

How to Cite:

Thirunagalingapandiyan, P., & Muthamilselvi, G. (2022). A study to evaluate the effectiveness of selected nursing interventions on control of anemia and worm infestation among male adolescents at Madurai. *International Journal of Health Sciences*, 6(S1), 4295–4300.
<https://doi.org/10.53730/ijhs.v6nS1.5790>

A study to evaluate the effectiveness of selected nursing interventions on control of anemia and worm infestation among male adolescents at Madurai

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Abstract---The main objective of the study was to evaluate the effectiveness of selected nursing interventions on control of anemia and worm infestations among male adolescents at Madurai. This study was employed at true experimental research design. Totally 60 male adolescents were included in the study. The study result showed that control group pretest mean hemoglobin value was 9.86 and standard deviation 0.54. Posttest mean hemoglobin 9.84 and standard deviation 0.60. Difference in mean percentage was 0.02. Worm infection status was same (46.7 % no worm and 53.3% worm infestation) in pretest and posttest without any change. Among experimental group pretest mean hemoglobin value was 10.30 and standard deviation 0.78. Posttest mean 12.23 and standard deviation 1.05. Difference in mean percentage was 1.93. Worm infection status of pretest showed that 60% of the participants had worm load and 40 % no worm infection but in posttest all participants of experimental group were free from worm infection. The t value was 9.09 and p value of the study was less than 0.001.

Keywords---Anemia, Adolescent health, Male adolescents, nursing interventions, Worm infestation.

Introduction

Adolescent stage is vital stage in human life. It is a stage of transformation of human form child to early adult. The physiological and psychological development is occurring at adolescent period. Hemoglobin is essential to carry the oxygen to the tissue. Decreased hemoglobin causes anemia and less supply of oxygen to

International Journal of Health Sciences ISSN 2550-6978 E-ISSN 2550-696X © 2022.

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Manuscript submitted: 27 Feb 2022, Manuscript revised: 18 March 2022, Accepted for publication: 09 April 2022

tissues which affect normal growth and development among adolescents. Adolescents are highly active and interacting with the society for their socialization. There is a high chance for worm infection by the contaminated soil and contaminated food. The main cause of anemia among adolescents is worm infestation. Through proper educational awareness may modify the behaviour of the adolescents and bring the changes in their social activities and reduce the worm infestation and anemia. Prevalence of intestinal worms are common among male adolescents and poor personal hygiene is causative factors (LataChalise, Ashu 2020)

Statement of the problem

A study to evaluate the effectiveness of selected nursing interventions on control of anemia and worm infestation among male adolescents at Madurai

Objectives

- To assess the pretest level of demographic variables among male adolescents at Madurai in experimental and control group
- To evaluate the effectiveness of selected nursing interventions on control of anemia and worm infestation among male adolescents in experimental group
- To find the association between anemia, worm infestation and selected socio demographical variables in experimental and control group

Hypotheses

H1: There is a statically significant difference between pre and posttest of anemia and worm infestation among male adolescents in experimental group

H2: There is a statically significant association between anemia, worm infestation and selected socio demographic variables among male adolescents in experimental and control group

Review of literature

David C Taylor-Robinson et al (2017) did a research about impact of worm infestation on anemia. The results of the study revealed that worm infestation among male adolescents had major impact on hemoglobin value of the samples and recommended to deworm the children periodically.

R., Anantha et al (2019) conducted a research regarding relationship between worm infection and nutritional status of the adolescent children. The results of the study showed that the adolescents with worm infection had poor nutritional status and body mass index.

Prasanna Mithra et al (2019) were did a research on effectiveness of personal hygiene intervention on worm infection and anemia among school children. The findings of the study showed that good personal hygiene activities significantly reduce the prevalence of worm infection and anemia among school children.

Research Methodology

The research study was employed with quantitative research approach. The research design was true experimental research design. The pretest-posttest control group design was adopted for conducting this study. Totally 60 male adolescents aged between 12-18 years were participated in this study. Random sampling technique was used and male adolescents who satisfied the inclusion criteria were selected for this study. The instruments used in the study were demographic variable proforma, and blood hemoglobin and stool examination. Demographic variables proforma consist of age, religion, occupation of parent, educational status of parent, family income and residential area of the adolescents.

