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Weight in relation to feeding practice among two years old children in Al-Hillah City

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ABSTRACT

Background: Babies and young children require adequate and high-quality nutrition to grow up healthy and reach their full potential. Breast milk is a baby's healthiest option because it contains all the essential nutrients they need, and it has long been known that breastfeeding is good for both mom and baby.

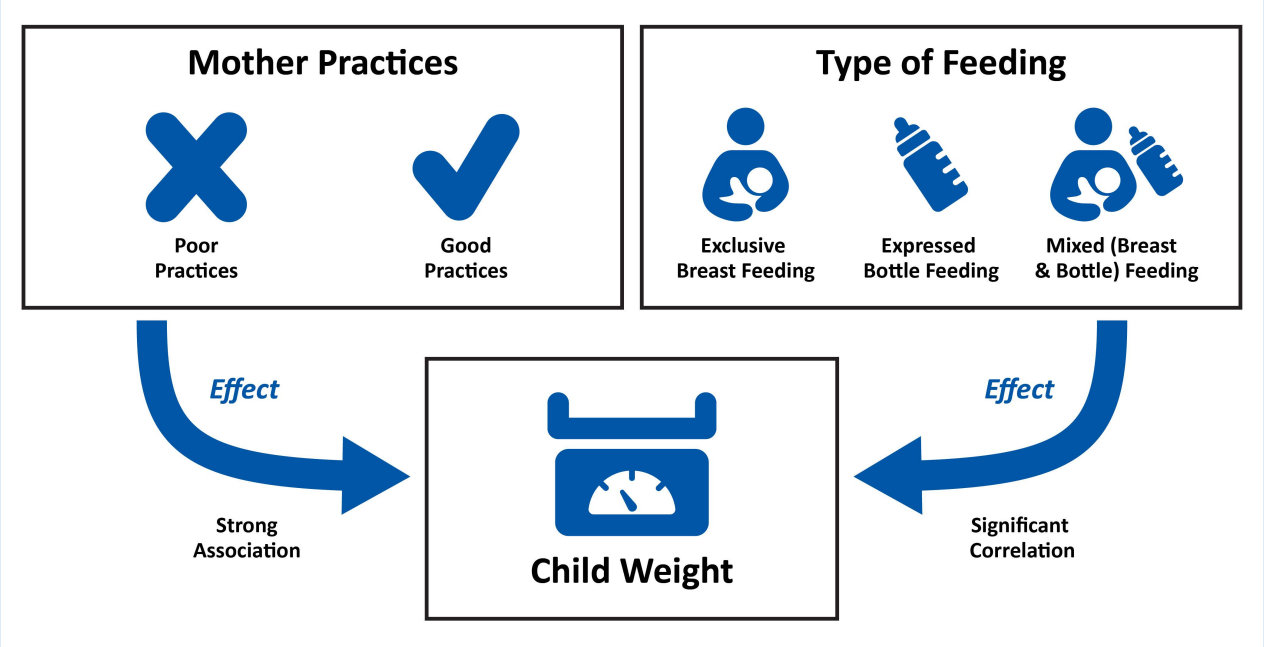
Objectives: To determine the relationship between mothers' feeding practices and child weight status under two years old.

Materials and Methods: A descriptive correlational study design was carried out at Babylon Teaching Hospital for maternity and children and Al Nour Hospital, which was applied from December 2019 to the end of February 2020 as a period for data collection. The sample consisted of (150) mothers admitted with their infants in pediatric wards. The instrument was adopted and finally constructed after an extensive literature review to be ready for data collection and consumed 15-20 minutes with each participant.

Results: The study indicated that (76.7%) of mothers have bad feeding practices regarding child feeding, whereas (23.3%) have good feeding practices. In addition to other significant results, our study demonstrates a considerable positive relationship between the mode of feeding and a child's weight.

Conclusions: The vast majority of mothers have bad child-feeding practices. There was a significant correlation between the type of feeding and infant weight and a strong association between the mother's feeding practice and child weight.

Keywords: Weight, Feeding practice, Two Years Old Children, Effects, Relation.



