Journal of Nutrition and Food Security
Shahid Sadoughi University of Medical Sciences
School of Public Health
Department of Nutrition
Nutrition & Food Security Research Center

eISSN: 2476-7425 pISSN: 2476-7417 JNFS 2019; 4(1): 26-33 Website: jnfs.ssu.ac.ir

Surveillance of Family Care Function in Feeding of the Children under the Age of Six in Abadan 2015

Masoume Sechin Matouri; MSc[1], Khadijeh Ghadamkheir; MSc[*1], Heidar Ali Abedi; PhD[2] & Elham Dashtinezhad; MSc[1]

[1] *Midwifery and Nursing College, Islamic Azad University of Abadan.*
[2] *Midwifery and Nursing College, Islamic Azad University of Isfahan (Khorasgan).*

ARTICLE INFO

ORIGINAL ARTICLE

Article history:
Received: 15 Apr 2018
Revised: 12 May 2018
Accepted: 17 Sep 2018

Corresponding author:
nasrin_ghadamkheir@yahoo.com
Midwifery and Nursing College, Islamic Azad University of Abadan.

Postal code:1449614535
Tel: +98 72 52247110

ABSTRACT

Background: Family is one of the early systems of human societies. Inappropriate performance of family in taking care of children, especially nutritional care, leads to irreparable damages to their development and growth. Accordingly, the present study aimed to investigate the nutrition care of children under the age of six in Abadan. **Methods:** This descriptive-analytic study was carried out on 406 families with children under the age of six in Abadan city. The families were selected using the cluster sampling method. The data collection tools were a researcher-made questionnaire and direct interview. Furthermore, descriptive and analytical tests such as single sample *t-test* were used using the SPSS. **Results:** The results of this study showed that 60 percent of children under one year of age and 32.7 percent of 1-3 year old children were breastfed. **Conclusion:** The family care function was not satisfactory in regarding the nutrition status of 1-3 year old children. This suggests the necessity of education on breastfeeding by the end of the 2-year period.

Keywords: *Children; Family; Nutritional care.*

Introduction

Family, as one of the earliest systems of human societies is the most appropriate system for fulfilling the material and mental needs of the humans. It provides security and mental relaxation of the members, the individuals' emotional needs, a ground for breeding new generations and socializing the children (Boujari and Parcham, 2014). Family should attempt to meet these needs because the fulfillment of such requirements provides a basis for children to develop into the next evolutionary growth stage (Abedi *et al.*, 2012).

Malnutrition is one of the most important causes of morbidity and mortality in children. In comparison with healthy infants, malnourished children are at a higher risk of illness and death. The statistics showed that 60 percent of about 7 million deaths in children aged less than five years were attributed to malnutrition (Saeidlou *et al.*, 2014). Malnutrition is also one of the most

This paper should be cited as: Sechin Matourin M, Ghadamkheir Kh, Abedi HA, Dashtinezhad E. ***Surveillance of Family Care Function in Feeding of the Children under the Age of Six in Abadan 2015.*** *Journal of Nutrition and Food Security (JNFS)*, 2019; 4 (1): 26-33.

important causes for improper physical and mental development of children. Childhood obesity is a worldwide public health problem (Saeidlou *et al.*, 2014) caused by malnutrition. Growth disorder in children is also another important health problem worldwide, especially in the developing countries. Considering all the above-mentioned ideas, nutritional status of children is very important (Farsani and Movahhed, 2016).

The inappropriate performance of the family regarding the children's nutritional care may result in their death. Over 60 percent of children's death takes place in the rural areas. Most of the causes are related to the congenital disorders, chromosome abnormalities, fallings and accidents in the summer, as well as respiratory and digestive diseases in autumn (Rahbar *et al.*, 2013). Moreover, factors such as mother's job, low literacy, inappropriat place of living, marital status, and duration of breastfeeding affected the mortality rate of the children significantly (Houle *et al.*, 2013).

As it was mentioned before, nutrition plays a significant role in maintaining the health of infants. Consequently, malnutrition in infants is a very important problem which greatly affects their growth. Over 53 percent of the mortality rates in the children below 6 years old are indirectly associated with malnutrition. In this regard, 11percent of the Iranian children are afflicted with low weight, 5 percent with thinness, and 15 percent with average to severe short height (Naderi Beni *et al.*, 2013). Furthermore, 40 percent of the developing countries suffer from malnutrition or lack of food; this affects 60 percent of the child mortality in these countries either directly or indirectly (Kashfi and Khani Jeihooni, 2014). Malnutrition in children increases their mortality, impairs their intellectual and mental ability, results in mental consequences, and reduces their productivity in adulthood. The factors affecting malnutrition in children are divided into three categories of maternal factors, diet, and socioeconomic (Sharghi *et al.*, 2011).

