

ANAEMIA IN CHILDREN - A REVIEW

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Abstract

Anemia is defined as a hemoglobin (Hb) level of less than the 5th percentile for age. Causes vary by age. The primary care physicians are the first persons who come across children with wide variety of health problems. Although the prevalence anemia in industrialized countries has declined in recent decades; there has been little effect on its global prevalence, which remains high and challenging. The present review article helped to see other people's views and perspectives regarding prevalence of anaemia in children. It helped in identifying recent and significant advances in this area. It helped in knowing the other people working in related field. Review of related literature was done by means of a careful perusal of researches already done and write ups published or lectures delivered on issues directly or indirectly connected with anaemia in Child.

Key Words: Development, parents, anemic, children etc.

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INTRODUCTION:

A careful review of the related literature on the problem similar or related to the one been investigated was done. It was done to get help in the planning of research. The study of related literature was done by locating, reading and evaluating reports of worldwide research. The reports of casual information and opinions that were found related were also explored. The review is an attempt to discuss the most relevant studies and material, which the investigator happened to go through while searching for related literature.

LITERATURE REVIEW:

Arora (2018) conducted a study in 200 anemic children aged 1-5 years to check their serum foliate, vitamin B12 levels and their correlation with socio demographic parameters and clinical hematological profile methods. The present study was a hospital based observational cross-sectional study carried out in pediatric OPD and IPD of tertiary care institute in Amritsar. Study subjects included 200 anemic children aged 1-5 years attending pediatric OPD or admitted in IPD of pediatrics department of SGRDIMSAR, Amritsar. Serum foliate, vitamin B12 levels were measured in 200 enrolled anemic children and their correlation with socio demographic parameters and clinical hematological profile was studied. Isolated vitamin B12 deficiency was present in 22 (11%), foliate deficiency in 28 (14%) and combined deficiency was present in 10 (5%) cases. Isolated vitamin B12 deficiency was more prevalent in 1-2 year age group was 10 (45.5%) cases, isolated foliate deficiency in 2-3 years age group was 12 (42.9%) cases whereas combined deficiency was more prevalent in 4-5 years age group 6 cases (60%). Statistically significant correlation was observed between severity of anemia and poor socio-economic status, nutritional status, rural background etc. There was statistically significant association between vitamin B12 deficiency and poor socioeconomic status. Folate and combined deficiency had a positive correlation with age group. Combined vitamin B12 and foliate deficiency had a statistically significant correlation with severity of anemia. Apart from iron deficiency anemia, vitamin B12 and foliate deficiency contributes significantly in total prevalence of anemia. Vitamin B12 and foliate supplementation is equally important in prevention as well as treatment of nutritional deficiency anemia in pediatric population.

Arora, Sunita & Sheemar, Pushjeet & Khurana, Mandeep & Kaur, Jaskiran & Kumar, Ashwani. (2018).: This study was conducted in 200 anaemic children aged 1-5 years to check their serum folate, vitamin B12 levels and their correlation with sociodemographic parameters and clinicohaematological profile Methods: Present study was a hospital based observational cross-sectional study carried out in paediatric OPD and IPD of tertiary care institute in Amritsar. Study subjects included 200 anaemic children aged 1-5 years attending paediatric OPD or admitted in IPD of paediatrics department of SGRDIMSAR, Amritsar. It was concluded that Apart from iron deficiency anaemia, vitamin B12 and folate deficiency contributes significantly in total prevalence of anaemia. Vitamin B12 and folate supplementation is equally important in prevention as well as treatment of nutritional deficiency anaemias in paediatric population.

Houlgate, Laurence. (2017). Discussed both the moral and constitutional conception of children's rights. This idea is reflected in state laws denying such rights to children, including the right to freedom of expression when at school. But in a series of Supreme Court cases beginning in 1967, the U.S. Supreme Court declared that children are persons who are possessed of fundamental rights that the state must respect. Included among these rights is the right to freedom of expression. In this chapter we consider several Supreme Court cases introducing this right and later restricting its scope because of its inevitable conflict with another idea: children are human beings who are always in custody of their parents, of the school they attend, or ultimately of the State.

