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ORIGINAL ARTICLE

Knowledge, Attitude and Practice of Mothers Regarding Weaning and Occurrences of Iron Deficiency Anaemia in Children 6-60 Months

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ABSTRACT

Aim: To evaluate the awareness and practices of mothers of infant's age 6 to 60 months regarding weaning and its association with anaemia.

Study Design: Cross-sectional study.

Place and Duration of Study: Department of Paediatric Medicine, Shaikh Zayed Hospital Lahore from 1st November 2021 to 30th April 2022.

Methodology: Four hundred forty mothers were enrolled. A self-designed questionnaire was used to collect data concerning knowledge attitude and practices of mothers of children between ages 6-60 months.

Results: There is an association which is statistically significant of anaemia history of children with multiple factors like infant gender (p=0.008), child age (p=0.005), age of weaning start (p=0.051), infant feeding habit (p=0.022), dietary diversity relation (p=0.001), infant caregivers (p-=0.043), child history of Pica (p=0.013), food type and frequency intake (p=0.003) (both healthy and unhealthy foods). While, there was no significant association of healthy food with anaemia (p=0.077).

Conclusion: Mothers had sufficient knowledge regarding weaning practices of infants. However late start of weaning infant feeding habits were contributory factors of iron deficiency anaemia among children.

Keywords: Weaning, Iron deficiency anaemia, Mothers knowledge, Children under 5 years

INTRODUCTION

About half of the world's population suffers from anaemia, a dangerous blood illness that is particularly common in pregnant women and young children due to their high iron needs. Such additional risk factors as nutritional insufficiency or insufficient absorption, viral illnesses, and genetic abnormalities are also linked to anaemia. A patient's health is negatively impacted by anaemia in a number of ways, many of which have well-defined consequences, side effects, and underlying causes.[1,2]

Deficiency in iron anemia is one of the most prevalent types of anaemia caused by nutrient deficiencies worldwide. Children from 6 months to 5 years old are the age group where it is most prevalent. Although numerous physiologic processes require the nutrient iron, too much or too little iron consumption can be detrimental. Insufficient iron for the creation of haemoglobin is one of the major clinical effects that led to anaemia. Therefore, serum iron levels and blood haemoglobin levels are employed as clinical diagnostic indications of the body's iron status. Overall, iron deficiency causes nearly half of all cases of anaemia.[3] Low intake of dietary iron is the main cause of hypochromic, microcytic anaemia. Iron amount in the body fulfilled by consumption of iron in diet or normally maintained by regulation of intestinal iron absorption. Nutrition quantity of diet and infant dietary pattern in weaning play an essential role in understanding the infants iron deficiency anemia.[4]

Iron deficiency anaemia affects approximately 30% of the total world population. The global highest prevalence of iron deficiency anaemia in young children between the ages of 6-60 months was at the highest risk, particularly in their first three years of life. It's found that 65%-70% of children between the ages of 6-60 months were anaemic, with haemoglobin of less than 11 gm/dl.[4] Another study in Pakistan also reported the prevalence of anaemia about 78% in the same age group.[5]

To address the nutritional needs of newborns after six months of age, weaning is the process of introducing solid, semi-solid, or other energy-rich food to the kid along with milk. A proper complementary feeding should consist of foods that are high in energy and micronutrients (particularly iron, zinc, calcium, vitamin A, vitamin C, and folates), free of contamination (pathogens, toxins, or harmful chemicals), low in salt and spice, easy to eat and accept by the infant, in the right amount, simple to prepare from family foods, and at a price that is affordable to most families.[6]

Multiple factors are important to know that influence in the initiation of weaning like, their weaning age, mother weaning education, family income, marital status, quantity of food intake, history of PICA, and other such factors.[6] A number of recent dietary studies in this age have been reported that diets are lacking in fruit and vegetables and iron, and are high in discretionary foods. Mother's knowledge about the nutritional dietary intake of infants plays an essential role in finding the underline cause of IDA in child. Approximately, 57% deaths of children under age of five year are closely related to IDA or lack of proper weaning knowledge.[7]

This study was designed to assess the knowledge and practice of mothers regarding weaning among anaemia or iron deficiency anaemia children of aged 6months–5 years.