In spite of the extensive training of mothers regarding the benefits of breastfeeding, the duration of breastfeeding has been reducing in most of the countries (Hatami and Motamed, 2012). The statistics show that among every three children in the developing countries, only one is exclusively fed by breast milk in the first six months. The recent studies showed that the exclusive breast feeding changed from 33 percent in 1995 to 39 percent in 2010 (Haroon *et al.*, 2013). Therefore, regarding the importance of nutrition, especially in children below six years old as well as its effect on the growth of children, this study was carried out. The objective of the present study was to investigate the performance of families' nutritional care considering their lower than six-year old children in Abadan city, Iran.

Materials and Methods

Study Design: The present descriptive study was accepted by Faculty of Medicine in Islamic Azad University of Abadan with the code of 1519512230033. The researchers referred to a total of 25 community health centers located in Abadan to collect the data.

Research participants included all the families living in Abadan and all the family members involved in taking care of children under the age of six (In addition to parents siblings were also included). Furthermore, we received informed consent forms from the participants of the study.

The cluster sampling and random sampling methods were used to collect the participants, who were required to answer the items of a questionnaire with Likert scale regarding the dimensions of nutritional care function.

The inclusion criteria for families were living in Abadan city and having at least one child less than six years of age. The parents' consent was also needed to participate in the study. A researcher-made questionnaire and direct interview were used to collect the data. The questionnaire consisted of two parts, the first part included the personal characteristics such as total number of children, number of children under six, gender, place of residence, age and education level of parents, father's occupation, mother's occupation (employed or house-wise). The second part of the questionnaire consisted of the nutrition care information.

[DOR: 20.1001.1.24767417.2019.4.1.4.2]
[DOI: 10.18502/jnfs.v4i1.397]

We referred to the health centers and selected 406 families with children under the age of six years to examine their caring performance. Based on the target society and population of children under the age of 6 years in Abadan, the calculations were conducted according to the following formula.

$$n = \frac{z2\,p(1-p)}{d2} = \frac{(1.95)^2 \times 0.5(1-0.5)}{(0.05)^2} = \frac{3.8414 \times 0.25}{0.0025} = 384.14$$

Data analysis: The data were analyzed using descriptive and inferential statistics such as single-sample *t-test* and SPSS 22.

Ethical considerations: In order to meet the ethical considerations of the research, we obtained a license from the Association of research in Islamic Azad University of Abadan as well as the Faculty of Medical Sciences. They provided the researchers with an introduction letter to carry out the study and to access the information in the health centers. We obtained written consent forms from the participants and explained the study goals and instructions for them. In order to guarantee the confidentiality of all information obtained from the participants, the data did not include any identification names or numbers. In addition, individuals could quit the study at any time.

Results

In this study, a total of 406 families were investigated from 25 health centers and municipal communities. There were 863 children in these families; 419 (49.1%) girls and 435 (50.9%) boys. Among these children, 475 were under the age of six; 232 (48.8%) girls and 243 (51.2%) boys. The statistics showed that 60 children were in the age range of 0-1 years 162 children in the age range of 1-3 years, and 253 children were in the age range of 3 - 6 years.

Based on the results of **Table 1**, the highest mean score (1.77 ± 0.56) was attributed to the mother's attention to the lack of use of snacks such as chips, snacks, etc. by children. The lowest mean score (0.60 ± 0.70) was related to the consumption of other types of milks (except breast milk) by infant. Moreover, we calculated the frequency distribution and percentage as well as the single-sample *t-test* in evaluating families' performance in feeding 0-1 year infants. We determined that the average score of each family was 12.53 ± 3.87, which was compared with the average score achieved by a single-sample *t-test* that was 10. As a result, the performance of families was well in taking care of 0-1 year-old infants.

Based on the results of **Table 2**, mother's attention to feeding the child with the family table foods had the highest mean (1.84 ± 0.37); whereas, breastfeeding in 1-3 year-old children had the lowest mean score (0.73 ± 0.92).