Sanyaolu et al. (2016) wrote that Blood transfusion is a common practice in sub-Saharan Africa as a way of correcting anemia in children with mild and severe sicknesses. This study evaluated this practice in a secondary health-care institution in Ghana. A retrospective study was done over a 3-year period from January 2010 to December 2012. Medical records of children admitted, successfully treated, and discharged from the hospital were collected and analyzed. Data were analyzed using Epi Info version 7. Transfusions were more among male children (89, 63.1%) than female children (52, 36.9%). The highest number of blood transfusions was carried out on children in the age range 0–1 year (66, 46.8%). The majority of the blood transfusions were done on children with hemoglobin concentration level of 5 g/dl and below. Younger children received more transfusions than older children. Also, male children received more blood transfusions than female children. Malaria was observed as a major contributory factor to the requirement for blood transfusions among the children.

Saunders et al. (2016) said that red blood cell transfusion can improve but also might temporarily reduce the microcirculation. With the rise of hemoglobin after transfusion, significant improvements of tissue perfusion were demonstrated but differences to non-anemic controls persisted. In particular, the microcirculation of anemic oncology patients with infection improved after transfusion.

Acharya, Mansi & Mash, Archana. (2016). Assessed the effectiveness of teaching programme on knowledge and attitude regarding care of mentally challenged children among parent attending parent-teacher meeting in special schools for mentally challenged of Ahmedabad District. A pre experimental approach was used with one group pretest post test research design was chosen for the study. Convenient sampling technique was used to select 60 mentally challenged children to assess the effectiveness of teaching programme. The tool used was a structured questionnaire for assessing the knowledge and summated Likert's scale was used to assess the attitude regarding mentally challenged children. The finding of the study revealed that the teaching programme was effective in increasing the knowledge and attitude regarding care of mentally challenged children. The mean pretest knowledge score was 16.87 and after teaching programme the mean post test knowledge score was 22.43. The mean pretest attitude score was 48.12 and after teaching programme the mean post test attitude score was 68.05. The study concluded that the teaching programme brought about a significant change in the level of knowledge and attitude of parent regarding care of mentally challenged children.

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Kumar, Vinod et al. (2016). Dental and bone age is very essential for the dental practitioner in planning treatments and is an extra source of information for the pediatrician, orthopedician, and endocrinologist. There are few published data regarding collation between dental age, bone age, and chronological age in iron-deficiency anemic children. This study has been undertaken to evaluate and compare dental age, bone age, and chronological age in children with iron-deficiency anemia. One hundred iron-deficiency anemic children were selected in the age group of 8–14 years. Chronological age of the child was recorded by asking birth date from parents or checking school records. Dental age was calculated by Demirjians method and bone age was evaluated using Bjork, Grave, and Brown's method. Unpaired student's t-test and Pearson's correlation coefficient were the two statistical tests applied to compare dental, bone, and chronological age. Dental and bone age was significantly lower ($P < 0.001$) compared to chronological age. The correlation between the three ages was positive in both sexes. Dental and bone age retardation was a significant feature in our sample of 100 iron-deficient anemic children. Bone age and dental age are valuable parameters in assessing the overall growth of the child.

Rani, Vijay & Prabhuswamy, Mukesh & Nagarajiah, & Balamurugan, G. (2013). Effectiveness of an information booklet on knowledge regarding care of children with autism Despite the growing incidence of autism, there is very little awareness on this developmental disability affecting 3-4 children in every 1,000 born in India today. According to this study information booklet can be used as one of the Information Education and Communication (IEC) materials to improve the knowledge of autism care givers.

Kaur, Ms.Rajwinder. (2013). Low birth weight babies are immature, they need special nursing care. Nurses are front line care providers they are key persons involved with the care of the low birth weight neonates round the clock. A pre- experimental study was conducted to assess the effectiveness of structured teaching programme on knowledge regarding care of low birth weight baby among (NICU) staff nurses. The study was conducted in 6 pediatrics hospitals at district Jalandhar, Punjab. Total 60 staff nurses those who met the inclusion and exclusion

criteria were selected by convenience sampling technique. The study finding implied that the education had a vital role in improving the knowledge of staff nurses regarding care of low birth weight baby. In India over 30% of the infants are born with low birth weight. Nearly 75% of the neonatal deaths and 50% of infant deaths occur among low birth weight baby. In India low birth weight was 30% in year 2008, and only in Punjab state 21.3% low birth weight babies were born in year 2008. Further, the investigator during the clinical experience found more number of low birth weight babies born and admitted in neonatal intensive care unit. LBW newborn faces problems like hypothermia, unable to suckle at the breast and hypoglycemia. Due to lack of immunity and LBW newborn are at high risk of having problem with increased chance to acquire infection which later on can lead to death. Low birth weight babies are immature, they need special nursing care. Nurses are front line care providers they are key persons involved with the care of the low birth weight neonates round the clock. An assessment of nurse's knowledge is felt to be essential for improvement in the nursing care of low birth weight baby. So here comes the role of the nurses to assess the low birth weight babies and to protect them from various complications. Hence it is important to educate the NICU nurses about the problems and how to manage the newborn with such problems.