MATERIALS AND METHODS

This study was conducted from 1 November 2021 to 31 March 2022, in Shaikh Zayed Hospital Lahore's Paediatrics Outpatient Department, a cross-sectional study among mothers of kids between the ages of 6 and 60 months. This study was conducted as a semi- structured survey with a total of 25 questions ask from mothers of children 6 to 60 months of age. Therefore, data was collected through questionnaire which comprise of different parts like, mother's knowledge, attitude and practices towards weaning diet, socio-demographic variables, data about infant age, their height or weight, gender, and weaning starting age were also collected, respondent age relationship to infant, marital status, employment status, parents qualifications, health knowledge income of parents mother weaning pattern, which food used during weaning, first weaning food, infants caregiver, quantity of homemade food or readymade food used, quantity of weaning first time intake, family type and know about the nutrition or hygiene knowledge and practices of mother. Income was categorized according to employment status.

Food type used in weaning questions were describe the knowledge of mothers regarding homemade or readymade food like, cow's milk, soft cooked rice, vegetable soup (thin), cerelac, bread, yogurt, banana, apple, suji, noodles, porridge of potatoes or cereals, meat, eggs and fish, fruits or fruit juice, cereals, and

explore the importance and cost effectiveness of preparation of such foods. In the maternal category maternal education which was defined as education level completed (illiterate, primary, middle, matric, intermediate, graduation or other). Clinically diagnosed anaemia child or parental IDA estimated on the basis of low haemoglobin (<120 g/L) history.

Ethics approval for the survey was obtained from the IRB of Shaikh Zayed Medical Complex, Lahore before the fieldwork. Written informed consent was obtained from the mothers of the selected child. In case of illiterate mother, consent was documented by a thumbprint on the consent form and a signature by a literate witness. All the names and personal information regarding the participants were kept confidential and data set was kept anonymous for analysis.

The sample size was calculated by software SPSS. The minimum sample size was 385 babies aged 6 to 60 months at a 95% confidence interval with an estimated frequency of 50% and a relative precision of 0.13%, however we rounded up to 400. The sample size provided suitable numbers for data analysis and was realistic based on the time available in Sheikh Zayed Hospital, Lahore. Non-probability purposive sampling technique was used for this study. The inclusion criteria were parents or legal guardians of infants aged 6-60 months and mothers who are willing to participate in this study. Mothers that having not infants of that age group or whose are not at the time of data collection were excluded.

The data analyzed using the SPSS-22. Chi-square test was applied to find out whether there is any statistical association effect of socio demographic and economic factors, or t-test for continuous variables, and lastly by a multiple logistic regression model on knowledge and practices regarding complementary feeding. A p-value <0.05 was taken as significant.

RESULTS

There were 270 (61.4%) of the mother were in the age range of 20 to 30 years, 227 (51.6%) Patient's mothers having illiterate or matric education, whereas, 224 (50.9%) father of the patients were having intermediate or higher education level. Regarding occupation large majority of mothers, 256 (58.2%) were unemployed and 184 (41.8%) were working women's. Majority of the mothers, 276 (62.7%) were living in joint family. The family monthly incomes of 224 (50.9%) respondents (householder) were below 25000/- (Table 1).

Statistically no significant (p=0.420) association of family history of thalassemia whereas, statistical analysis show significance (p=0.020) in relation of anaemia with children mother education, whereas, history of cousin marriage also show significant (p=0.034), family income level of children also significant (p=0.039), and mother occupation significant (p=0.005) (Fig. 1).

There is statistically significant association of anaemia history of children with multiple factors like infant gender (p=0.008), child age (p=0.005), age of weaning start (p=0.051), infant feeding habit (p=0.022), dietary diversity relation (p=0.001), infant caregivers (p=0.043), child history of Pica (p=0.013), food type and frequency intake (p=0.003) (both healthy and unhealthy foods) while, there was no significant (p=0.077) association of healthy food with anaemia (Fig. 2).