The descriptive statistics and single-sample *t-test* was conducted regarding the performance families in feeding 1-3 year- old children. We determined that the average score of each family was 13.99 ± 2.43, which was compared with the average score of the single-sample *t-test* that was 10. As a result, the performance of families was well in taking care of 1-3 year-old children.

Based on the results of **Table 3**, the participants' attention to the children's consumption of meats (once a week), dairy products, bread, and vegetables (every day of the week) had the highest mean score (1.76 ± 0.44). Furthermore, consumption of fast foods by children in the age range of 3-6 years had the lowest average score (0.87 ± 0.68).

In addition, the descriptive statistics showed that the average score of each family in this section was 14.14 ± 2.41 compared with the average score of the single-sample *t-test* that was 10. As a result, the performance of the families was appropriate in taking care of children in the age range of 3-6 years.

[DOR: 20.1001.1.24767417.2019.4.1.4.2]
[DOI: 10.18502/jnfs.v4i1.397]

Table 1. Frequency distribution and percentage of responses for questions related to 0-1 year-old infants' nutrition

Questions	Mean ± SD	Not at all N (%)	Sometime N (%)	Always N (%)
Has the mother breastfeed her child since the day he/she was born?	1.67 ± 0.66	6 (10.0)	8 (13.3)	46 (76.7)
Is the mother still breastfeeding her child at the moment?	1.68 ± 0.70	8 (13.3)	3 (5.0)	49 (81.7)
Has the mother used the other milks for the child?	0.6 ± 0.85	38 (63.3)	8 (13.3)	14 (23.3)
Does the mother give her/his a juicy fruit? (If his age is over 9 months old)	0.75 ± 0.88	32 (53.3)	11 (18.3)	17 (28.3)
Does the mother give the baby a soup, Almond porridge, or any other dilutes food from 6 months of age?	1.15 ± 0.90	20 (33.3)	11 (18.3)	29 (48.3)
Does the mother give him a multivitamin and an iron drop depending on the child's age?	1.58 ± 0.67	6 (10.0)	13 (21.7)	41 (68.3)
Is there prepared special food for the baby (in children with Age older than 6 months)?	1.08 ± 0.91	22 (36.7)	11 (18.3)	27 (45.0)
Is the child's supplementation prepared according to the recommendations of health care providers from the age of 6months?	1.18 ± 0.89	19 (31.7)	11 (18.3)	30 (50.0)
Does the mother give the baby solid or semi-solid food?	1.07 ± 0.88	21 (35.0)	14 (23.3)	25 (41.7)
Does the mother give the baby sweets, candies, chocolates, chips and juices packaged to the baby?	1.77 ± 0.56	50 (83.3)	6 (10.0)	4 (6.7)

Table 2. Frequency distribution and percentage of parents' responses to questions for feeding 1-3 year-old children

Questions	Mean ± SD	Not at all N (%)	Sometime N (%)	Always N (%)
Has the mother breastfeed her child since the day he/she was born?	1.65 ± 0.69	19 (12.4)	16 (10.5)	118 (77.1)
Is the mother still breastfeeding her child at the moment?	0.73 ± 0.92	91 (59.5)	12 (7.8)	50 (32.7)
Has the mother used the other milks for the child?	1.26 ± 0.71	24 (15.7)	65 (42.5)	64 (41.8)
Does the mother give her/his fruit and juicy fruit?	1.62 ± 0.53	3 (2.0)	52 (34.0)	98 (64.1)
Does the mother feed child with the family meal?	1.84 ± 0.37	0.0	25 (16.3)	128 (83.7)
Are there weekly meal and daily bread, and vegetable in family food basket?	1.70 ± 0.49	2 (1.3)	42 (27.5)	109 (71.2)
Does the mother give him/her a multivitamin and an iron drop depending on the child's age?	1.61 ± 0.67	16 (10.5)	28 (18.3)	109 (71.2)
Does the mother give the baby sweets, candies, chocolates, chips and juices packaged to the baby?	1.08 ± 0.69	43 (28.1)	79 (51.6)	31 (20.3)
Does the mother give the baby sweetened like raisins and plums?	1.11 ± 0.65	25 (16.3)	86 (56.2)	42 (27.5)
How much fast food (e.g pizza) consume at home?	1.39 ± 0.65	74 (48.4)	65 (42.5)	14 (9.2)

[DOR: 20.1001.1.24767417.2019.4.1.4.2]
[DOI: 10.18502/jnfs.v4i1.397]

