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ORIGINAL ARTICLE

The probable pattern of weaning among children of Arar, Saudi Arabia

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ABSTRACT

Background: The weaning period is a crucial time in an infant's life. We aimed to study the pattern of the children's weaning, age, causes, child's problems of weaning, weaning food, sources of information about weaning, and the process of weaning itself among children of Arar, Saudi Arabia.

Methodology: This was a cross-sectional study conducted among 452 mothers during the period from September 2017 to March 2018. Mothers were randomly selected from the attendees of the female side of six selected primary health care centers in the city using a systematic random sampling technique (every fourth mother).

Results: The majority of children (34.7%) were weaned at 13–24 months, (34.3%) were weaned because they completed 24 months. Crying and the bad mood were the most common problems (33.4%) in case of refusal of weaning. Home food was the most preferred food for the children (96.9%), and information about weaning was gained through different sources, mainly relatives and parents (62.4%). Our study reported that 67.3% stopped breastfeeding just without any reason.

Conclusion: In our study, the highest proportion was weaned at 13–24 months. There was a significant misunderstanding about the meaning of weaning in Arar, Northern Saudi Arabia. A program promoting exclusive breastfeeding in the first 6 months must be conducted to increase the mother's awareness of exclusive breastfeeding.

Keywords: Child weaning, weaning age, causes of weaning, weaning problems, exclusive breastfeeding.

Introduction

Exclusive breastfeeding contributes greatly to provide better health outcomes by preventing diseases and promoting health in both the short and long term for mothers and their children [1]. It also reduces infant mortality from common childhood illnesses. Approximately 800,000 children's lives could be saved globally each year if every child was exclusively breastfed for the first 6 months of life [2].

Weaning is a time when the child begins taking semisolid meals vile than water [World health organization (WHO) report, 2010]. The knowledge concerning mothers about the weaning period is a must [3]. This includes their knowledge about the age of initiation of weaning, quality of the weaning food, type of foods, frequency, and quantity of foods, etc. all these factors affect the nutritional status of the infants. Quality of the weaning foods is determined by the nutrient density [4,5].

Good quality foods mean that they are nutrient frequent as they contain more nutrients among a small amount of food [4]. WHO has devoted guidelines about infant

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Table 1. *Sociodemographic characteristics of the studied mothers, children, and sources of information about weaning in Arar city, 2018 (N = 452).* <AQ1>

	Frequency	Percent
Mother age		
≤20	13	2.9
21–30	206	45.6
31–40	183	40.5
>40	50	11.1
Marital status		
Widow	6	1.3
Married	437	96.7
Divorced	9	2.0
Working status		
Housewife	226	50.0
Private work	19	4.2
Employed	207	45.8
Child's gender		
Female	216	47.8
Male	236	52.2
Child's order among his siblings		
>3	233	51.5
3–5	136	30.1
<5	83	18.4
Sources of information about weaning		
Friends	21	4.6
Media	68	20.0
Relatives and parents	282	62.4
Health care providers	81	17.9

weaning practices [6–8]. Quantity and frequency of the weaning foods also affect the health of the baby. It is very important to feed the required amount to the infant. If weaning foods are not given in the proper amount, the baby will not receive all the nutrients needed for the growth [9]. Babies have a small stomach so they have limited digestive abilities. The small quantity of food has to be fed at frequent intervals [4].

Nutrition education does keep beneficial between creating awareness among mothers to change mistaken weaning practices [10]. In the past few years, government organizations, non-governmental organizations, and WHO have developed nutrition education programs to improve infant feeding practices as good feeding practices lead to healthy individuals. Awareness of various nutritional issues can be increased through the nutrition education [11].

The aim of the current study is to evaluate the pattern of weaning, child age of weaning, causative factors, child's problems of weaning, weaning food, sources of information about weaning, and the process of weaning itself among children in Arar city, Kingdom of Saudi Arabia.

Participants and Methods

This is a cross-sectional study conducted among 452 mothers in Arar city, KSA during the period from September 2017, to March 2018. Mothers were randomly selected from the attendees of the female side of six selected primary health care centers in the city using a systematic random sampling technique (every fourth mother). They were interviewed, and a questionnaire which included the needed questions was filled. The questionnaire included questions about socio-demographic characteristics of the participants, including age, sex, child order between siblings, parents' education, work, and consanguinity. Also, the questionnaire included inquiries about the child age of weaning, causes, child problems of weaning, weaning food, sources of information about weaning, and the process of weaning itself.

Data were compiled and analyzed using statistical package for the social sciences (version 16) and results were analyzed with frequencies and Chi-squared test as appropriate. $p < 0.05$ was considered significant.

