IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

A LITRATURE REVIEW OF THE RELATION BETWEEN IRON DEFICIENCY ANAEMIA, DEPRESSION IN ADOLESCENT GILRS.

Ms. Dhruvika Parmar
Nursing Tutor
P.P. Savani School of Nursing P.P. Savani University, Kosamba, India

Abstract: The Researcher did review literature pertaining to relation between iron deficiency anaemia, depression in adolescent girls. Objective of this review is to assess the relation between iron deficiency anaemia, depression in adolescent girls. Iron deficiency anaemia is a common problem among adolescent girls and women, with significant consequences on personal health. One of the causes of iron deficiency anaemia is inadequate nutritional intake. Adolescent girls have a higher risk of iron deficiency anaemia due to an increased requirement, low intake of hematopoietic nutrients and low intake of a nutrient that enhance absorption of these hematopoietic nutrients. Women, especially those young and/or pregnant, are at high risk of experiencing an iron deficiency. In India adolescents constitute about 25% of the population and form an important physiological group whose nutritional needs demand special attention. The prevalence of anaemia is disproportionately high in developing countries, due to poverty, inadequate diet, certain diseases, pregnancy/lactation, and poor access to health services.

Material and method: A Review literature search including based on electronic databases: Pub Med, Goggle scholar. Studies were search out with iron deficiency[or] Anaemia [or] depression [and] adolescent girls

Result: The Literature Review showed that there is relation between iron deficiency anaemia depression and adolescent girls.

Conclusion: The Study Concludes that there is relation between iron deficiency anaemia depression and adolescent girls.

Keyword: Iron, Anaemia, Depression, Adolescent girls.

I. INTRODUCTION

World Health Organization has defined ‘adolescence’ as a period between 10 and 19 years. Adolescence in girls has been recognized a special period of transition from girlhood to womanhood. Adolescent girls constitute one fifth of the female population in the world. Overall health status of a person is judged on level of haemoglobin of a person. Prevalence of anaemia is higher in girls in low socioeconomic status; In addition, it gets precipitated by blood loss during menstruation. Anaemia in adolescent girls in future attributes to high maternal mortality rate, high incidence of low-birth-weight babies, high perinatal mortality, and fatal wastage. Low iron stores in the body can affect cognitive function and physical activity in adolescents, but the results of epidemiological studies about the effect of iron deficiency on cognitive function decline and physical activity in adolescents are not consistent. A recent report from UNICEF says more than half of adolescent

girls in India are anaemic. Malnourishment among India's as adolescent population is found to be higher than even some of the least developed countries Sub-Saharan Africa.

Depression is a leading cause of disability and mortality, with estimated number of deaths exceeding 2.2 million worldwide. We examined depression in relation to anaemia in adolescent girls both of which have an impact on depression mechanisms. Anaemia due to iron deficiency develops when body stores of iron drop too low to support normal red blood cell (RBC) production, indicated by low levels of haemoglobin. Iron deficiency (ID) is defined as a decrease in the total iron content in the body or having iron stores below normal for physiological status. In addition, the pathway of depression and anaemia has been reported through recent studies. For example, one systematic review and meta-analysis reported that anaemia may have negative effects on depression and the relationship was stronger in individuals aged ≥ 65 years. Meanwhile, other study observed the significant association of anaemia and depression in female group.

II. OBJECTIVE

To Assess the relation between iron deficiency anaemia. depression and adolescence girls.

III. MATERIAL AND METHODS

Literature Search and Method:

A systematic searching for literature was carried out by researcher. The database was collected from PubMed, Google Scholar. Key words such as iron deficiency anaemia, depression adolescent girls.