Table 3. Frequency distribution and percentage of parents' responses to questions for feeding 3-6 year-old children

Questions	Mean ± SD	Not at all	Sometime	Always
		N (%)	N (%)	N (%)
Has the mother breastfeed her child since the day he/she was born?	1.62 ± 0.68	26 (10.9)	39 (16.4)	173 (72.7)
Has the mother used the other milks for the child?	1.24 ± 0.80	54 (22.7)	72 (30.3)	112 (47.1)
Does mother give baby 5 meals?	1.71 ± 0.47	2 (0.8)	66 (27.7)	170 (71.4)
Are there weekly meal and daily bread, dairy, and vegetable in family food basket?	1.76 ± 0.44	1 (0.4)	55 (23.1)	182 (76.5)
Does the mother consider that the child is allergic to certain types of food?	1.01 ± 0.95	106 (44.5)	23 (9.7)	109 (45.8)
Does the mother give her/his fruit and juicy fruit?	1.76 ± 0.43	6 (5.5)	44 (18.5)	188 (76.0)
Does the mother give him/her a multivitamin and an iron drop depending on the child's age?	1.68 ± 0.59	16 (6.7)	43 (18.1)	179 (75.2)
Does the mother give the baby sweets, candies, chocolates, chips and juices packaged to the baby?	1.19 ± 0.60	25 (10.5)	143 (60.1)	70 (29.4)
Does the mother give her baby sweets like chickpeas, raisins and plums?	1.30 ± 0.62	20 (8.4)	126 (52.9)	92 (38.7)
How much fast food consume at home?	0.87 ± 0.68	72 (30.3)	125 (52.5)	41 (17.2)

Discussion

The results of the present study indicated that 83.3 percent of the families with children of lower than one year did not use junk food such as candy, chips, and cheese puffs in the diet of their children. Furthermore, only 23.3 percent of the families used other kinds of milk for feeding their infants. These results are due to the educations provided by the health care providers regarding the breastfeeding of children from birth and not using junk foods such as chips and snacks for them. The findings showed that 5, 45, and 50 percent of the families had weak, average, and good performance in taking care of their 0-1 year children, respectively.

The results of the study conducted by Rodgers et al. were in the same line with our findings. They conducted a study on 323 children with an average age of one year old and concluded that the sensitivity of the caregivers, especially the mothers played an important role in child health. Mothers were effective in limiting consumption of microphagy and fast foods, correcting nutritional behaviors, and encouraging the children to use healthy nutrition. They also played an important role in controlling children's weight and intake of different nutritional patterns, which effectively prevented from future obesity in children (Rodgers *et al.*, 2013).

Shapard and Shandler's research also showed that it took three months for the family to correct the nutritional habits and healthy behaviors of the infants and mothers had the most effective role in this regard. Finally, they reported that these nutritional corrections improved the growth process of the infants (Shepard and Chandler-Laney, 2015). These results are in the same line with the present study. Furthermore, Keral and Rauh investigated the attention of the caregivers, especially mothers to providing children with healthy nutrition, preventing microphagy, and correcting the nutritional habits, especially in the first months. The families took this issue into consideration and improved the children's weight gaining process (Kral and Rauh, 2010).

Moreover, Vaghari and Rahmati conducted a descriptive cross-sectional study on 2520 6-to-60-month children (1309 boys and 1211 girls) from 20 villages in Golestan province. They concluded that 89.3 percent of children used the breast milk for 1 year. In fact, two-thirds of the infants in these villages exclusively used the breast milk for at least six months (Veghari and Rahmati, 2011). The results of this study are specifically in the same line with the findings of the present study. The results of the family performance regarding the nutritional status of 1- 3 year-old children showed

[DOR: 20.1001.1.24767417.2019.4.1.4.2]
[DOI: 10.18502/jnfs.v4i1.397]

that 83.7 percent of the families used the food on the table for feeding their children and 59.5 percent of whom did not feed their children with breast milk after one year of age. Finally, the performance of 31.4 percent of the families was average and that of 68.6 percent was good.

The results of family functioning in feeding children with 1-3 years of age showed that 83.7 percent of families used table foods to feed their children, which indicates the importance of feeding children with family table foods after one year of age. In this regard, 59.5 percent of mothers did not breast-feed their children after they were one year old. Despite the emphasis on the importance of breast-feeding children up to the age of two years, this goal was not achieved due to the lack of awareness in families and especially mothers.