This study was reviewed for seeking approval of the Research Ethics Committee of the Faculty of Medicine, Northern Border University. Participants were informed that the participation is completely voluntary. No names were recorded on the questionnaires. All questionnaires were safely secured.

Results

Table 1 shows the sociodemographic characteristics of the studied mothers and children and sources of information about weaning. It revealed that 45.6% of cases aged 21–30 years, 40.5% aged 31–40 years, and 96.7% were married. Housewife represented 50% and 45.8% were employed. Females and males were 47.8% and 52.2%, respectively. Child order among his siblings <3 was 51.5% and 3–5 was 30.1%. Most of the participants (62.4%) scored relatives and parents as their source of information.

Table 2 shows child weaning characteristics. It shows that weaning at 13–24 months represented 34.7% and at 2–6 months represented 33.8%. The cause of weaning was completing 24 months by 34.3% and mother's work by 26.8% of the participants. About 90.5% of studied children had not breastfed during next pregnancy. No problems in the process of weaning itself were reported by 64.8%. For the problems caused to the children because of weaning, increased crying and bad mood was reported by 33.4%, anorexia by 27.2%, and 33.4% reported no problems. The majority (96.9%) of the respondents preferred homemade food.

There was a significant association between weaning age of the child with child's gender (p <0.05). On the other hand, there were no significant associations with child's order

Table 2. *Weaning characteristics among the studied children, in Arar city, 2018 (N = 452).*

	No.	%
Weaning age of the child (in months)		
≤1	40	8.8
2–6	153	33.8
7–12	82	18.1
13–24	157	34.7
>24	20	4.4
Cause of weaning		
Child completed 24 months	155	34.3
Child refused to breastfeed	20	4.4
Mother health problem	44	9.7
Child health problem	12	2.6
Mother's work	121	26.8
To get pregnant	26	5.8
To encourage the child to eat	55	12.2
Thinking that breast milk is insufficient	31	6.9
Child breastfeeding during next pregnancy		
No	409	90.5
Yes	43	9.5
Process of weaning		
Cup drinking of fluids after breast and artificial feeding	93	20.6
Eating solid food after breast and artificial feeding	55	12.2
Just stop breastfeeding	304	67.3
Mother's problems during weaning		
Breast engorgement	159	35.2
No problem	293	64.8
Child's problems of weaning		
Allergy	20	4.5
Diarrhea	17	3.8
Increase crying and bad mood	146	33.4
Anorexia	123	27.2
No problem	151	33.4
Preferred food for the child		
Homemade	438	96.9
Canned foods	14	3.1

among his siblings and mother's work status among the studied participants ($p > 0.05$) as in Table 3.

Discussion

The term weaning describes the period in which a progressive reduction of the breastfeeding or the feeding of infant-formula takes place, while the infant is gradually introduced to complementary foods. It is recommended between 4 and 6 months of life [12]. The weaning period is a crucial time in an infant life since it not only involves a great deal of rapid change for the child, but it is also associated with the development of food preferences, eating behaviors, and body weight in childhood, adolescence, as well as in adulthood.

Regarding the weaning age, our study reported that the majority of children were weaned at 13–24 months, 33.8% at 2–6 months, 18.1% at 7–12 months, 8.8% ≤ one month, and only 4.4% more than 24 months. Another data reported in India showed that a slightly higher number of children (52%) were weaned at >6 months, whereas 48.5% children were weaned at 4–6 months of age [13], whereas, another study performed in Egypt reported that age of weaning among infants was 4 or less than 6 months in 63%, less than 4 months in 19.3%, and 17.7% for ≥6 months [14]. One more study found that only (22.3%) of subjects commenced weaning before the age of 4 months, (45.5%) between 4 and 6 months with only (19.6%) practicing weaning at 6 months [15]. In Northwest Ethiopia, it was reported that 15.7% of participants started weaning early, before six months of age, 61.5% started in the recommended age range (6–8 months), and the rest 13.4% started lately after 9 months of age [16].

Regarding causative factors of inadequate weaning, our data showed that the majority (34.3%) was because the child completed 24 months followed by mother's work (26.8%), encourage the child to eat (12.2%), mother's health problem (9.7%), thinking that breast milk is insufficient (6.9%), the mother gets pregnant (5.8%), child refused to breastfeed (4.4%), and 2.6% for the child's health problem. Another study conducted among a group of urban and rural mothers, suitable age of child was the most common cause for weaning in two groups by 30% for urban and 29% for rural group, not enough milk reported more in the urban group 24% than rural 20% which is in an agreement with the current study [17]. An earlier study in Saudi Arabia showed that new pregnancy was the leading cause of stopping breastfeeding [18]. In South Brazil, a similar study reported that insufficient milk and weak mother was the most common reason for weaning by 30.9%, child refuses breast in 17.8%, illness of child 16%, and 15% for mother work [19]. Another separate study reported that the majority (92.8%) of participants was weaned because of appropriate age, the inadequacy of breast milk 53.2%, inconvenience for work 12.6%, sickness of mother or child 3.8%, and breast problem reported by 3.1% [16]. In Kuwait, a similar study found that insufficient milk (30.7%), new pregnancy (14.7%), infant reaching weaning age (12.3%), mothers' sickness (12.0%), infant refusal (10.6%), and mothers' desire (6.6%) were the most causative factors of inadequate weaning [20].

