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Effect of Instructions for Mothers Regarding Weaning on Their Infants Complains

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Abstract
Background: *Weaning is a gradual process through which an infant moves from total dependence on milk to eating normal family meals.* ***The aim of this research:*** *was to evaluate the effect of instructions for mothers regarding weaning on their infants complains.* ***Design:*** *One group pre-posttest quasi-experimental design was utilized to fit the aim of the study.* ***Setting:*** *The study was conducted in Preventive Medicine Center at Cairo University Specialized Hospital.* ***Sample:*** *A convenient sample of 100 mothers and their infants.* ***Data collection tools:*** *Data were collected using the following tools: structured interview sheet to collect personal data about the infants; his/her mothers, pre-posttest for mothers and infants problem assessment.* ***Results:*** *The study results revealed that, two fifth of mothers had challenges regarding family pressure during the weaning period, the majority of mothers in the study had higher mean scores and satisfactory level of knowledge after weaning instructions. There were statistically significant positive correlation between the mothers' place of residence and mothers' occupation with a total mean score of mothers' knowledge. Infants of the mothers had less weaning problems* ***Conclusion:*** *the study results concluded that the instructions were effective in improving mother's knowledge and preventing the incidence of the child's weaning complains.* ***Recommendation:*** *The study was recommended integration of the instructions about weaning in every pediatric health care setting as well as well-baby clinics.*

Keywords: *Weaning Instructions, Infants weaning complains.*

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I. Introduction

The exclusive breast milk is the ideal food for the first six months and eating solid food after the first six months introduced gradually because the infant is still growing in size and other activities like walking, running, talking, and teething. Weaning is the process of introducing semi-liquid to semi-solid foods rather than breast milk. Weaning starts at the end of 6 months of age as the World Health Organization recorded in 2015 [1]. In the first 12 months, infants experience very rapid growth and development. An appropriate, supplemented diet is essential to meet other nutritional needs for infants after the first 6 months [2].

Weaning an infant from breast feeding to complementary food is a common cultural practice, which plays a vital role in the infant's milestone for growth and development. The right practice of weaning is necessary to prevent from various health related complications like allergy, diarrhea, vomiting, and colic. Infant's need for energy and nutrients starts to exceed and complementary foods are necessary to meet those needs. If complementary foods are not introduced around the age of 6 months. Malnutrition is responsible, directly or indirectly for about one third of deaths among children under five. Often associated with inappropriate feeding practices, occur during the first year of life [3].

Weaning is often advantageous in reducing early infant mortality death. Although timing of weaning varies across societies, but is always determined by the mother's characteristics, knowledge and perceptions about a child's health or cultural beliefs related to feeding. Additionally, mothers hold the overall responsibilities for the infant's health and mothers' knowledge can be the barrier for weaning practice [4]. Appropriate weaning practice depends on accurate information and skilled support from the family, community and health care system. Inadequate knowledge about appropriate foods and weaning practices is often a greater factor of malnutrition during infancy and early childhood [5].

Thirty five percent of infants worldwide are exclusively breastfed during the first four months of life; complementary feeding frequently begins too early or too late. Malnourished infants who survive are more frequently sick and suffer the lifelong consequences of impaired development. Because poor feeding practices are a major threat to social and economic development, they are among the most serious obstacles to attaining and maintaining health that face this age group [6].

In several parts of the developing world, complementary feeding continues as a challenge to good nutrition for infants. In India, for instance, 54.5% of infants between the ages of 6 and 8 months had received complementary foods [7].The challenges during complementary feeding is context specific, but many are common across settings. They are often characterized by poor feeding practices and poor dietary quality of homemade complementary foods [8].

Introduction of adequate, safe and properly complementary foods while continuing breastfeeding for up to two years of age. Promoting sound feeding practices are one of the main programmers, for the Department of Nutrition for Health and Development focuses on evidence-based technical information, development of guidelines and counselling courses, provision of guidance for the protection, promotion and support of infant and young child feeding at policy, health service and community levels [9].

Data from a national infant feeding in the United Kingdom indicates that a greater proportion of infants aged 4-6 months were fed ready-made baby food than homemade baby food (38% compared to 28%). In addition, almost half (45%) of mothers of 8-10 month-old infants use commercially prepared foods. Similarly, in the United States (US), it has been reported that 95% of infants between 4-12 months consume commercially produced infant foods [10].