The data were collected from the students for the period of eight weeks. Rapport was established with adolescents after a brief introduction about the study and its purpose. The written consent was obtained from the adolescents after fully explaining the procedure of the study. Based on the criteria for sample selection, Totally 60 male adolescents with anemia and worm infestation were selected using lot method of random sampling and assigned as experimental and control group. The Pretest screening of hemoglobin and motion ova cyst done for both group students. Nursing interventional package like foot care, hand washing and personal hygiene practices were given to the experimental group. The control group was allowed to stay as routine. Posttest screening of hemoglobin and stool examination was done after two months among both groups. Data were analyzed for the findings.

Results and Discussion

Table 1
Distribution of the study participants by their demographic variables

Demographic variables	Control Group (n=30)		Experimental group (n=30)	
	f	%	f	%
1.Age in years: 11-12 years	0	0	0	0
13-14 years	10	33.33	18	60
15-16 years	20	66.67	12	40
17 years and above	0	0	0	0
2.Religion : Hindu	26	86.7	28	93.3
Muslim	2	6.7	2	6.7
Christian	2	6.7	0	0
Others				
3.Education No formal education	14	46.7	4	13.33
of Parents Primary education	2	6.67	16	53.33
Higher secondary	14	46.7	10	33.33
Collegiate	0	0	0	0
4.Occupation Agriculture	8	26.7	0	0
of parents Daily wages	16	53.3	16	53.3
Business	4	13.3	12	40
Government employee	2	6.7	2	6.7

5.family Income Below 5000	22	73.33	22	73.3
5001-10000	8	26.7	8	26.7
10001-20000	0	0	0	0
Above 20000	0	0	0	0
6.Type of family: Nuclear family	18	60	16	53.3
Joint family	8	26.7	14	46.7
Extended family	0	0	0	0
Single parent family	4	13.3	0	0
7.Food habit: Vegetarian	6	20	6	20
Non vegetarian	24	80	24	80

As per table 1 Majority of the participants were age between 17-18 years (66.67) in control group and 15-16 years (60%) in experimental group. Most of them were belongs to Hindu religion in both groups. It was found that mostly both group parents were daily wages and their income was less than 5000 rupees per month and they mostly belong to nuclear family.

Table 2
Comparison of pretest and posttest anemia status among male adolescents in
experimental and control group. N= 60

Anemia status by hemoglobin level	Control group				Experimental group			
	Pre test		Post test		Pre test		Post test	
	f	%	f	%	f	%	f	%
Normal	0	0	0	0	0	0	14	46.7
Mild anemia	14	46.67	12	40	20	66.7	16	53.3
Moderate anemia	16	53.33	18	60	10	33.3	0	0
Severe anemia	0	0	0	0	0	0	0	0
Overall	30	100	30	100	30	100	30	100

The above table 2 denotes pretest and posttest level of anemia status among school children as assessed by hemoglobin status. It was observed in pretest that most of the students 53.3% had moderate anemia and 46.67% students had mild anemia in control group and most of the students 66.7 % had mild anemia and 33.3 % students had moderate anemia in experimental group participants. The posttest findings revealed that 40% of control group students had mild anemia and 60% of students had moderate anemia. But in experimental group 53.3 % of students had mild anemia and 46.7 % of students had normal hemoglobin status.

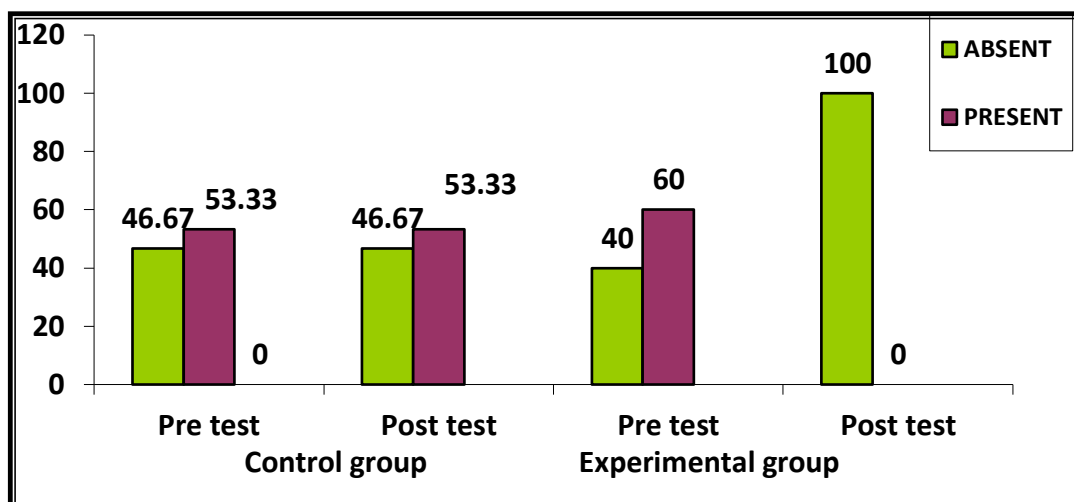


Figure 1 Pretest and posttest percentage wise comparison of worm infestation level among experimental and control group