In confirmation of these results, Agres et al. conducted a study on 62 families with infants. They concluded that using healthy home-made foods as well as controlling the activity and rest times of children improved their growth process and reduced the risk of obesity in the future. Furthermore, parents especially emphasized on using home-made foods for children's nutrition (Agras *et al.*, 2012). The results of this study are in line with the present study. Similarly, Blaine et al. indicated that regarding the increased prevalence of obesity in children, they should be encouraged to eat homemade foods by applying motivating strategies. These strategies included selection of dishes to eat from and manner of eating, which increased the willingness of children to eat homemade foods (Blaine *et al.*, 2015).

One study reported the effect of feeding with the breast milk on the growth of 1-3 years old children and concluded that only 47.7 percent of mothers exclusively fed their children with breast milk from 6 to 12 months. Most of them (433 mothers; 81.7%) started weaning their infants after 12 months of age. Consequently, growth disorders developed in such children. This finding supports our results (Ali and Dhaded, 2014).

The results of the present study regarding the manner of feeding 3-6 year-old children indicated that 76.5 percent of the families used different kinds of meat, dairy, and vegetable to feed their child at least once a week. The limitation regarding consumption of red meat was due to its expensive price. However, they used white meat (fish) very often due to their location and closeness to the sea. Moreover, only 17.2 percent of the types of fast foods were used for children, which is due to the healthy nutrition education provided by health care providers. As a result, the performance of 21.4 percent of the families was moderate and the performance of 78.6 percent was good.

Lo et al. conducted a study on 4553 children in the kindergarten age and investigated the relationship among their healthy nutrition, parents' correct food habits, and prevention of the child's obesity. They showed that the daily use of vegetables and dairy in different meals and regular use of breakfast in the family increased the child's growth. Avoidance of high energy density foods such as fatty food and different kinds of fast food prevented from children's obesity in the future and had an effect on their correct diet in the long term. So, it is very important to encourage the families, especially the mothers, to adhere to the appropriate nutritional behaviors (Lo *et al.*, 2015).

In confirmation of the results of this study, Branum and Rossen determined the proportion of vegetables in the foods of 9169 American children. They concluded that approximately 60 percent of the families used vegetables in their daily meals. However, approximately 40 percent of them used fried potatoes, chips, pasta, and pizza (Branum and Rossen, 2014)

Furthermore, Riley et al. conducted a study on 4400 children and investigated the importance of using dairy, especially in the first meal of the children. They concluded that Australian children used dairy products over 2.5 times a day, particularly in their first daily meal (Riley *et al.*, 2014). These results are in the same line with those of the present study.

Moreover, Baghdari and Bahrami conducted a study on the quality of the 3-5 years old children's nutrition in Mashhad city. They concluded that the diet of 66 percent of these children needed correction and improvement. In this regard 51

[DOR: 20.1001.1.24767417.2019.4.1.4.2]
[DOI: 10.18502/jnfs.v4i1.397]

percent of the children used junk foods such as chips, cheese puffs, candy, carbonated beverages, etc. Most of these children did not use vegetables and cereals (Baghdari *et al.*, 2014). These results were not in line with the results of the present study

Conclusions

The results of this study showed that the caring behavior of family members, especially mothers was appropriate about feeding their children in some cases, including exclusive breast-feeding in infants under the age of 6 months and after starting the supplemental nutrition up to one year old. Furthermore, the use of family table foods for children over one year and lack of using fast foods and junk foods such as chips and snacks in the daily diet of children were also good. These results show that the training and health care programs were very effective in this regard.

However, after the age of one year, most children were deprived of breastfeeding which shows the lack of awareness in family members, especially mothers about the needs of children for breast milk up to the end of two years. The age of children is an important factor in this case and those who take care of them, especially their mothers should receive the necessary trainings in this area. In addition, the economic status of families with children should be so that they can afford preparing the nutritional needs of children, especially red meat.

Acknowledgments

The authors would like to thank all the participants who took part in this study.

Authors' contributions

Sechin Matouri M and Ghadamkheir K wrote the manuscript. Abedi HA and Dashtinezhad E revised the manuscript. All authors read the paper and verified the final version of the manuscript and agreed for all aspects of the work.

Conflict of interest

There is not conflict of interest.

References

Abedi H, Mohammadi R & Salehi SH 2012. The first infant psychosocial demands and desires in the family: a qualitative approach. *Journal of qualitative researches in health science.* **1 (1)**: 1-7.