Karkada S. (2010) A qualitative analysis study was conducted on factors influencing anemia among anemic adolescent girls. The purpose of the study was to analyze the factors influencing anemia among anemic adolescent girls. Data was collected using interview method from a sample of 10 adolescent girls who were selected from rural areas of Udupi district, Karnataka using small non probability purposive sampling method. The result shown that factors responsible for anemia among anemic adolescent girls were decreased calorie intake, protein intake and iron intake. The study concluded that the knowledge of causes of anemia among adolescent girls about food containing iron was less.

Haidar AJ, Pobocik SR. (2009) A community based cross sectional study was conducted on iron deficiency anemia among women of reproductive ages in Ethiopia. The aim of the study was to find out the existence of iron deficiency anemia in Ethiopia. 970 representative samples were selected systematically from the age group of 15 to 49 years. Hemoglobin was measured from capillary blood & for serum ferritin; venous blood from antecubital veins. The tool used for diet assessment was simplified food frequency questionnaire. The result shown that, overall prevalence rate of iron deficiency anemia was 18.0%. Prevalence of anemia, iron deficiency, and iron deficiency anemia was highest among those 31-49 years old.

Mohan RJ, Sujatha (2008) T. An experimental research study was conducted to assess the effectiveness of nutritional intervention among women with anemia in a selected village, Thiruvallur district. The objective of the study was to determine the effect of consuming nutritive balls on hemoglobin level of women with anemia. The sample consisted of 60 anemic women in the age group of 15-45 years were selected by simple random sampling method, in which 30 anemic women in experimental group and 30 anemic women in control group. The intervention included preparation of nutritive balls by the investigator. The result shown that in experimental group, pre test Hb is 9.59 gm and post test is 10.18 gm, the gain score is 0.59 gm whereas in control group, 0.07 gm score is observed, thereby the effect of nutritive balls was proven.

Sajjan TJ. (2008) A study was conducted on Consumption pattern of green leafy vegetables and impact of nutrition education on hemoglobin status of rural adolescent girls in Dharwad. A total of 300 school going adolescent girls were selected in the age group of 13-16 years. Prevalence of anemia was found to be 100%. Specific information on the consumption pattern of green leafy vegetables indicated that the adequacy of green leafy vegetable was less than ten percent. Nutrition education intervention resulted in significant increase in the mean knowledge scores. The mean pre test knowledge score was 13.70 and was increased to 24.43 after intervention. The study concluded that, nutrition education is one of the appropriate, effective and sustainable approaches to combat iron deficiency anemia.

Steketee RW. (2003). Hashizume M, Kunii O, Sasaki S, Shimoda T, Wakai S, Mazhitova Z, et al. (2003) , If the anemia is severe or is unresponsive to iron therapy, the patient should be evaluated for gastrointestinal blood loss. Other tests used in the evaluation of microcytic anemia include serum iron studies, lead levels, and Hb electrophoresis, and so on. Further, anemia in infancy and early childhood is associated with behavioral and cognitive delays, including impaired learning, decreased social achievement, and lower scores on tests of mental and motor development. Given the detrimental long-term effects and high prevalence of nutritional deficiency, its prevention in early childhood is an important public health issue. Among infants, the following characteristics confer special risks: Low socioeconomic status, consumption of cow's milk before 6 months of age, low birth weight, and prematurity.

CONCLUSIONS:

The related literature studied by investigator shows in clear terms that the many studies have been undertaken on various aspects of anaemia in children. While going through those studies researcher got advantage of the knowledge. It was found that number of study highlighted the worsening of anemia in children; red blood cells of anemic subjects are more vulnerable to various complications. Prevalence of nutritional deficiency leads to anaemia so its prevention in early childhood is an important public health issue.

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