

**How to Cite:**

Indumathi, K., & Komalavalli, T. (2022). Effective of Neem flower powder for worm infestation in pre school children (3-6 Yrs) in selected rural area at chengalpattu Dt. *International Journal of Health Sciences*, 6(S3), 8400–8408.  
<https://doi.org/10.53730/ijhs.v6nS3.7999>

## **Effective of Neem flower powder for worm infestation in pre school children (3-6 Yrs) in selected rural area at chengalpattu Dt**

**Mrs. K. Indumathi**

Research Scholar, Meenakshi Academy of Higher Education and Research, Chennai | Associate professor, Department of Community Health Nursing | Karpaga Vinayaga College of Nursing, Madurantakam Taluk, Chengalpattu District-603308

**Dr. T. Komalavalli,**

Principal and Professor, Karpaga vinayaga college of Nursing, Madurantakam Taluk Chengalpattu District-603308

**Abstract---**Objectives: 1.To assess the prevalence of worm infestation among pre school children, 2.To compare the degree of worm infestation among per school children before and after, dministration of neem flower power, 3.To associate between the demographic variables and the degree of worm infestation per school children before and after administration of neem flower power, 4.To associate between the selected standard of living and degree of worm infestation among preschool children before and after administration of neem flower power. Research Methodology: A pre experimental type one group pre test and post test for this study. Simple random sampling technique was used to select the sample.The sample size was 30.The investigator manipulated the independent variables i.e neem flower powder on worm infestation which was administered to the same group of children. Then, the post test was conducted ten days later. Finally the effectiveness of neem flower powder on dependent variables i.e. worm infestation of pre-school children was computed by the post test.The data analysis was done by using descriptiveand inferential statistics. Major findings: The statistical analysis was showed that during the initial assessment with the mean value 53.3 and standard deviation value were 4.11.This result shows that the evaluation mean36.07 and standard deviation 2.66 and t-value is33.574 shows highly significant and the correlation shows that there was a correlation between demographic variable and standard of living with effective of Neem flower powder. So it was concluded that significant improvement in the health status on worm infestation among pre-school children. Conclusion: The findings of the study

indicate that the worm infestation is a major problem faced by pre-school children which need a non-pharmacological healing approach. Administration of neem flower is simple and easy to implement, easily available, no notable side effects and most by acceptable to reduce the degree of worm infestation among pre-school children. To evaluate the result supported that incorporation of neem flower powder administration among pre-school children is the best intervention to treat worm infestation.

**Keywords**---Neem flower, worm infestation, pre school.

## **Introduction**

Children are particularly vulnerable to infection because of low immune power. Infections due to intestinal parasite are common posing serious public health problems in developing countries due to bad hygienic practices, low economic status, poor sanitation and unsafe drinking water supplies. Health is an important aspect of life. Children are the one who are more prone to infection. Health in its concepts signifies physical, mental, social and spiritual wellbeing. Children are regarded as the future hope of nation and nurture and strive for their wellbeing of the massive load of 750 million people in India 40% are children under the age of 15 years. The family is the centre focus in the life of the preschooler. The preschool in turn, exerts considerable influence on all other family members. The preschooler period is from 3 to 6 yrs. The combined biologic, cognitive, spiritual and social achievements during this preschool period, prepare preschooler for their most significant change in lifestyle entrance into school.

## **Need for the study**

The school age children are more vulnerable to get many health problems in home and outside home, they are around more than before, but they do not have the judgement or control to guide them, and are more independent in their work. To create awareness and reduce the prevalence, it is vital to make the deworming for the school children. The magnitude of parasitic infection among children is such as to continue major health problems in many parts of the world. It has been estimated that 617 of the total incidence of helminthiasis is perhaps due to ineffective disposal of human excreta even in well developed countries like USA and Canada. In India, 225 million preschool and school-age children are estimated to be at risk of infection from worms. India accounts for 65% of soil-transmitted helminth (parasitic worms) cases in South East Asia, and 27% of cases globally.

## **Statement of the Problem**

Effectiveness of Neem flower powder for worm infestation in pre school children (3-6 Yrs) in selected rural area at Chengalpattu Dt

## **Objectives**

- To assess the prevalence of worm infestation among pre school children
- To compare the degree of worm infestation among per school children before and after administration of neem flower power.
- To associate between the demographic variables and the degree of worm infestation per school children before and after administration of neem flower power.
- To associate between the selected standard of living and degree of worm infestation among preschool children before and after administration of neem flower power.

## **Hypothesis**

- $H_0$ -There will be no significant different between degree of worm infestation before and after administration of neem flower powder
- $H_1$ -Ther will be significant different between degree of worm infestation before and after administration of neem flower powder

## **Operation Definitions**

### **Worm infestation**

It refers to state in which stool is positive ova/cysts confined with the help of microscope and measured using observational checklist for degree of worm infestation.

