

A Study to Assess the Effectiveness of Neem Leaves Paste on Worm Infestation Among School Children In Selected School At Bangalore

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DOI: <http://doi.org/10.5281/zenodo.2576855>

Abstract

Worm infestation set up an important limitation on growth and development of children. In children with borderline nutritional status, worms can precipitate nutritional failure. Worm infestation in children is normally seen in India. The common worm infestations are Threadworm, Round Worm and Hookworm. The child suffering from worms usually have below mentioned symptoms. The children have stomach pain off and on after eating his food. Lack of appetite and poor digestion. Child looks weak and sick and anemic. Sometimes a larger bunch of worms may block the intestinal tract and cause total constipation, abdominal distension and vomiting. Itching round the anal region. Intestinal parasites complete for food, damage the intestine and decrease food absorption. Light round worm infection can lead to 3 % calorie wastage. Heavy infection can lead to caloric loss of 5% of daily consumption. Hence the present study intends to assess the effectiveness of neem leaves paste on worm infestation in school children.

Worm infestation contributed 13.9% of our pediatric admissions. Children between 1-2 years have increased incidence. Though most of the houses had latrine facilities, children mostly used open-air defecation. The commonest clinical presentation was gastrointestinal symptom. Associated PEM and vitamin deficiencies were present. Many children given deworming drugs had recurrence due to reinfection. Most children were anemic and eosinophilia was present in only half of them. Ultra sonogram is very useful in diagnosing worm infestation in suspecting cases. Most of them were cured with conservative line of treatment. There is a need for awareness of worm infestation, appropriate treatment i.e., regular deworming at frequent intervals.

Keywords: Assess, Effectiveness, Worm infestation, School children

INTRODUCTION

Worm infestation constitutes an important limitation on growth and development of children [1]. In children with borderline nutritional status, worms can precipitate nutritional failure [2]. Worm infestation in

children is very commonly seen in India. The common worm infestations are Threadworm, Round Worm and Hookworm [3]. The child suffering from worms usually presents with the following symptoms. The child complains of a

stomach pain off and on after eating his food. Lack of appetite and poor digestion [4]. Child looks weak and sick and anemic. Sometimes a larger bunch of worms may block the intestinal tract and cause total constipation, abdominal distension and vomiting. Itching round the anal region [5]. Intestinal parasites complete for food, damage the intestine and decrease food absorption. Light round worm infection can lead to 3 % calorie wastage. Heavy infection can lead to caloric loss of 5% of daily consumption [6]. Neem extracts are administered to children for a natural deworming tonic. Neem, the “Indian evergreen pharmacy” was grown in every household for a reason [7]. These days, modern flats and condominiums take over all the space and have abolished commonly found trees like neem. It is in our hands to grow neem saplings at least in the balcony garden or terrace garden to have an all-in-one doctor at your doorstep [8].

STATEMENT OF THE PROBLEM

“A study to assess the effectiveness of neem leaves paste on worm infestation among school children in selected school at Bangalore.”

Objectives

1. To assess the level of the worm infestation among school children
2. To assess the effectiveness of neem leaves paste on worm infestation among school children
3. To find out the association between the pretest score of worm infestation with selected demographic variables.

Research Hypotheses

- **H₁:** The mean of post-test scores of school children exposed to neem leave paste will be significantly higher than the mean of pre-test scores.
- **H₂:** There will be significant association between the mean of pretest scores with selected demographic variables.

METHODOLOGY

Research Approach: Evaluative approach.

Study Design: Pre-experimental design that is one group pre- test and post- test design was applied.

Sampling Technique: The non-probability purposive sampling technique.

Sample Size: 30 sample of school children with worm infestation.

Tool: In vitro bio physiological methods, microbiological measurement i.e. direct stool smear examinations format

Socio Demographic Variables: This section consisted of nine items pertained to the school children namely gender, religion, education of mother, monthly income of family, type of family, area of residence, total number of children, occupation of mother and way of toileting. The participants were requested to put tick mark against the appropriate responses in the box provided.