Agras WS, et al. 2012. Improving healthy eating in families with a toddler at risk for overweight: a cluster randomized controlled trial. *Journal of developmental and behavioral pediatrics: JDBP.* **33 (7)**: 529.

Ali SS & Dhaded SG 2014. The impact of nutrition on child development at 3 years in a rural community of India. *International journal of preventive medicine.* **5 (4)**: 494.

Baghdari N, Norouzi A & Karimi Moonaghi H 2014. Comparison of the effect of mathernal education via newsletter and group discussion on the nutritional quality of preschoolers. *Evidence based care.* **3 (4)**: 75-84.

Blaine RE, et al. 2015. Child care provider adherence to infant and toddler feeding recommendations: findings from the Baby Nutrition and Physical Activity Self-Assessment for Child Care (Baby NAP SACC) study. *Childhood obesity.* **11 (3)**: 304-313.

Boujari S & Parcham A 2014. Comparative study of the place and importance of marriage and the formation of families in Islam and Jews. *Cognition of religions journal.* **2 (4)**: 17-36.

Branum AM & Rossen LM 2014. The contribution of mixed dishes to vegetable intake among US children and adolescents. *Public health nutrition.* **17 (9)**: 2053-2060.

Farsani G & Movahhed M 2016. Role of Nutrition in Children Growth in View of Traditional Medicine. *Iranian journal of medical sciences.* **41 (3 Suppl)**: S57.

Haroon S, Das JK, Salam RA, Imdad A & Bhutta ZA 2013. Breastfeeding promotion interventions and breastfeeding practices: a systematic review. *BMC public health.* **13 (3)**: S20.

Hatami G & Motamed N 2012. The timing and predictors of the early discontinuation of

[DOR: 20.1001.1.24767417.2019.4.1.4.2]

[DOI: 10.18502/jnfs.v4i1.397]

breastfeeding in southwest Iran. *Iranian journal of pediatrics.* **22 (3)**: 430.

Houle B, et al. 2013. Household context and child mortality in rural South Africa: the effects of birth spacing, shared mortality, household composition and socio-economic status. *International journal of epidemiology.* **42 (5)**: 1444-1454.

Kashfi S & Khani Jeihooni A 2014. The prevalence of protein-energy malnutrition (PEM) in children under 5 years in Abadeh city. *Journal of Fasa University of medical sciences.* **3 (4)**.

Kral TV & Rauh EM 2010. Eating behaviors of children in the context of their family environment. *Physiology & behavior.* **100 (5)**: 567-573.

Lo K, Cheung C, Lee A, Tam WW & Keung V 2015. Associations between parental feeding styles and childhood eating habits: a survey of Hong Kong pre-school children. *PLoS One.* **10 (4)**: e0124753.

Naderi Beni M, Lak R, Jazaeri S & Eftekhar Ardebili H 2013. Prevalence of malnutrition under five years in chadegan (Area District City) Iran 2011. *Iranian journal of epidemiology.* **9 (2)**: 22-28.

Rahbar M, et al. 2013. Mortality causes in children 1–59 Months in Iran. *Iranian journal of public health.* **42 (Supple1)**: 93.

Riley MD, Baird DL & Hendrie GA 2014. Dairy food at the first occasion of eating is important for total dairy food intake for Australian children. *Nutrients.* **6 (9)**: 3878-3894.

Rodgers RF, et al. 2013. Maternal feeding practices predict weight gain and obesogenic eating behaviors in young children: a prospective study. *International Journal of Behavioral Nutrition and Physical Activity.* **10 (1)**: 24.

Saeidlou S, Babaei F & Ayremlou P 2014. Malnutrition, Overweight, and Obesity among Urban and Rural Children in North of West Azerbijan, Iran. *Journal of obesity.* **2014**.

Sharghi A, Kamran A & Faridan M 2011. Evaluating risk factors for protein-energy malnutrition in children under the age of six years: a case-control study from Iran. *International journal of general medicine.* **4**: 607.

Shepard DN & Chandler- Laney PC 2015. Prospective associations of eating behaviors with weight gain in infants. *Obesity.* **23 (9)**: 1881-1885.

Veghari G & Rahmati R 2011. Breastfeeding status and some of its related factors in the Golestan Province. *Iran journal of nursing.* **24 (71)**: 8-18.

[DOR: 20.1001.1.24767417.2019.4.1.4.2]

[DOI: 10.18502/jnfs.v4i1.397]