Preparation for all apparatuses used for feeding must be washed carefully. However, the hands of the caregiver and the child must be washed thoroughly with soap and water before and after eating. Microbial contamination of complementary foods is more in hot weather and it is slower if the food is refrigerated. When that is not possible, the food should be eaten within 2 hours of its preparation [11]. As recommended by [12], avoidable foods in the first years of life lead to allergy, peanuts and other nuts should be avoided and foods containing too much sugar or much salt. The following points need to be kept in mind. The guidelines for complementary foods should be based on available food, the cooking methods must be simple and the cost should be minimal, the recipes should be acceptable in taste and consistency.

Healthy newborns who are born with sufficient iron stores for their first 4–6 months of life, although their iron reserves from the mother are depleted during late infancy. In addition, rapid growth during late infancy lead to high iron requirements, which increases the risk of iron deficiency [13]. Iron deficiency during infancy, even without anemia, may affect mental, motor, and behavioral development, which can cause long-term neurocognitive impairment [14]. Therefore, active surveillance for iron deficiency in this age group, including the identification of potential risk factors, may help provide an important basis for establishing health promotion interventions [15].

Despite our understanding of the importance of early life of infants for prevention of the faulty way of weaning relatively little is known about how best to engage and affect healthy eating for infants [16]. [17] Reported that, the family background and interactions between infants and the primary caregiver during complementary food, are significant. Furthermore, the behaviors and beliefs of the primary caregiver to introduce food may effect on growth in infants.

Nursing role plays an effective part to promote, protect and restore the health of infants and their family. It uses care as a guiding axes growth and development of children, which is considered an important indicator of the quality of the health care provided mothers to improve quality of life during the weaning process for infants. Health education is a profession of educating people about health. It is necessary to provide weaning instructions for mothers to prevent the weaning complains. Health education is considered one of the most important roles for nurses. It is the principle by which individuals and groups of people, learn to behave in a manner conducive to the promotion, maintenance, or restoration of health [18].

Significance of study:

Nearly one third of child deaths could be prevented by optimal complementary feeding practices [19]. Approximately 50% of all childhood mortality were related to malnutrition. The first year of life represents a critical window of a vulnerable group [20]. The burden of under nutrition is still a major public health problem in the world. More than 50% of infants aged 6-9 months had delayed the introduction of complementary foods. The evidences suggest that complementary weaning complains as vomiting, diarrhea, or refusing food are responsible for a major proportion of infant mortality, morbidity, and handicap in different countries especially the Arab ones. Hopefully, weaning instructions will control faulty weaning practices and provide more efficient measures will be developed to prevent infant's complains during the weaning process. Mother's knowledge, attitude and practices play a major role in achieving effective weaning process during childhood.

Scares research studies were conducted nationally to help mothers how to wean their infants. Hence, the current study is undertaken to evaluate the effect of instructions for mothers regarding weaning on their infants complains. Eventually, the results of the current study might generate an attention and motivation for further researches in the field of pediatric health promotion. As well as providing guidance and recommendations that should be reflected in pediatric nursing education, practice and research.

The aim of the study:
The aim of the current study was to evaluate the effect of instructions for mothers regarding weaning on their infants complains.

Research Hypotheses:
H1. Mothers who will receive the instructions will have higher mean scores regarding weaning process than before.
H2. Infants of the mothers who will receive the instructions will have less weaning complains.

II. Methods

Research Design:
One group pre-posttest quasi-experimental research design, was utilized to achieve the aim of the current study. A quasi experimental design is one type of experimental design that is very similar to the true experimental design except there is losing one criteria as randomization [21, 22].

Setting:
The study was conducted in Preventive Medicine Center at Cairo University Specialized Pediatric Hospitals (CUSPH). The center provides preventive, therapeutic and social services. The center includes various outpatient clinics, vaccination clinic and breast feeding clinics. A breast feeding clinic located on the first floor and provide mothers with health teaching and consulting about weaning and breastfeeding.

Subjects:
A convenient sample of 100 mothers and their infants who started to wean them will be participated in the current study. The sample size was calculated based on formula.

Inclusion criteria:
- Infants were aged up to 12 months.
- Breast fed infants.
- All mothers regardless their educational level and age.