PART-II:-In vitro bio physiological methods, microbiological measurement i.e. direct stool smear examinations format.

DATA ANALYSIS & INTERPRETATION

Section A: Mean, Mean % and Standard Deviation of pre-test and Post-test Level of Worm Infestation Among School Children.

Table 1 The result shows the mean % was 72% with a Standard deviation of 1.069 in the pre-test and in the post-test it was 12.6% with standard deviation of 0.63. Hence reveal that there was a reduction in overall mean in the posttest as compared to pretest there by showing neem leaves paste was effective in reduction of worm infestation among school children.

Table 1: Mean, Mean % and Standard Deviation of Pre- test and Post- test Level of Worm Infestation among School Children (n=30).

Level of worm infestation among school children		
Pre test	Mean	3.6
	SD	1.069
	Mean (%)	72
Post test	Mean	0.63
	SD	0.614
	Mean (%)	12.6

Section B: Data on Assessment Level of Worm Infestation Scores of School Children

Table 2: Level of Worm Infestation Among School Children in Pre-test and Post-test (n = 30).

Level of worm infestation	Respondents			
	Pre-test		Post-test	
	Number	%	Number	%
Normal (No evidence of Ova)	0	0	13	43
Rare (1 – 3)	0	0	15	50
Few (3 -10)	6	20	2	7
Some (10 – 20)	7	23.3	0	0
Many (20-40)	10	33.3	0	0
More (40+)	7	23.3	0	0
Total	30	100	30	100

Table 2, In the present study, pretest revealed that 10 (33.3%) school children were having many (i.e. around 20 – 40 ovas) presence in the stool smear, 7 (23.3%) of school children each were having some (i.e. around 10 – 20 ovas) and more (i.e. around 40+ ovas) respectively in the stool smear, 6 (20%) of the school children were having few (i.e. around 3 – 10 ovas) in the stool smear and none of school children were

having normal (i.e is absence of ova) and rare findings (i.e. around 1-3 ovas). Posttest revealed that 15 (50%) of school children were having rare amount of ovas (i.e. around 1 – 3 ovas) in the stool smear, 13 (43%) of school children were having normal findings i.e is no evidence of presence of ovas in the stool smear and only 2(7%) were having few ovas (i.e. around 3 – 10 ovas) in the stool smear.

Section C: Assessing the Effectiveness of Neem Leaves Paste on Worm Infestation Among School Children.

Table 3: Effectiveness of Neem Leaves Paste on Worm Infestation Among School Children (n = 30).

Observational test	Worm infestation				
	Mean	Mean%	SD	MD	Paired ‘t’ test
Pretest	3.6	72	1.069	2.97	14.79
Posttest	0.63	12.6	0.614		P=0.05 (s)

S = Significant

Table 3, Finding indicated that pretest vs posttest ‘t’ value was 14.79, which is significant at the level of 0.05 level there by indicating that administering neem leave paste is effective for decreasing the worm infestation of school children. Paired ‘t’ test revealed that the pretest vs

posttest ‘t’ value was 14.79 which is greater than the table value 2.05 at 0.05 of significant. Therefore, ‘t’ value is found to be highly significant, so research hypothesis (H₁) is accepted. It means there is a reduction in the worm infestation of school children. This suggests that the

administration of neem leave paste is effective in decreasing the worm infestation among school children.

RESULTS AND FINDINGS

The aim of this study is to determine the effectiveness of neem leaves paste on worm infestation among school children in selected school at Bangalore.

Which are discussed below:-

It is a Pre-experimental one group pre-test post-test design which was commence on 30 school children by means of non-probability convenient sampling and research tool used was vitro bio physiological methods, microbiological measurement i.e. direct stool smear examinations format.

Objective 1: To assess the level of worm infestation among school children.