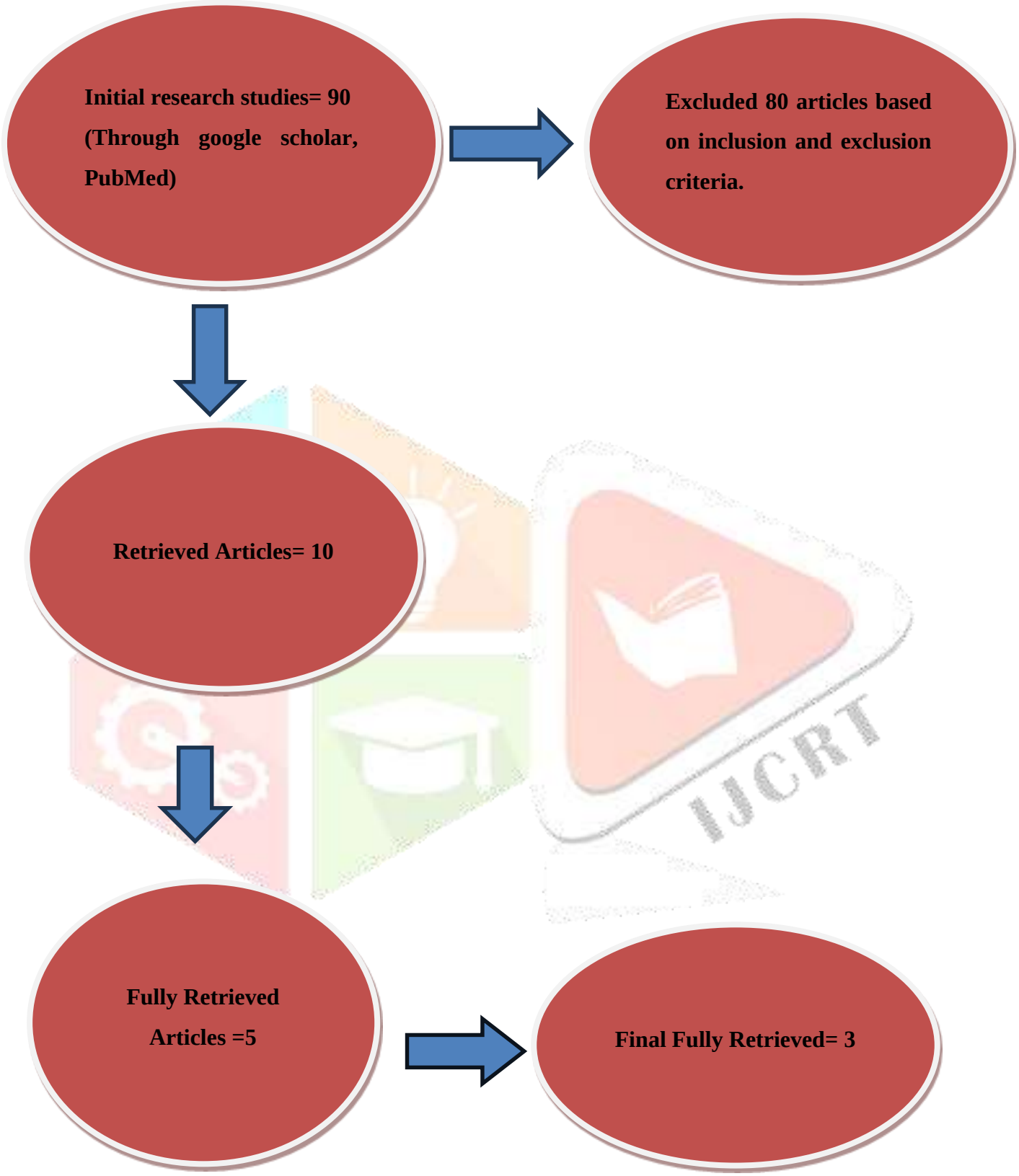
IV. INCLUSION AND EXCLUSION CRITERIA

1. **Inclusion Criteria:** Quantitative studies with full free text, cross sectional study, studies having odds ratio, crude ratio, risk ratio, studies that has the adolescence age group between 10 to 19, and sampling size should be more than 200 samples.

2. **Exclusion Criteria:** Qualitative studies, Adolescent girls who already under treatment of anaemia, who were associated with other systemic disease conditions.

V. PATHWAY FOR THE STUDY

Researcher did a lot many reviews by inserting the key words in PubMed, google scholar and followed by scrutinizing the studies based on the inclusion criteria.



Sr. No	Name of author	Title of the study	Study type	Sample	Sampling techniques	Data analysis	Results
1	Puspa Sari, Raden Tina Dewi Judistiani, Dewi Marhaeni Diah Herawati, Meita Dhamayanti,	Iron Deficiency Anaemia and Associated Factors Among Adolescent Girls and Women	Cross sectional studies	N=95 Adolescent girls N= 85 Women	Cluster random sampling	Bivariate and Multivariable logistic regression	The prevalence of iron deficiency anaemia among the girls was 21.1% and 9.4% among women
2	Arli Guadalupe Zarate-Ortiz, Hans Verhoef, Alida Melse-Boonstra1, Bo-Jane Woods,	Depressive symptoms among Mexican adolescent girls in relation to iron status, anaemia, body weight and pubertal status: results from a latent class analysis	Cross sectional studies	N= 408	Cluster random sampling	Multiple logistic and linear regressions	44·4 % of the adolescents were 'unlikely to be depressed', 41·5 % were 'likely to be depressed' and 14·1 % were 'highly likely to be depressed
3	Reza Akramipour, Mansour Rezaei.et all	Prevalence of iron deficiency anaemia among adolescent schoolgirls	Cross sectional studies	N= 384	Random sampling techniques	One-way Anova	The prevalence of anaemia among adolescent school girls was 21.4%. Iron deficiency using a ferritin level ,12 mg/l was found in 23.7% of studied girls.