We found that crying and the bad mood was amongst the most other common problems (33.4%). Similarly, anorexia 27.2%, allergy 4.5%, and 3.8% was diarrhea. However, another report found that diarrhea was the major problem reported during weaning (55.8%) [21].

As for as weaning food is concerned, our study reported that home food was the most preferred food (96.9%), whereas canned foods were just 3.1%. In Malaysia, it was

Table 3. *Relationship between weaning age of the child (in months) with child gender, child order among his siblings, and mother's working status among the studied children, Arar, 2018.*

		Weaning age of the child (in months)					Total (*N* = 452)	
		≤1 (*N* = 40)	2–6 (*N* = 153)	7–12 (*N* = 82)	13–24 (*N* = 157)	>24 (*N* = 20)		
Child gender	Female	22	59	40	81	14	216	0.027
		10.2%	27.3%	18.5%	37.5%	6.5%	100.0%	
	Male	18	94	42	76	6	236	
		7.6%	39.8%	17.8%	32.2%	2.5%	100.0%	
Child order among his siblings	<3	19	81	42	82	9	233	0.098
		8.2%	34.8%	18.0%	35.2%	3.9%	100.0%	
	3–5	15	53	17	43	8	136	
		11.0%	39.0%	12.5%	31.6%	5.9%	100.0%	
	>5	6	19	23	32	3	83	
		7.2%	22.9%	27.7%	38.6%	3.6%	100.0%	
Working status	Housewife	22	70	40	86	8	226	0.573
		9.7%	31.0%	17.7%	38.1%	3.5%	100.0%	
	Private work	2	9	4	4	0	19	
		10.5%	47.4%	21.1%	21.1%	.0%	100.0%	
	Employed	16	74	38	67	12	207	
		7.7%	35.7%	18.4%	32.4%	5.8%	100.0%	

reported that nestum was a popular weaning food chosen by 45% of all mothers as the first weaning food they had given their child; this was followed by rice porridge or paste (42.6%) and wheat porridge or cakes (11.5%). Nestum is a commercial weaning food comprising of milk powder and a cereal product, either wheat or rice and it was easily available in the villages [22]. Another study found that commercially prepared baby rice was reported as the most commonly used first weaning food by 60% of mothers, followed by an infant-specific, commercially prepared baby cereal by 24%, home-prepared foods such as vegetable and fruit were by 6% and 3% mothers, respectively [23].

Concerning the sources of information about weaning, our study showed that relatives and parents were the most preferred source (62.4%), media 20%, and health care providers 17.9%, whereas friends were only 4.6%. Another study reported that 61% of the mothers mentioned friends and relatives as a source of information, which is in an agreement with our results [15]. Another study found that sources of information on weaning practices were varied, up to (61.5%) got information from health workers, 24% got it from parents or mothers and/or sisters in laws, 6.8% relied on previous experience, others either got information from friends (4.5%) or husband (2.5%) or even printed materials by a negligible number (0.9%) [24].

For the process of weaning, our data also showed that 67.3% stopped breastfeeding just without any significant reason, and 35.2%, due to breast engorgement.

A study revealed that out of 221 subjects, 61.5% were able to explain weaning as giving the infant–adult diet while still breastfeeding, 27.6% explained it as the introduction of solid food to infant, 17.2% explained it as stopping breastfeeding the infant, other explanations were giving the infant food without breast milk 7.7% [24].

Conclusion

Majority of our participants weaned their infants between 13–24 and 2–6 months. This indicates a great misunderstanding about the meaning of weaning in Arar, Northern Saudi Arabia. A program promoting exclusive breastfeeding in the first 6 months must be conducted to increase the mother's awareness of exclusive breastfeeding.

List of Abbreviations

WHO World health organization
NGOs Non-governmental organizations

Conflict of interest

The authors declare that there is no conflict of interest regarding the publication of this article.

Funding

None.

Consent for publication

Informed consent was obtained from the participants.

Ethical approval <AQ2>

This study was reviewed for seeking approval of the Research Ethics Committee of the faculty of medicine, Northern Border University.

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Author Queries

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