Iron Deficiency Anemia among Children during Weaning

Thesis

Submitted for Partial Fulfillment of Requirements of
Master Degree in Nursing Science
(Community Health Nursing)

By

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✍ Dalia Ali Mohamed

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List of Abbreviations

Abb.	Full Term
CBC	Complete Blood Count
CHNs	Community Health Nurses
CNS	Central Nervous System
FCI	Family Crowding Index
G6PD	Glucose-6-phosphate Dehydrogenase Deficiency
Hb	Hemoglobin
IDA	Iron Deficiency Anemia
MCH	Maternal and Child Health
PA	Phytic Acid
RDW	Red-cell Distribution Width
SPSS	Statistical Package for Social Science
WHO	World Health Organization
CDC	Centers for Disease control & prevention

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Abstract

Iron-deficiency anemia (IDA) presents a significant burden in infancy and childhood. Also in infancy and early childhood is causally associated with growth and developmental delay. **Aim:** Assess iron deficiency anemia among children during weaning. **Study design**: A descriptive analytical study was utilized in study. **Setting:** the study conducted at three maternal and child health centers in Shoubra El Khemia (Begam MCH, Osman MCH, Nopar MCH). **Sampling:** 500 mother and their children were selected randomly from maternal and child health centers .**Tools:** *First tool;* an interviewing questionnaire to assess, demographic data, mothers' knowledge, mothers' practice risk factors of iron deficiency anemia during weaning among children .and health needs among children with iron deficiency anemia during weaning. *Second tool;* Medical follow up record to assess health status of the children with iron deficiency anemia. Third tool; Assessment of children according to Denver Developmental Screening Test (Denver scale). **Results:** there were 90.8% of the studied mothers had unsatisfactory knowledge about iron deficiency anemia during weaning among their children, 89.4% of them had inadequate practices toward prevention, 56% of children suffered from diarrheal disease. Also. 54.4% of them had respiratory tract infection and 62% of them had poor level of health needs achievement. **Conclusion:** There was a highly statistical significant relation between mothers' knowledge and practices about iron deficiency anemia during weaning. Also, there was statistically significant relation between mothers' practices and their socio-demographic characteristics as mothers' age and educational level. **Recommendations:** Further research studies are needed for ongoing assessment of children including large sample for generalization of results.

Key words: Iron Deficiency Anemia, Weaning, Children

Introduction

Iron deficiency anemia (IDA) is a decrease in the total hemoglobin levels caused by a lack of sufficient iron **(Goldenring, 2014).** It is the most common cause of anemia worldwide. According to the World Health Organization (WHO), children are especially vulnerable and exhibit high rates of anemia **(WHO, 2016).**

Iron is a very important element for most living organisms. It is inevitable for all cells and has several vital functions in humans such as a carrier of oxygen from the lungs to tissues in the form of hemoglobin (Hb), a facilitator of oxygen utilization in muscle tissues as myoglobin, a transport medium for electrons within the cells in the cytochromes, and an integral part of heme (a protoporphyrin ring that contains an iron atom) an enzymes that catalyses fundamental chemical reaction in different tissues **(Conrad & Umbreit, 2015).**

A major etiological factor in iron deficiency is early introduction of cow's milk, which is very low in iron content. From the age of 4 months, children must obtain iron from exogenous sources and are at risk if not provided with the additional dietary supplies. Pediatricians and nutritionists recommend a healthy weaning diet consisting

of home prepared iron rich foods, but the reality is different. Not only do parents start weaning earlier than the recommended 4-6 months, but the foods they choose to give their children are of low iron content. The reasons for such a poor diet include poverty, lack of access to cheap food, lack of cooking skills and equipment, and a chaotic home environment where there are no fixed mealtimes **(Murye, 2014)**.

Iron deficiency has an adverse effect on cognitive development and physical growth of infants. Iron is important for neurologic metabolic process, including neurotransmitter synthesis, myelin formation and brain growth. Iron content of the brain is sensitive to iron deficiency during infancy and the cognitive impact of iron deficiency and iron deficiency anemia during infancy may not be reversible even after iron therapy. Thus, iron deficiency during neurologic development could affect long term cognitive and behavioral function. The first two years of postnatal life are very important to the human brain because most complex neural changes take place during this period **(Schneider et al., 2015)**.

Nurses have a vital role in preventing and treating iron deficiency anemia in children such as education regarding the nature of the condition. The elements of a

good diet, with advice on foods containing iron. The dose, route, duration and side effects of ferrous sulphate. Details of further investigations, date and times **(Nursing times, 2018)**.

Significance of the study

It is generally estimated that 50% of anemia are caused by iron deficiency**.** IDA is the most common micronutrient deficiency in the developing world. It is considered to be the main cause of anemia which has a negative impact on human health and productivity **(Ahmed et al., 2015)**.

Unfortunately iron in breast milk is poorly absorbed. The baby has to depend much on its iron stores which last only 6 months and thereafter, supplement from diet. Poor weaning practices and inadequate feeding during childhood contribute to the development of iron deficiency **(Murye, 2014).**

Therefore, assessment of iron deficiency anemia among children during weaning is essential to identify malpractices toward feeding, weaning of infants which in turns, will reflect the causes of iron deficiency anemia and malnutrition among infants and young children.

Aim of the Study

This study aims to assess iron deficiency anemia among children during weaning, through:

1. Assessing mothers' knowledge about iron deficiency anemia during weaning among their children.
2. Assessing mothers practices regarding prevention of iron deficiency anemia during weaning for their children.
3. Assessing factors leading to iron deficiency anemia.
4. Assessing health problems and needs related to iron deficiency anemia in the children under 5 years

Research Question:

1. Is there a relation between the mothers' knowledge and practices about iron deficiency anemia?
2. Is there a relation between the mothers' knowledge and children health problems related to iron deficiency anemia?
3. Is there a relation between the mothers practices and children health problems related to iron deficiency anemia?
4. Is there a relation between socio demography of mothers and their practices?