INTRODUCTION

To guarantee that children grow, develop, and reach their full potential, they must have adequate nutrition from infancy and childhood. For an infant, among all food sources, breast milk has the highest nutritional value. Thus, it has long been understood that nursing benefits both the mother and the child [1].

Standard practices for newborn feeding and nutrition include breastfeeding and human milk. Infant nutrition should be viewed as a matter of public health, not only personal preference [2].

Human milk is the best meal for newborns and young infants, and it is advised that a child exclusively breastfeed (EBF) for at least the first six months of life. Breastfeeding has numerous demonstrated benefits, including financial, psychosocial, and developmental gains, as well as the prevention of ailments, including infections [3]

Few studies consider early feeding exposures in hospitals (breastfeeding or formula feeding), and studies rarely distinguish between ingestion of expressed breast milk (from a bottle) and direct breastfeeding (at the breast) or between the use of formula and other supplemental diets. These are critical distinctions because bottle feeding may discourage self-regulation, expressing and storing breast milk may decrease its bioactivity, and even consuming a small amount of formula supplementation may impact weight gain and the growth of gut bacteria [4-5].

Complementary feeding should be started when breast milk or infant formula cannot provide newborns with the energy and nutrients they need to maintain healthy growth and development [6,7].

Parents' first decision regarding their child's nutrition is whether to breastfeed or bottle feed. Breast milk is still considered to be the optimal

choice for a newborn's health and disease prevention. Even though the composition of infant formula is similar to that of breast milk, many babies thrive on proprietary formula [8].

When babies are breastfed exclusively for the first four to six months of their lives, they are at a lower risk of developing serious health problems. Studies have demonstrated a link between breastfeeding as a baby and a lower risk of obesity, cardiovascular disease, diabetes, cancer, and atopic diseases (like asthma) in adulthood [9]. Reports also suggest that the duration of breastfeeding is inversely related to the risk of increased weight gain in babies [10].

We must specifically care for young children who are overweight and obese to protect and maintain long-term health for the population as a foundation of any society, as it was mentioned by [10], who noted that researchers had addressed the issue of obesity in Iraq. Studies have shown that in the central part of Iraq, the rate of obesity among primary school children was 6%, and the obesity rate was 1.3 percent. Research currently available in the Eastern Mediterranean region shows that both childhood and adult obesity rates are alarmingly high. Since noncommunicable diseases (NCD) account for more than half of all causes of death in the Eastern Mediterranean Region, their incidence is likewise relatively high [11].

Additionally, the prevalence of overweight and obesity has dramatically increased in recent decades, particularly among youngsters, making it a serious public health burden in both industrialized and developing nations [12].

Therefore, poor eating habits during infancy may lead to obesity, as rapid growth in infancy is associated with a higher risk of being overweight and obese and variations in weight gain are at least partially explained by infant feeding practices [13]. Only a small number of research considers early feeding exposures in the hospital, and most studies do not differentiate between direct nursing (at the breast) and consumption of expressed breast milk (from a bottle), or between supplementation with formula and other complementary foods. Even brief formula supplementation may influence weight gain and the increasing gut bacteria, but bottle feeding may inhibit self-regulation, and expressing and storing breast milk could impair its bioactivity [14].

Moreover, The Functional Food Center (FFC) offers a definitive description of functional foods (FFs) as "natural or processed foods that contain bioactive compounds, which, in defined, effective, non-toxic amounts, provide a clinically proven and documented health benefit utilizing specific biomarkers, to promote optimal health and reduce the risk of chronic/viral diseases and manage their symptoms"[15].

This research aims to learn more about how youngsters in Al-Hillah province, where the study is set, are faring in terms of weight and eating habits. It also aims to determine whether a correlation exists between mothers' feeding habits and their children's body mass index.

MATERIALS AND METHODS

Design of the study: A descriptive, correlational study was conducted at the primary health facility in Hilla City during 2019 and 2020.

Study Sample: The sample, consisting of one hundred fifty mothers with children younger than two years old, was selected using a non-probability convenience sampling approach.

