنقان مهارات التغذية المناسبة للعمر الغرض الأصلي من استبيان تغذية الرضع والأطفال هو أن يقوم الأباء أو غير هم من مقدمي الرعاية بالتقييم الذاتي لمخاوفهم فيما يتعلق بعادات تغذية الطعام مقدمو الرعاية الاستبيان ، يتم توفير إشارات إرشادية لتوضيح طبيعة الأسئلة التي يتم طرحها.

الهدف من العمل: تقييم مشكلات تغذية الرضع والأطفال و عادات التغذية لدى الأطفال الذين يعانون من اضطرابات التغذية، من أجل تسهيل الكشف المبكر عن مشاكل تغذية الأطفال.

الحالات وطرق البحث: كانت هذه الدراسة عبارة عن دراسة تحليلية (دراسة الحالات و الشواهد)، تم اختيار 30 مقدمو الرعاية للرضع والأطفال من عمر الولادة و حتى 4 سنوات الذين يعانون من مشاكل التغذية و 30 من أولئك الذين لا يعانون من مشاكل التغذية.

النتائج: أظهرت النتائج ان يمكن لاستبيان تغذية الرضع و الاطفال باللغة العربية التفرقة بين الحالات و الشواهد و تقييم مشكلات التغذية لدى الاطفال.

الخلاصة: تحتاج استبيانات التحقيق الذاتى التى تم التحقق من صحتها فى البداية باللغة الانجليزية، الى ترجمتها و اعادة التحقق من صحتها بلغات مختلفة من اجل تطبيقها على المرضى فى جميع انحاء العالم. فى هذه الدراسة تم تطبيق استبيان تغذية الرضع و الاطفال على الاطفال الذين يعانون من اضطرابات التغذية و اوجد ان هناك فرق واضح بين الحالات و الشواهد فى نتايج الاستبيان مما يؤكد اهمية استخدام الاستبيانات فى الكشف المبكر عن المرضى.