Exclusion criteria:
- Infant with any other chronic illness or congenital anomalies.

Data collection tool:
The required tools developed and collected by researchers after reviewing of literature through the following tools:
1-Structured Interview Questionnaire: it includes two parts to assess personal data for the infants, mother and the family:
Part I: It involves 4 questions related to personal data of mothers (age, level of education, place of residence, and occupation)
Part II: It contained 4 questions to assess the infant's characteristic (age, gender, number of children, and rank).

2-Mother's Knowledge about Weaning Questionnaire: It included one part to assess mother's knowledge related to weaning, it's composed of 11 questions about weaning process (definition, importance, principles, schedule , food weaning types, time of starting weaning, weaning infants complain, the technique of weaning, weaning challenges, sequence of weaning and weaning fault practice).

3-Weaning Infants Complains Records: It was developed by the researcher in the English language after reviewing the related literature. It contained 11 questions to assess infant weaning complains (vomiting, diarrhea, anorexia, food like and dislike, colic, shocking, refusing food, constipation, gastroenteritis, abdominal distention, or presence of flatus).

Scoring system:
A scoring system for Mother's Knowledge Assessment was 100 scores. Fifty scores were for each mother's knowledge about weaning, each complete answer took two scores, incompletely one took one score and the wrong answer or no response took zero. The total score will be converted to 100% (100 score), and then categorized as follows: the total score less than 50% (less than 50 score) was considered as unsatisfactory while a score of 50% and more (50 score) was considered as satisfactory level.

Validity and reliability:

The content of the data collection tool was submitted to a panel of 5 experts in the field of pediatric nursing and pediatrics to test the content validity. Reliability was applied by testing ten mothers, reliability coefficients' alpha between questions was 0.70.

Pilot study:

Pilot study conducted on 10 mothers of children undergoing DPT vaccine to ensure the clarity of content of tools and to assess the time needed to fill the tools. Minor modifications were done such as restated some wards. Based on the results of the pilot study, mothers of children who participated in the pilot study was included in the total sample.

Procedure:

Before conducting the study an official permit obtained from the directors CUSPH, and permission from the head of the Preventive Medicine Center also obtained after explaining the nature of the study. The researchers introduced themselves to the mothers of infants who were fulfilling the study criteria. Oral consent was obtained from mothers of infants in a current study, according to inclusion criteria to get their acceptance. Clear and simple explanations about the aim and nature of the study were discussed by the researchers with mothers. Each mother interviewed individually after explaining the purpose of the study. The time needed for each mother to answer the structured interview questionnaire and mother's knowledge about weaning questionnaire as pretest for mothers' knowledge related to weaning process ranged from 25 -35 minutes.

The researchers gave instructions about weaning to the mothers using a pannier. One teaching session provided for a group of ten mothers in breastfeeding clinic and took about 1 hour than flowed by filling mother's knowledge about weaning questionnaire as posttest for mothers. The researchers prepared Arabic weaning instructions in form of Flayer and gave it to the mothers who participated in the study. It included simple information about weaning (definition, importance, principles, schedule, food weaning types, time of started weaning, weaning infants complain, the technique of weaning, weaning challenges, and sequence of weaning and weaning fault practice). The researchers filled **Weaning Infants Complains Records** in the current study to assess infant weaning complains (vomiting, diarrhea, anorexia, food like and dislike, colic, shocking, refusing food, constipation, gastroenteritis, abdominal distention, or presence of flatus) at less than 6 months, and every two months until one year. As well as, mother's knowledge about weaning questionnaire as posttest for mothers' knowledge related to weaning process ranged from 25 -35 minutes at the second visit. Data collection was conducted over one year period extending from January 2017 till December 2017.

Ethical Considerations:

The oral consent obtained from the mothers of children after complete description of the purpose and the nature of the study. Children and their mothers were informed that participation in the study is voluntary. The researchers informed the mothers about their rights to withdraw from the study at any time without giving any reason and without any effect on the care of their children. Confidentiality assured to each child and their mothers. The researchers explained the aim of the study, its benefits, duration of the study and the data collection tools for mothers who participated in the study.