Instrument of study: The questionnaire used to collect data was adapted and designed by the researchers themselves, and it consisted of the following three parts: it was comprised of the following three significant sections since the researchers conducted an exhaustive review of related literature and rated as a binary scale (2 = yes; 1 = no); the rating of the scale was made according to the items' cut-off point (2+1)/2 =1.5.

Part I: Information regarding the mothers and their infants' ages, parities, educational levels, occupations, and sources of nutritional knowledge, as well as the dates of their infants' births and the genders of those infants.

Part II: Evaluation of the infant's feeding pattern, including breastfeeding, bottle feeding, and complementary feeding.

Part III: Anthropometric parameters were assessed to determine the child's growth indicators, including age, sex, weight, and either length or height.

Method of data collection: A questionnaire instrument, interview procedures, and anthropometric data collection through measures of length (or height) and weight were all used in conjunction to compile the collected data.

Data Analysis: Data was analyzed using the SPSS (Statistical Package for Social Sciences) version as descriptive (frequencies and percentages) and inferential as correlational statistics.

RESULTS

Table 1 shows that (40.7%) of mothers aged 21-26 years old (30.7%) with one parity (50.7%) have a primary school education, and most of them (96.7%) are not employed. On the other hand, a high percentage of children aged (38%) from 6-12 months (64.7%) are male, more than half of the children (56.7%) using mixed (breast and bottle) feeding, (56.7%) of children have average weight according to (WHO) growth chart, while (36%) of them are below the average weight.

Table 2 shows that (76.7%) of mothers have bad practices regarding child feeding, whereas (23.3%) have good feeding practices.

Table 3: Spearman correlation coefficient was used in this Table to find if there is an association between type of feeding and child weight at P value ≤ 0.05. According to the findings, there is a statistically significant positive association between the child's feeding and weight (s if the child was fed by bottle or mixed breastfed and bottle, the child gained weight more than the infant exposed to only breastfeeding).

Table 4: Pearson correlation coefficient was used in this Table to find if there is an association between the mother's feeding practice and the child's weight at P value ≤ 0.05. The finding shows a significant positive association between the mother's feeding practice and the child's weight (if the mother has good feeding practice and uses breastfeeding frequently, the child becomes within average weight.

Table 1: Distribution of Study Sample According to Mothers' and Their Child Sociodemographic Information (N =150)

Mother's Characteristics	Groups	Frequency	Percent
Mother age	15-20	36	24.0
	21-26	61	40.7
	27-32	39	26.0
	33-38	14	9.3
Parity	1	46	30.7
	2	36	24.0
	3	26	17.3
	4	25	16.7
	5	8	5.3
	6	9	6.0
Level of education	Not read and write	14	9.3
	Primary	76	50.7
	Secondary	37	24.7
	diploma and above	23	15.3
Occupation	Employ	5	3.3
	Not employ	145	96.7
Source of knowledge	Relatives	57	38.0
	Internet	7	4.7
	Other	86	57.3
Child characteristic	Groups	Frequency	Percent
Child age	6months	53	35.3
	6-12months	57	38.0
	13-18 months	30	20
	19-24months	10	6.7
Gender	Male	97	64.7
	Female	53	35.3
Type of feeding	Breastfeeding	30	20.0
	Bottle feeding	35	23.3
	Mix feeding	85	56.7
Child's weight	Below the average	54	36.0
	Average	85	56.7
	Above the average	11	7.3

Table 2: Overall Mothers' Feeding Practice

Overall practice	Frequency	Percent
Poor practice	115	76.7
Good practice	35	23.3

Table 3: Correlation between Type of Feeding and Child Weight

Correlation		Child Weight
Type of feeding	Correlation Coefficient	.198**
	Sig. (1-tailed)	.008
	N	150

Table 4: Correlation between Feeding Practice of Mothers and Their Child Weight

Correlation		Child Weight
Feeding practice	Pearson Correlation	.747**
	Sig. (1-tailed)	.000
	N	150

DISCUSSION

It is suggested that newborns and young infants consume only breast milk for at least the first six months because human milk is the most appropriate meal for this age group. The study aimed to determine whether a correlation exists between mothers' feeding practices and the weight status of children younger than two years old. The current findings show (Table 1) that (40.7%) of mothers aged 21-26 years old, (30.7%) have one parity, (50.7%) have a primary school education about most of them, and (96.7%) are not employed. This finding is similar to other studies [1,16] that were conducted at Baghdad's Al-Adamyia Primary Health Center, and they noted that the demographics of the new study's sample are consistent with those of the previous one.