In the present study, pretest revealed that 10 (33.3%) school children were having many (i.e. around 20 – 40 ovas) presence in the stool smear, 7 (23.3%) of school children each were having some (i.e. around 10 – 20 ovas) and more (i.e. around 40+ ovas) respectively in the stool smear, 6 (20%) of the school children were having few (i.e. around 3 – 10 ovas) in the stool smear and none of school children were having normal (i.e. is absence of ova) and rare findings (i.e. around 1-3 ovas). Posttest revealed that 15 (50%) of school children were having rare amount of ovas (i.e. around 1 – 3 ovas) in the stool smear, 13 (43%) of school children were having normal findings i.e. is no evidence of presence of ovas in the stool smear and only 2(7%) were having few ovas (i.e. around 3 – 10 ovas) in the stool smear.

Objective 2: To assess the effectiveness of neem leaves paste on worm infestation among school children.

Paired ‘t’ test revealed that the pretest vs posttest ‘t’ value was 14.79 which is greater than the table value 2.05 at 0.05 of significant. Therefore, ‘t’ value is found to

be highly significant, so research hypothesis (H_1) is accepted. It means there is a reduction in the worm infestation of school children. This suggests that the administration of neem leave paste is effective in decreasing the worm infestation among school children.

Objective 3: To find out the association between the pretest score of worm infestation with selected demographic variables.

The analysis of association of selected demographic variables with pre-test score using chi-square association test revealed there was no significant association between pre - test and selected demographic variables such as gender, religion, monthly income of family, type of family, area of residence, occupation of mother and way of toileting and there was significant association between pretest score and selected demographic variable such as education of mother and total number of children. H_2 : There is a significant association between pretest scores and demographic variables is rejected in gender, religion, monthly income of family, type of family, area of residence, occupation of mother and way of toileting and hypothesis is accepted in education of mother and total number of children.

Demographical characteristics: Majority of subjects 17 (57%) were male. Majority of subjects 15 (50%) were Hindu. Majority of subjects 12 (40%) were belongs to PUC. Majority of subjects 16(53%) were having family income between 5000-10,000 Rs. Majority of subjects 18(60%) were belongs to nuclear family. Majority of subjects 20(67%) were living in the rural area. Majority of subjects 14(47%) were having two children. Majority of subjects 12(40%) were home maker. Majority of subjects 12(40%) were doing defecation in open air. The mean % was 72% with a Standard deviation of 1.069 in the pre-test and in the post-test it was

12.6% with standard deviation of 0.63. Hence reveal that there was a reduction in overall mean in the posttest as compared to pretest there by showing neem leaves paste was effective in reduction of worm infestation among school children. 10(33.3%) school children were having many (i.e. around 20 – 40 ovas) presence in the stool smear, 7 (23.3%) of school children each were having some (i.e. around 10 – 20 ovas) and more (i.e. around 40+ ovas) respectively in the stool smear, 6 (20%) of the school children were having few (i.e. around 3 – 10 ovas) in the stool smear and none of school children were having normal (i.e. is absence of ova) and rare findings (i.e. around 1-3 ovas). Posttest revealed that 15 (50%) of school children were having rare amount of ovas (i.e. around 1 – 3 ovas) in the stool smear, 13 (43%) of school children were having normal findings i.e is no evidence of presence of ovas in the stool smear and only 2(7%) were having few ovas (i.e. around 3 – 10 ovas) in the stool smear.

Paired ‘t’ test revealed that the pretest vs posttest ‘t’ value was 14.79 which is greater than the table value 2.05 at 0.05 of significant. Therefore, ‘t’ value is found to be highly significant, so research hypothesis (H1) is accepted.

CONCLUSION

On the whole, carrying out the present study was really an enriching experience to the investigator. It also helped a great deal to explore and improve the knowledge of researcher and the respondents. The constant encouragement and correction by the guide, co-operation and interest of respondents to participate in the study contribute to the fruitful completion of the study.

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Cite this Article as:

Mr. Silambarasu.C, Ms. Suma B., Mrs. Ashwini M.S, Dr. S.S. Prabhudeva, & Dr. I. Clement. (2019). A Study To Assess The Effectiveness Of Neem Leaves Paste On Worm Infestation Among School Children In Selected School At Bangalore. Journal of Perinatal, Pediatric and Neonatal Nursing, 1(2), 1–5.
<http://doi.org/10.5281/zenodo.2576855>