Statistical Analysis:

A compatible personal computer (PC) was used to store and analyze data. The Statistical Package for Social Studies (SPSS), version 20 was used. Data were coded and summarized using mean, standard deviation and crosstabs for quantitative variables, and percent for qualitative variables. The Comparison was performed using simple paired t-test to compare the mean of the total score of knowledge among mothers, and Chi-square was used to detect the difference between the total mean of mothers knowledge. Correlation among variables was done using Pearson correlation coefficient. The p-value <0.01 and p-value <0.001 was used as the cut of value for statistical significance.

III. Results

Table (1) Percentage Distribution of Mothers personal data in the Current Study (n=100).

Items	N	%
Mothers age/ years:		
20 >25	46	46
25 >30	20	20
30 > 35y	30	30
>35 and more	4	4
Mean +SD	23.70± 5.37	
Mother's level of education:		

Not read and write	20	20
Just read/write	10	10
Secondary school education	54	54
University education	16	16
Mother's job:		
Housewife	30	30
Working mother	70	70
Place of residence:		
Rural	60	60
Urban	40	40
Number of children:		
One	20	20
Two	50	50
Three or more	30	30

Table (1) proved that 46% of the mothers who participated in the current study aged from 20 > 25 years and the mean of mother's age was 23.70±5.37. More than half of mothers had secondary school education and 20% of them was not read and write. The highest percentage (70%) of them were housewives. Less than two thirds of mothers lived in rural areas and two fifth of them live in urban. Nearly one quarter of mothers had one child, half of mother's had two children only and 30% of them had three or more children. Figure (1) reveled that, more than two thirds (70%) of infants their age ranged from 6 months to one year regarding to 30% of them their age > 6 months. The mean age of children was 10 ± 2.1 months. Figure (2) illustrated that, nearly two thirds (66%) of infants were males and 34% of them were female.

Figure (1) Percentage Distribution of infants Age (n=100).

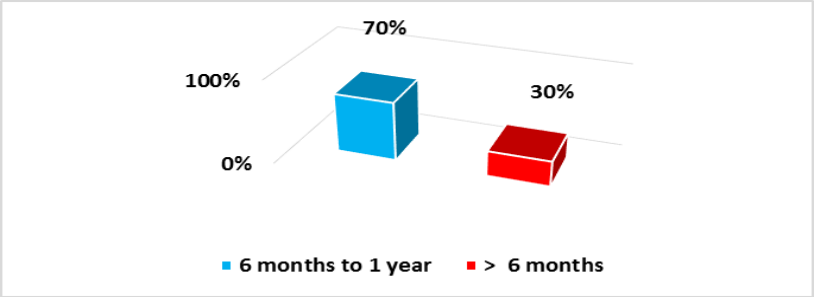

Figure (2) Percentage Distribution of infants Gender (n=100).

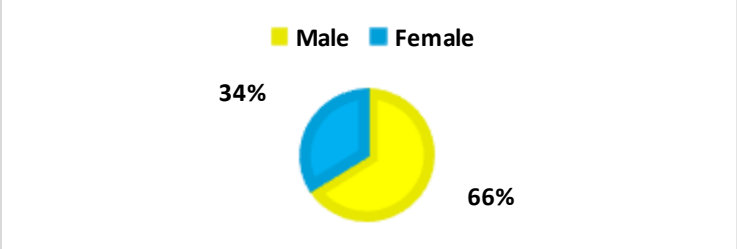

Table (2) Percentage Distribution of Weaning History (n=100).

Items	N	%
Time of start weaning:		
> 6 months	57	57
End of 6 months	30	30
After 6 months	13	13
Infant complain before instructions:		
Abdominal distension	15	15
Vomiting	22	22
Diarrhea	42	42
Abdominal colic	21	21
Constipation	33	33
Refusal breast feeding	43	43
Refusal food	40	40

Table (2) indicated that, more than half of mothers (57%) were initiated weaning of their infants early > 6 six months'. 30% of mothers were started weaning for infants timely at the end of 6 months and 13% of

mothers start after 6 months. Two fifth (42%) of infants complained of diarrhea and 22%, 21% of them had vomiting and abdominal colic. Figure (3) demonstrated that 42% of mothers facing challenges of family pressure, such as stress during the weaning process with their children. Twenty two percent and 20% of them had challenges from next pregnant and work and less than one quarter of them had breast engorgement.