Regarding mother-feeding practice, more than half of the babies were estimated to be 85(56.7) on mixed feeding, while 31% of mothers exclusively breastfed their infants. This finding was lower than the study of [17], which shows that 66.0% of infants under six months were exclusively breastfed, and lower than the study of [18], which shows that mothers have good knowledge of EBF, which constitutes 69.8%. The low percentage of mothers' knowledge regarding EBF may be because more than half of the mothers in the study sample have a primary school education or less. This result is in line with [3].

Also, the results of the current study can be shown in table 3, which demonstrates a substantial positive link between the kind of feeding and the amount of weight gained by the child, if the children are fed by bottle or mixed breastfed and bottle, they gain weight more than infants who are fed only breast milk. This finding is consistent with other studies, which highlighted that normal breastfeeding infants had a lower rate of overweight than infants who were given artificial milk [1].

In addition to the prospective infant birth cohort study, which discovered that breastfeeding had a negative association with the rate of weight increase, body mass index, and the likelihood of being overweight in the first year of life, another study indicated that [19].

In addition, another study by [20] evaluated supplementary diets for newborns and early children (6–23 months). The findings showed that breastfeeding positively correlated with a decreased risk of being underweight and wasting.

Along the same line, the current study's findings are congruent with those [21], who stated that maternal feeding habits might be potential targets for successful preventive treatments aimed at reducing childhood obesity since they significantly impact the development of eating patterns and excessive weight gain in young children.

Another study indicated that compared to breast-fed infants, formula-fed infants consume more milk and acquire weight more quickly. This was determined by observing the correlation between the rate of obesity and overweight in kids and young children under two years old and feeding practices. This was discovered and correlated with the fact that breastfed infants had a lower prevalence of obesity and overweight than formula-fed newborns did [13].

Pearson correlation coefficient was used in this table to find if there is an association between mother feeding practice and child weight at P value ≤ 0.05. The findings show a significant positive association between the mother's feeding practice and the child's weight (if the mother has good feeding practices and uses breastfeeding frequently, the child becomes within average weight).

Another study [22] reported that breastfeeding for six or more months appears to be protective against later overweight and obesity in Australian children.

In the same context, the results are in line with [23], who stated that breastfeeding practices may impact childhood obesity.

The result of the underhand study is congruent with a prospective representative survey carried out by [24]. Their findings demonstrated that breastfeeding initiation and duration were strongly linked with weight increase from birth to three years. Babies who did not receive breast milk grew significantly more quickly than those whose mothers began breastfeeding them.

In the same context, this finding is consistent with [25], who reported that birth weight was strongly associated with exclusive breastfeeding through 3 months.

Another study [26] found that breastfeeding was linked with a considerably lower risk of obesity in children. The current findings are in line with those of Martirosyan et al. (2021), who reported that Functional foods improve overall health, lower the risk of viral and chronic illnesses, and treat their symptoms.

Finally, the mother-in-law's impact on the newborn's breast milk shortage and considered a major factor in early or late weaning, and these weaning depend more on cow's milk rather than breastmilk.

CONCLUSIONS

The findings of the current study conclude that:

Early adulthood mothers with one child who graduated from primary school are not employed, and their children are older infants, male, under mix (breast and bottle) feeding, and with an average weight. Most mothers have bad practices regarding child feeding. There was a significant correlation between the type of feeding and infant weight and a strong association between the mother's feeding practice and child weight.

Abbreviations: EBF: Exclusive breastfeeding, NCD: noncommunicable diseases.

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Conflict of Interest: The authors have not declared any conflicts of interest.

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