There was statistically no significant (p=0.272) association found among mother knowledge with mother age group and knowledge with mother employment (p=0.191) whereas, statistically significant (p=0.000) association of mothers knowledge with anaemia history and practices regarding weaning and association with knowledge (p=0.037) [Fig. 3].

There is statistically significant (p=0.003) association of child mother practices with multiple factors like anaemia history and whereas, there is no statistically significant (p=0.238) association of practices of mother with their employment justification of these association (Fig. 4).

Table 1: Socioeconomic and demographic history of anaemic and family

Characteristics	Factors	No. (%)
Age	20-30	270 (61.4%)
	31-40	170 (38.6%)
Mother's education	Illiterate – Middle	227 (51.6%)
	Matric & Above	213 (48.4%)
Father's education	Illiterate – Middle	216 (49.1%)
	Matric & Above	224 (50.9%)
Mother's occupation	Working	184 (41.8%)
	Non-working	256 (58.2%)
Family type	Nuclear	164 (37.3%)
	Joint	276 (62.7%)
Monthly income	< 25000	224 (50.9%)
	> 25000	216 (49.1%)

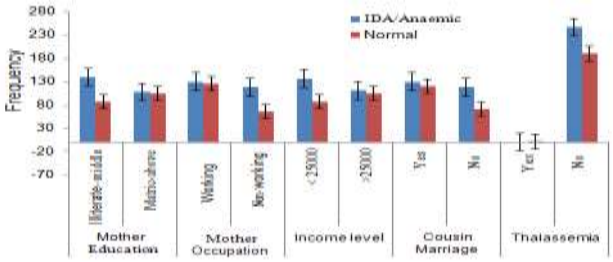

Fig. 1: Patient mother history in association with anaemia history children weaning related multiple factor in association with anaemia or IDA

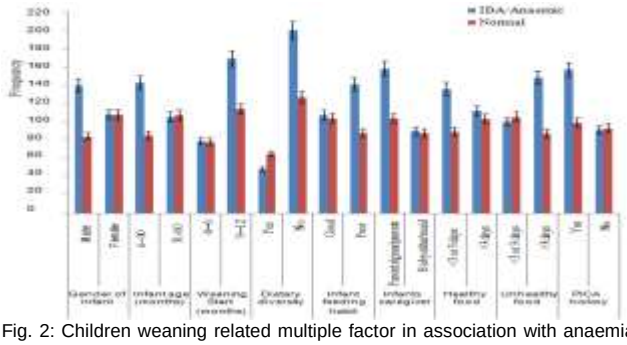

Fig. 2: Children weaning related multiple factor in association with anaemia or IDA participant's knowledge and practices and its association with multiple factors

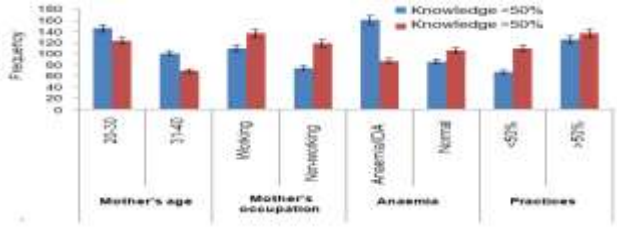

Fig. 3: Infants mothers' knowledge about different factor association of child mother practices with multiple factors

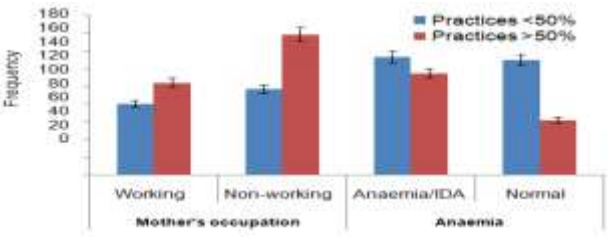

Fig. 4: Infants mother practices with different association factors

DISCUSSION

The results of this study depicted that majority of the participants (71.1%) having knowledge about anaemia disease before and