Figure (3) Percentage Distribution of Challenges Facing Mothers during Weaning Process (n=100).

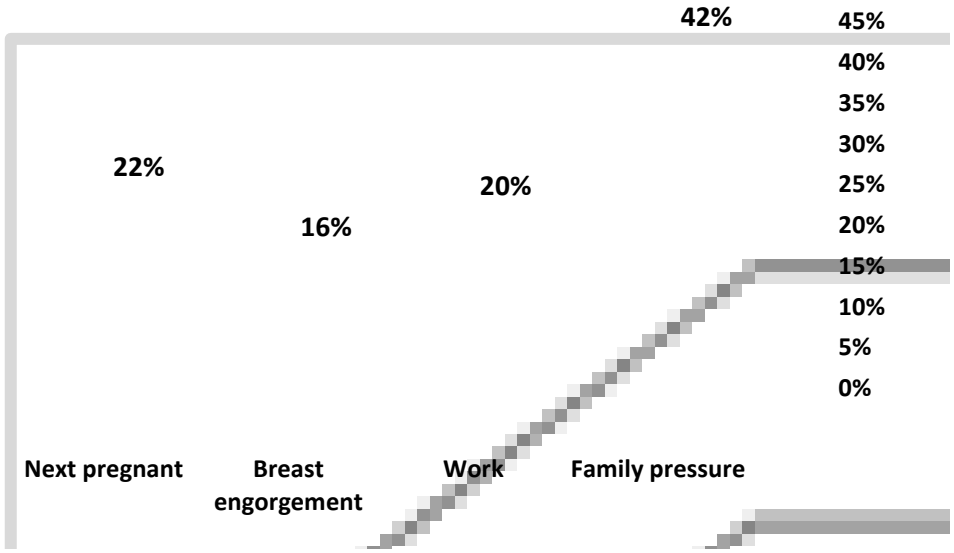

Table (3) Percentage Distribution of Mother's Knowledge before and after Weaning Instructions (n=100).

Items	Complete		Incomplete		Wrong	
	N	%	N	%	N	%
Definition of weaning						
Before	6	6	16	16	78	78
After	90	90	6	6	4	4
Weaning time						
Before	7	7	25	25	67	67
After	90	90	10	10	0	0
Weaning principles						
Before	7	7	19	19	74	74
After	80	80	9	9	11	11
Weaning schedule						
Before	2	2	5	5	93	93
After	85	85	7	7	8	8
Preparation of food						
Before	18	18	30	30	52	52
After	98	98	2	2	0	0
Storage of food						
Before	15	15	25	25	60	60
After	85	85	10	10	5	5

Table (3) revealed that, 78% of mothers had a wrong answer before instructions about the definition of weaning. On the other hand, the majority (90%) of mothers after instructions oriented about it. More than two thirds (67%) of them not aware of weaning time before instructions compare to the majority (90%) of mothers oriented after instructions about it. Almost nearly three-quarters of mothers didn't oriented about the weaning principles contrast to the majority of them aware about it after instruction.

In relation to mothers' knowledge pertinent to weaning schedule, the same table highlighted that the vast majority (93%) of mothers didn't concern about it before instructions and 85% of them alert about it after instructions. More than half of them (52%) not oriented before instructions for food preparation almost (98%) of mothers attentive after instructions about it. 60% of mothers before instructions didn't oriented about way used to store food compared to the majority of them oriented after instructions.

Table (4) Comparison between Mothers Knowledge Level before and after Weaning Instructions (n=100).

level of knowledge	Before weaning instruction		After weaning instruction		X^2	P value
	No	%	No	%		
Satisfactory	20	20	80	80	0.29	0.01*
Unsatisfactory	64	64	28	28	0.33	0.00*

* Statistical significant at P < 0.01

Table (4) proved that mothers' knowledge for satisfactory level before and after instructions was (20%, 80%, respectively) compared to unsatisfactory levels before and after instructions was (64%, 28%, respectively). There was statistically significant difference between mother's knowledge level before and after weaning instructions.

Table (5) Comparison between Total Mean Score of Mothers Knowledge for Weaning Instructions (n=100).

