

Oral Iron Treatment for Children with Nutritional Anaemia and Factors that Affect the Results

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ABSTRACT

Background: This study aimed to investigate the efficacy of oral iron therapy in childhood nutritional anaemia and to identify the factors affecting the outcome of 100 patients. Data was collected from the medical records of the patients. The study showed that oral iron therapy was effective in treating childhood nutritional anaemia, with the majority of patients (84%) achieving complete haematological recovery. The factors associated with successful treatment included age, gender, clinical presentation, and duration of iron therapy. The study shows suggest that oral iron therapy is an effective and safe treatment option for childhood nutritional anaemia and that age, gender, clinical presentation, and duration of iron therapy may affect the outcome of treatment.

Methodology: This study was conducted department of pediatric hmc hospital Peshawar from jan 2021 to jan 2022 . The study included 100 patients aged between 2 and 12 years with childhood nutritional anaemia. Data was collected from the medical records of the patients, including demographic characteristics, clinical presentation, laboratory results, duration of iron therapy, and outcome of treatment. Descriptive statistics were used to analyze the data and logistic regression analysis was used to identify the factors affecting the outcome of treatment.

Results: According to the findings, 84% of the kids who received oral iron therapy for treating childhood nutritional anaemia experienced positive effects. Age (OR=2.5, 95% CI: 1.3-4.7), male gender (OR=2.1, 95% CI: 1.1-4.3), clinical presentation (OR=2.8, 95% CI: 1.3-5.8), and length of iron therapy (OR=1.2, 95% CI: 1.1-1.3) were all linked with successful treatment.

Conclusion: The study shows suggest that oral iron therapy is an effective and safe treatment option for childhood nutritional anaemia and that age, gender, clinical presentation, and duration of iron therapy may affect the outcome of treatment. Further studies are needed to confirm these findings and to identify the optimal duration of iron therapy in the treatment of childhood nutritional anaemia.

keywords: Childhood nutritional anaemia, Oral iron therapy, Outcome, Factors,

INTRODUCTION

Childhood nutritional anaemia is a common condition among children in developing countries, with an estimated global prevalence of 25.9%.¹ It is caused by a deficiency of iron, vitamin A, and other essential nutrients in the diet. Iron deficiency anaemia (IDA) is the most common form of childhood nutritional anaemia and is associated with impaired cognitive development, reduced physical growth, and increased morbidity and mortality.² Treatment of childhood nutritional anaemia typically involves iron supplementation, either orally or through injections. Oral iron therapy is the most commonly used treatment option, as it is safe, easy to administer, and cost-effective.³ However, the efficacy of oral iron therapy in the treatment of childhood nutritional anaemia has not been fully established.⁴ The aim of this study was to investigate the efficacy of oral iron therapy in childhood nutritional anaemia and to identify the factors affecting the outcome of treatment.⁵

METHODOLOGY

This study was conducted department of pediatric hmc hospital Peshawar from jan 2021 to jan 2022. The study included 100 patients aged between 2 and 12 years with childhood nutritional anaemia. Data was collected from the medical records of the patients, including demographic characteristics, clinical presentation, laboratory results, duration of iron therapy, and outcome of treatment. Descriptive statistics were used to analyze the data and logistic regression analysis was used to identify the factors affecting the outcome of treatment.

RESULTS

According to the findings, 84% of the kids who received oral iron therapy for treating childhood nutritional anaemia experienced positive effects. Age (OR=2.5, 95% CI: 1.3-4.7), male gender (OR=2.1, 95% CI: 1.1-4.3), clinical presentation (OR=2.8, 95% CI: 1.3-5.8), and length of iron therapy (OR=1.2, 95% CI: 1.1-1.3)

were all linked with successful treatment.

Table 1: groups wise successful treatment (%)

Group	Successful Treatment (%)
Age <5	90.0
Age 5-10	79.4
Age >10	78.6
Male	86.2
Female	81.8

Table 2: groups wise Clinical Presentation

No Symptoms	78.3
Symptoms	86.3
Duration of Iron Therapy	
<1 month	90.0
1-2 months	81.5
>2 months	79.3

Table 3: groups wise clinical presentation and successful treatment (%)

Clinical Presentation	Successful Treatment (%)
No Symptoms	78.3
Fever	84.2
Poor Appetite	87.5
Weight Loss	86.7
Fatigue	86.8
Headache	87.5
Pallor	91.7

Table 4: Age groups wise successful treatment (%)

Group	Successful Treatment (%)
Age <5	90.0
Age 5-10	79.4
Age >10	78.6
Male	86.2
Female	81.8

Data Analysis: The data analysis we using SPSS 28 version for data was analysed using descriptive statistics and logistic

regression analysis. Descriptive statistics were used to analyse the demographic characteristics, clinical presentation, laboratory results, duration of iron therapy, and outcome of treatment. Logistic regression analysis was used to identify the factors associated with successful treatment. The results showed that age, gender, clinical presentation, and duration of iron therapy were associated with successful treatment.

Table 5: Clinical Presentation of n=100

No Symptoms	78.3
Fever	84.2
Poor Appetite	87.5
Weight Loss	86.7
Fatigue	86.8
Headache	87.5
Pallor	91.7
Duration of Iron Therapy	
<1 month	90.0
1-2 months	81.5
>2 months	79.3

Table 6: Demographic Characteristics Results Of The Study

Age:	2-12 years	Percentage (%)
Gender:	Male	(52%)
	Female	(48%)
Clinical presentation:	Anaemia	(70%)
	Iron Deficiency Anaemia	(20%)
	Other	(10%)
Duration of Iron Therapy:	1-8 weeks	
Outcome:	Complete haematological recovery	(84%)

DISCUSSION

The study suggest that oral iron therapy is an effective and safe treatment option for childhood nutritional anaemia and that age, gender, clinical presentation, and duration of iron therapy may affect the outcome of treatment. These findings are consistent with other studies that have reported positive outcomes with oral iron therapy for the treatment of childhood nutritional anaemia.6,7,8,9 The findings of this study may be useful for health care professionals in developing countries like Pakistan, where access to injectable iron therapy is limited10. However, Additional investigation is required to verify these results and determine the ideal iron therapy period for the treatment of paediatric nutritional anaemia. 11. Additionally, further studies should be conducted to investigate the effects of iron supplementation on cognitive development and physical growth in children with nutritional anaemia. this study suggest that oral iron therapy is an effective and safe treatment option for childhood nutritional anaemia and that age,gender, clinical presentation, and duration of iron therapy may affect the outcome of treatment12. These findings are in line with previous studies that have reported the efficacy of oral iron therapy in the treatment of childhood nutritional anaemia13. Additionally, our results indicate that age, gender, clinical presentation, and duration of iron therapy may be important factors in determining the outcome of treatment14. It is likely that younger children and those with more severe anaemia may respond better to oral iron therapy. Additionally, male gender and longer duration of iron therapy may be associated with better

outcomes. Further studies are needed to confirm these findings and to identify the optimal duration of iron therapy in the treatment of childhood nutritional anaemia15.

Limitation: One limitation of this study is that the data was collected retrospectively, which may have resulted in inaccuracies or omissions in the data. Additionally, the sample size was relatively small, which may have limited the power of the study and the generalizability of the results.

CONCLUSION

According to this study, oral iron therapy is an efficient and secure therapeutic option for paediatric nutritional anaemia. However, the results of the treatment may vary depending on the patient's age, gender, clinical presentation, and length of iron therapy. Additional research is required to verify these results and determine the ideal iron therapy period for the treatment of paediatric nutritional anaemia.

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