about (28.9%) mothers have never heard about anaemia before. Similarly knowledge about anaemia disease was reported.[8] The risk of anaemia in US women respected of that age was 10.7%. The anaemia disease occurrence in Korean population from aged 40–49 years was 16.1% in 2015 that was greater in risk than in the US. Knowledge level measure in two scales as >50% and <50% regarding disease and weaning. The result of this study revealed that 31.4% mother had > 50% knowledge about treatment of anaemia, 40.9% mother had good knowledge about causes of anaemia. Altobeli et al[9] reported similar study that depicts mother knowledge about disease whereas, 57.3% mother having >50% knowledge about signs and symptoms of anaemia. A similar study about, the correct knowledge of initiation of supplementary food at 6 months of age was found in 44.1% of mothers having >50% knowledge about age of weaning start but, it was practiced by 64.3% respondents. These results were similar to another study that reported that mother less aware about child weaning age.[10]

It was depicted that weaning age knowledge that shows similar result when compared with our study like the suitable age for starting weaning is after 6 months were reported by 44.6% respondents of childs.[8] When compared with another study in Karachi study stayed that initiation of weaning to child at appropriate age was 53.2% among mothers. while 77% having knowledge about correct age for weaning start to child.[11] However, a study was reported in India, but this study was in contrast with current study due to difference in weaning child age group from 6 months to 2 years and mother knowledge about optimum age of weaning start was only 17.5%.[12] The reason for this may be the recall bias as children age was different from this study.[13] Although the findings of several studies carried out in Lahore show that mother weaning knowledge is superior to practises of weaning children at the appropriate age, this may be because of the significant cultural influences and beliefs that influence their weaning starting practises.[14]

The knowledge of mother was poor but their practices were good in this study. Regarding, practices result shows that 58.4% of mother having >50% practices about correct amount of complementary feeding/day. However, in comparison with another study of Lahore, only 3.5% mothers had initiate weaning at correct age and time, in appropriate quantity and with correct consistency. Whereas, an Indian study, assessed that only 30% of the mothers giving proper consistency and 6.6% give adequate frequency to child in right age. While in case of consistency of weaning food, practically correct consistency of food was given by 38.4% mothers.[10] However, another study indicated that mother knowledge about appropriate consistency of weaning food was 25.5% and 38% infant's practice of food consistency was adequate.[15] More than 50% practices of mother regarding caregiver of child shown 59.5% result. In this study, practices regarding the food groups used in weaning, (70.2%) mothers give 3 and > 3 foods groups to infants. According to an Indian study that varied in the number of food groups and infants studied, 32.6% of infants aged 6 to 23 months had healthy eating habits, using food from at least four different food groups. In contrast, a study from Karachi identified 7 and 7 food groups. 11 According to the findings of a study conducted in England, moms were found to be providing similar sorts of weaning food categories. 14 According to the infants' age, 34.7% of mothers were following the right feeding habits.[13]

In contrast an India study shows that 48.6% mothers knows the adequate meal frequency at age of 6–23 months practically performed by 25%. In another study conducted in Lahore reported that 68% of the mothers weaning diets to infants more than 3 times/day.[5] In comparison with Lahore study regarding amount of complementary feeding/day 53% mothers have correct knowledge but only 51% of mothers having good practices about appropriate quantity of complementary food. Whereas another Lahore study reported that practices of adequate amount of supplementary diet was given by 32% of mothers.[16] Majority, 70.7% of mother had good knowledge of child hygiene.[17] However, 68.3% mother had > 50% about preparing food for child. Whereas, correct practices of mother about variety of food given to infants during weaning 74.3%. Healthy food was given to 47.8% of infants in 3 or >3 days according to days per weeks. Healthy food might be homemade and commercially prepared food. In Nigeria study, 76.0 % mother had preference home-made weaning foods, while 9.0 % used commercially prepared weaning foods and 15.0 % of them used combination of both foods in weaning. Similarly another study in Lahore, found that 44% mothers used healthy complementary foods, and 30% of them used mixture of home-prepared and commercially made foods, whereas, 16% preferred only readymade food.[14,18]

CONCLUSION

Mothers had sufficient knowledge regarding weaning practices of infants. However late start of weaning infant feeding habits were contributory factors of iron deficiency anaemia among children. There is a need to counsel mother to timely start weaning of infants and choose a healthier food to avoid risk of iron deficiency anaemia among children ages 6 to 60 months.

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