Item	Total Mean Score of Mothers Knowledge		T	P
	Before	After		
Mean ± SD	37.7± 2.4	50.8± 4.05	- 15.41	.000**

** Statistical significant at P < 0.001

Table (5) indicated that the mean of the total score of mothers' knowledge before instructions was 37.7± 2.4; it was 50.8± 4.05after instructions. There was statistically significant difference was detected before and after weaning instructions.

Table (6) Comparison of Weaning Infants Complains during Weaning Process after Instructions (n=100).

Items	Age in months								X^2	P
	Less than 6months		7- 8 Months		9- 10 months		11-12 months			
	N	%	N	%	N	%	N	%		
Diarrhea										
Present	18	18	15	15	17	17	10	10	19.0	.000**
Not present	82	82	85	85	83	83	90	90		
Vomiting										
Present	11	11	13	13	8	8	5	5	4.08	.130
Not present	89	89	87	87	92	92	95	95		
Abdominal Colic										
Present	28	28	25	25	23	23	10	10	9.05	.011*
Not present	72	72	75	75	77	77	90	90		
Abdominal distention										
Present	47	47	34	34	30	30	13	13	28.3	.000**
Not present	53	53	66	66	70	70	87	87		
Overweight										
Present	11	11	10	10	8	8	7	7	7.08	.023*
Not present	89	89	90	90	92	92	93	93		
Constipation										
Present	18	18	15	15	17	17	10	10	19.0	.000**
Not present	82	82	85	85	83	83	90	90		

* Significant at p < 0.05
** Statistical significant at P < 0.001

Table (6) represented that,82%, 85%, 83% and 90%, in order of the infant's problem were didn't have diarrhea and constipation neither less than 6 months, 7:8 months, 9:10 months nor after 11:12 months after instructions. As regards vomiting, infants in the study results proved that (89%, 87%, 92%, 95%, respectively) of them were didn't have vomiting. The same table demonstrated that there was no abdominal colic among infants in the study (72%, 75%, 77%, and 90%, in order). Regarding to abdominal distention, it was found that all (53%, 66%, 70%, 87%, respectively) of infants in study hadn't abdominal distention. On the other hand, 89%, 90%, 92% and 93% respectively of infants in the current study hadn't overweight.
The same table showed that there were statistically significant differences between four reading regarding diarrhea, constipation, abdominal colic, abdominal distension and overweight.

Table (7) Comparison of Weaning Infants Complains during Weaning Process after Instructions (n=100).

Items	Age in months								X^2	P
	Less than 6months		7-8 months		9-10 months		11-12 months			
	N	%	N	%	N	%	N	%		
Refused of breast feeding										
Present	16	16	12	12	11	11	7	7	4.41	.110
Not present	84	84	88	88	89	89	93	93		
Allergy from weaning food										
Present	23	23	20	20	19	19	9	9	7.58	.023*
Not present	77	77	80	80	81	81	91	91		
Disturbance of sleeping patterns										
Present	26	26	21	21	17	17	10	10	8.39	.015*
Not present	74	74	79	79	83	83	90	90		
Food like and dislike										
Present	26	26	21	21	17	17	10	10	8.39	.015*
Not present	74	74	79	79	83	83	90	90		
Shocking										
Present	15	15	13	13	9	9	5	5	3.05	.024*
Not present	85	85	87	87	91	91	95	95		

* Significant at $p < 0.5$

Table (7) demonstrated that, 84%, 88%, 89% and 93%, in order of the infant's problem were didn't refuse of breast feeding neither less than 6 months, 7-8 months, 9-10 months nor after 11-12 months after instructions. As regards allergy from weaning food, infants in the study results proved that (77%, 80%, 81%, 91% respectively) of them were didn't it. The same table clarified that there hadn't disturbance of sleeping pattern and food like and dislike among infants in the current study (74%, 79%, 83%, and 90%, in order). In relation to shocking, (85%, 87%, 91%, 95%, respectively) among infant's problem were didn't shocking neither less than 6 months, 7-8 months, 9-10 months nor after 11-12 months after instructions.

The same table showed that there were statistically significant differences between four reading regarding allergy, disturbance of sleeping patterns, food like and dislike and shocking.

Table (8) Correlation between Total Mean Score of Knowledge after instructions and Mothers' Place of Residence, Occupation.