VI. DISCUSSION

The discussion in the provided paragraphs underscores the relation between iron deficiency anaemia, depression, and adolescent girls. Iron deficiency anaemia is a major health problem in developing countries and remains persistently high despite national programs to correct the deficiency. Iron is an important mineral that the body needs to produce one of the components of red blood cells, namely haemoglobin. Haemoglobin is a protein that functions to transport oxygen to be distributed throughout the body's tissues. When there is an iron deficiency, the body cannot produce enough haemoglobin. Lack of haemoglobin production reduces the oxygen supply in the blood so that the body does not get enough oxygen. Iron deficiency causes decreased energy levels and cognitive capacity due to changes in dopamine and serotonin levels that are felt in the body. Above studies are showing association between

VII. CONCLUSION

Based on an extensive systematic review of literature examining the intricate relationship between iron deficiency anaemia, depression, and adolescent girls. Brain iron may become depleted at a sF concentration higher than the established threshold to diagnose iron deficiency (i.e. 15 ng/mL), potentially disrupting brain maturation and contributing to the emergence of internalizing disorders in adolescents. Studies shows that iron-deficient adolescent girls are more likely to suffer from depressive symptoms and that lower concentrations of Hb and higher body weight increased the probability of experiencing depressive symptoms.

REFERENCES

1. World Health Organization (WHO). Iron deficiency anemia: assessment, prevention, and control: a guide for programme managers; 2011.
2. Kassebaum NJ; Collaborators GBDA. The global burden of anemia. Hematol Oncol Clin North Am. 2016;30(2):247–308. doi:10.1016/j. hoc.2015.11.0026.
3. Ministry of Health, the Republic of Indonesia. National Basic Health Research (Riset Kesehatan Dasar) 2013". Agency for Health Research and Development. Jakarta: Indonesia; 2013.27. UNICEF. The Situation of Children and Women in Indonesia 2000–2010: Working Towards Progress with Equity Under decentralisation "UNICEF; 2011. Jakarta: Indonesia: UNICEF; 2011.28.
4. Woldu B, Enawgaw B, Asrie F, et al. Prevalence and associated factors of anemia among reproductive-aged women in Sayint Adjibar Town, Northeast Ethiopia: community-based cross-sectional study. Anemia. 2020;2020: 8683946. doi:10.1155/2020/86839468.
5. Tura MR, Egata G, Fage SG, et al. Prevalence of Anemia and Its Associated Factors Among Female Adolescents in Ambo Town, West Shewa, Ethiopia. J Blood Med. 2020;11: 279–287. doi:10.2147/JBM.S26332717.

6. Kokubo Y, Kisara K, Yokoyama Y, et al. Habitual dietary protein intake affects body iron status in Japanese female college rhythmic gymnasts: a follow-up study. Springerplus. 2016;5(1):862. doi:10.1186/s40064-016-2569-7.
7. Dragan W, Onishchenko W. Polymorphisms in the serotonin transporter gene and their relationship to two temperamental traits measured by the formal characteristics of behaviour-temperament inventory: Activity and emotional reactivity. Neuropsychobiology 2005;51(4):269–74.
8. Leźnicka K, Starkowska A, Tomczak M, Cięszczyk P, Białecka M, Ligocka M, et al. Temperament as a modulating factor of pain sensitivity in combat sport athletes. Physiol Behav 2017 Oct 15; 180:131-6.
9. Gholamreza Noor Azar S, Ranjbar F, Nemati N et al. (2015) Relationship between severity of depression symptoms and iron deficiency anaemia in women with major depressive disorder. J Anal Res Clin Med 3, 219–224.
10. Cepeda-Lopez AC, Osendarp SJM, Melse-Boonstra A et al. (2011) Sharply higher rates of iron deficiency in obese Mexican women and children are predicted by obesity related inflammation rather than by differences in dietary iron intake. Am J Clin Nutri 93, 975–983.