N=60

Above figure reveals that control group participant's worm infection status which was same (46.7 % no worm and 53.3 moderate worm load) in pretest and post-test without any change. But in experimental group pretest findings showed that 60% of participants had worm load and 40 % had no worm infection. The post test of experimental group results showed that all participants were free from worm infestation.

Table 3

Evaluate the effectiveness of Selected Nursing Interventions by pretest and post-test Mean, Standard deviation, 't' value of hemoglobin level

n=60

Group	Pretest		Post Test		Difference in Mean	't' value	p- value
	Mean	SD	Mean	SD			
Control group	9.86	0.54	9.84	0.60	0.02	9.09	p<0.001*** (HS)
Experimental Group	10.30	0.78	12.23	1.05	1.93		

The above table 3 shows that control group pretest hemoglobin mean 9.86, standard deviation 0.54 and posttest mean 9.84, standard deviation 0.60. Difference in mean 0.02. Experimental group pretest mean 10.30, standard deviation 0.78 and post-test mean 12.23, standard deviation 1.05. Difference in mean 1.93. The t value 9.09 which was more than table value and p value of the study <0.001 which was highly significant.

Hence the hypothesis H1 There is a statically significant difference between pre and post test of anemia and worm infestation among male adolescents in experimental group was accepted

There was a association between selected demographical variables like Parent's educational status $\chi^2 = 13.87$ (p value 0.003), Type of family $\chi^2 = 16.18$ (p value 0.001) and worm infection among male adolescents.

Hence hypothesis H2 There is a statically significant association between anemia, worm infestation and a selected socio demographic variable among male adolescents in experimental and control group was also accepted

Conclusion

The selected nursing interventions had highly significant on control of anemia and worm infestation among male adolescents. It is noninvasive and non-pharmacological interventions which is highly feasible. The authors were recommended to implement health awareness programme regarding anemia and worm infestations among male adolescents to promote positive health.

References

1. Maakaron JE, Taher AT, Conrad ME (2016) Anemia Practice Essentials, Pathophysiology, Etiology. MesScape
2. Gupta, Pant B., kumari R. (2013) Anemia among Adolescent Boys as Well, Journal of Community Medicine 4(1):20-5
3. Halterman JS, Kaczorowski JM, Aligne CA, et al. (2013) Iron deficiency and cognitive achievement among adolescents in the United States. Pediatrics 138:1381-1386.
4. Atto V, Bleyere NM, Konan BA, et al (2012) Hematological profile of adolescents in Abidjan, International Journal of Bioscience . 2(6):1-12.
5. De LM, Pena-Rosas RJP, Cusick S, et al (2011) Hemoglobin Concentrations for the Diagnosis of Anemia and Assessment of Severity, Vitamin and Mineral Nutrition Information System, Vol 11. Geneva: World Health Organization; p. 1
6. Baral K, Onta S (2009) Prevalence of anemia amongst adolescents in Nepal a community based study in rural and urban areas of Morang District. Nepal Medical College Journal 11(3): 179-182.
7. Kumar, S. (2022). Strategic management of carbon footprint using carbon collectible non-fungible tokens (NFTS) on blockchain. Academy of Strategic Management Journal, 21(S3), 1-10
8. Kumar, S. (2021). Review of geothermal energy as an alternate energy source for Bitcoin mining. Journal of Economics and Economic Education Research, 23(1), 1-12
9. Dr. Naveen Nandal, Dr. Aarushi Kataria, Dr. Meenakshi Dhingra. (2020). Measuring Innovation: Challenges and Best Practices. International Journal of Advanced Science and Technology, 29(5s), 1275 - 1285.
10. Nandal, N., & Nandal, N. (2019). BSCQUAL: A Measuring Instrument of Service Quality for the B-Schools. International Journal of Psychosocial Rehabilitation, Vol. 23, Issue 04, 1574-1589