Items	Total mean score of mothers knowledge	
	r	P
Place of residence	0.417	0.000**
Occupation	0.360	0.010**

* Correlation is significant at $P< 0.001$

Table (8) clarified that there were statistically significant positive correlation between place of residence and mothers' occupation with a total mean score of mothers' knowledge for weaning instructions at $P< 0.001$.

IV. Discussion

Concerning the personal data, it was evident from the current study's results that, almost nearly half of mothers aged from 20 > 25 years and the mean of mother's age were 23.70±5.37. The same result was mentioned by [23] when they studied complementary feeding practices of mothers and associated factors, performed in Ethiopia on 200 mothers and their infants found that majority of mothers aged 21–38 years and the mean mother's age was 27.7 +6.4. From the researchers view young mother's age had less experience regarding of weaning

The results of the present study were in accordance with [24] assured that, the literacy rate among females was near two thirds percentage. From my point of view, these high rates of literacy among mothers could significantly effect on weaning process following rights rules. In the same context, [25] studied for 50 mothers and concluded that, the majority of mothers had low educational attainment. They considered the level of education as a key factor influencing the infants during weaning.

Regarding to mothers' occupation, the highest present of mothers was a housewife. These results were contrasted with [26] all mothers weaned their children properly were housewife. So, adequate time were available for weaning process and following the proper weaning principles. On the same line, contradicting with [27] concluded that, near to three quarters of the mothers in the study reported being employed.

In relation to the number of children, according to the current study result twenty percent of mothers had one child compare to half of mother's had two children and nearly one third of them had three or more children. [28] mentioned about one quarter of mothers had one child, more than two fifth of mothers had two and more than one quarter had three or more children. It was illustrated that from the study result, Less than two thirds of mothers lived in rural areas and the rest in urban. Similar to [29] majority of mothers of infant lived in a rural area. From the researchers view most weaning complains within mothers who lived in a rural area, this related to most of them started weaning early.

Moreover, the results showed that, more than two thirds of children aged from 6 months to one year. The mean age of children was 10 ±2.1 months. The results contradictory with [30] which studied weaning and infant growth. In form of primary analysis and systematic review and concluded that almost all mothers initiated breastfeeding. The majority of infants aged less than 6 months. [31] concluded that earlier age at weaning was male when they studied 25 children performed in India. From the researchers view the mothers thought that the boys need to feed early as possible to enhance their physical growth.

Regarding to the time of start weaning, the current study highlighted that more than half of mothers initiated weaning of children less than 6 months while less than one third of mothers started weaning for children timely at the end of 6 months. This result contrasts with [32] who assess an assessment of the breastfeeding practices and infant feeding pattern among mothers in Mauritius an island country in the Indian proved that the higher number of children who participated in the study weaned before 6 months. On the other hand, contradictory with [33] who studied the introduction of complementary feeding in five European countries, European childhood obesity project emphasize that two thirds of mothers initiated weaning at 4 months. As well as, the minority of participated mothers initiated at 6 months. From the researcher's view difference of culture and perception of mothers and incidence of weaning complains considered factors affecting weaning process.

Regarding to challenges facing mothers during weaning, it was evident that from the current study result, less than half of mothers faced family pressure as a major challenge which affect weaning process, in this context, [34] considered the mother anxiety as important challenge affected mothers during weaning due to over exaggerated of failure feeling and rejection from weaning difficulties. Furthermore, the results of the current study showed that, nearly one quarter of them had challenges during weaning as next pregnant and work. In this aspect, [35] emphasized that one of the most important challenges for weaning is returning mothers to work. They studied weaning at American. According to the current study's results, the minority of mothers suffered from breast engorgement as challenges for weaning. As well as, [36], reported that, less than one quarter of mothers who participated in their study, had breast engorgement as a challenge for weaning and wrong weaning perception. So, many mothers began to reducing the duration of breastfeeding to face these challenges.

Concerning weaning infant complains, more than two fifth of infants complained of diarrhea after start weaning. [37] found the same results and mentioned that more than half of (54%) children who participated in the research about infantile colic: recognition and treatment, had diarrhea. As well as, they concluded that infants who had been weaned less than 6 months, had health problems like diarrhea, colic, and constipation. The current result proved that, nearly one quarter of infants complained of abdominal colic before weaning. Parallel with, [38] said that, about half of infants who participated in their study had abdominal colic when the infants started weaning before 6 months. From the researcher's view this infant complains regarding to gastric enzymes start at 3 months and still well developed and over feeding during weaning.

The current study's results reported that more than three quarters of mothers defined wrongly answer before instructions. While, the majority of them after weaning defined it accurately. These findings was an agreement with [39] who found that less than half of the mothers defined weaning correctly. On the other hand, this result contradictory with [40] who reported that the majority of the mothers defined weaning wrongly. They studied Canadian perinatal surveillance system. From the researcher view mothers need for weaning instruction before the stated time to enhance weaning knowledge. Furthermore, the results of the current study, showed that more than two thirds of mothers, not aware with time of weaning before weaning instructions compared to majority of mothers after instructions oriented with it. [1] who stated that all mothers started weaning from 6 months after teaching them.

It was found that, almost nearly three-quarters of mothers didn't oriented about weaning principles before weaning instructions while the majority of them after instructions oriented about it. This explanation was in the same line with [41] reported that the guidelines of weaning were the result of several consultations and documents on complementary feeding, and represent knowledge for mothers on weaning were important to enhance mother knowledge. They studied working mothers, breastfeeding, and the law performed at the American.

It was found that, the majority of mothers had a satisfactory level of knowledge after instructions. Which in agreement with the study by [42] who stated that nearly a quarter of mothers have practiced appropriate weaning before guideline. It was found a statistically significant difference in the mother's

knowledge level before and after weaning instructions. [43] reported that there was a significant difference between weaning practice and mothers who received weaning instructions. As well as the same result, offered that mothers had higher mean scores of knowledge after weaning instructions. These results support the first hypothesis of the current study.

The current study's results emphasized that, majority of infants didn't have a diarrhea as weaning complain after weaning instructions. This explanation was in the same line with the findings presented [44] who stated that it is well recognized that the period from birth to two years of age is a critical window for the promotion of optimal growth. Mad Longitudinal studies about growth faltering, deficiencies of certain micronutrients, and common childhood illnesses such as diarrhea at United Kingdom. As regards vomiting as the current study result, the highest percentage of infants didn't have vomiting after receiving weaning instruction. This contrast with [45] concluded that vomiting was a sign of a food allergy or intolerance. This complain reduced through giving instruction for all mothers started weaning at 6 months of infant life. They studied appropriate weaning practice and associated factors among infants and young children performed in Ethiopia.

On the same line, there were statistical significant difference between four reading for infant's complain regarding diarrhea, constipation, abdominal colic, abdominal distension, overweight, allergy, disturbance of sleeping patterns, food like and dislike and shocking. This result was an agreement with [46] who studied factors associated with the age infants are weaned and they reported that abdominal colic and abdominal distention occur during weaning when the mothers give feeding by wrong way or over feeding. Regarding to disturbance of sleep pattern. The result contrasts with [37] stated that more than half of mothers reported that infants slept all night without crying during the effective weaning process. As illustrated in the above mentioned results, infant in the current study had less weaning complains after weaning instructions. These results support the second hypothesis of the current study.

This explanation in the same line with the study [47] who studied infants weaning and found that there was statistically significant between practical training give to mothers to weaning and place of residence Moreover, in our study, there was a statistically significant positive correlation between the mothers' place of residence and the total mean score of mothers' knowledge before and after instructions. Furthermore, the current study revealed that, there were statistically significant positive correlations between the mothers' occupation with a total mean score of mothers' knowledge before and after instructions.

V. Conclusion

The current study results concluded that mothers who received the teaching instructions had a higher total mean score of knowledge regarding weaning than before. Infants of mothers who received weaning instructions had less weaning's complains incidence during the weaning period. These results support the proposed study hypotheses.

Recommendations

Based on the results of the current study, it was recommended that:

- Raising the awareness of mothers about weaning and infant's weaning complains.
- Simple Arabic illustrated booklet about the weaning should be available and distributed to mothers in out-patient clinic at the Preventive Medicine and Social Center.
- Designing an educational program for mothers about the complementary food up to 23 months for their children.
- A longitudinal study is necessary to monitor the weaning complain.
- For further researches the study should be replicated to conduct on a larger sample including other pediatric hospitals is needed for generalization of the reached results.

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