### **Neem flower powder**

It is a form of powder made from neem flower.

### **Pre-school children**

Children between the age group of 3-6 years.

### **Effectiveness**

It is an expected outcome of neem flower powder for worm infestation in pre-school children measured by observational checklist for degree of worm infestation is consider effectiveness in this study.

### **Assumptions**

- Periodic deworming can help to prevent many health problem, growth failure, anemia, vitamin deficiencies and pica.
- Neem flower is effective to treat the worm infestation.

### **Delimitations**

- Pre-school children who belong to the age group of 3-6 yrs.

- The pre-school children who are willing to participate in the study.
- Pre-school children who can speak Tamil/ English.

### **Conceptual Framework**

The framework for this study is based on Kristen M.Swanson theory of caring.

### **Review of literature**

Research literature were received and organized under the following headings

- Studies related to prevalence of worm infestation.
- Studies related to risk factors of worm infestation.
- Studies related to effects of worm infestation on health.
- Studies related to medicinal effect of neem.

### **Methodology**

#### **Research approach**

A quantitative approach was used to assess the effectiveness of neem flower powder for worm infestation in pre-school children (3-6 yrs) in selected rural area.

#### **Research Design**

A pre experimental type one group pre test and post test for the preschool children and the investigator manipulated the independent variables i.e neem flower powder on worm infestation which was administered to the same group of children. Then, the post test was conducted ten days later. Finally the effectiveness of neem flower powder on dependent variables i.e. worm infestation of pre-school children was computed by the post test. Research design represented follows diagrammatically

**R O<sub>1</sub> X O<sub>2</sub>**

R-Randomization

O<sub>1</sub>-pre test for the assessment of pre school children

X-Administration of neem flower powder on worm infestation among preschool children

O<sub>2</sub>-Post test for the assessment of effectiveness of neem flower powder for worm infestation in pre school children (3-6 yrs)

#### **Setting**

The research study was conducted in pullipakkam village at chengalpattu district.

#### **Population**

The target population of the present study was on pre-school children (3-6 yrs) who were residing in chengalpattu district.

### **Sample Size**

The sample size of the present study was thirty pre-school children.

### **Sampling Technique**

The participant of the present study was selected by simple random sampling technique. It is a probability sampling technique in which the researcher selected participant based on the age group of children who were willing to participate in this study

### **Criteria for sample selection**

#### **Inclusion criteria**

The study includes pre school children 3-6 yrs who

- Were with worm infestation
- Were willing to participate in this study
- Can speak tamil

#### **Exclusion criteria**

The study excludes

- the children above the age of 6 yrs
- who had negative stool ova cyst
- those were not willing to participate in the study

### **Instrument and tools for data collection**

The instruments were classified into three parts.

- Part –I  
Demographic variable
- Part – II  
Questionnaire on standard of living of pre-school children
- Part – III  
Observational check-list for signs and symptoms of worm infestation.

### **Data analysis and interpretation**

#### **Description of the tools**

- Part I  
Demographic variables includes age, gender, educational qualification of mother, family monthly income, weight of the child, immunization status and dietary patter of child.
- Part II

It consists of questionnaire on standard of living of pre-school children includes type of floor, type of water supply, type of drainage, type of toilet, disposing of kitchen waste, methods of disposal of wastes/feaces, frequency of giving bath to the child, frequency of changing clothes for the child per day, frequency of cutting nails, use of slippers for the child, general cleanliness around the house, play activities and personal habits of the child.

- Part III

It consists of observational check-list for signs and symptoms of worm infestation to assess the health status of the pre-school children who were in village. It includes white patches on the body, and scratching, crawling sensation in the anus, abdominal pain, abdominal distension, nausea, vomiting, fatigue, constipation, insomnia, loss of appetite, capricious appetite, pica, malaise/weakness, restlessness, tenesmus feeling of incomplete defecation), shortness of breath, fever, cough, rashes, growth retardation, irritability, weight loss, pallor, enuresis, dysuria, edematous rectum, nutritional deficiency, intense pruritus , loss of concentration.

### **Frequency and percentage distribution of degree of worm infestation among pre-school children before and after administration of neem flower powder**

N= 30

Level of progress	Mild health condition		Moderate health condition		Severe health condition		Total	
	No	%	No	%	No	%	No	%
Assessment day	00	00	2	6.7	28	93.3	30	100
Evaluation day	27	90.0	3	10.0	00	00	30	100

The above table shows the health status of pre-school children in the form of worm infestation at the time of assessment day and evaluation day. On assessment day, 2 (6.7%) were moderately affected and 28 (93.3%) were severely affected. On evaluation day 3(10%) were moderately affected and 27(90%) were mildly affected and none was affected severely.

### **Comparison of mean and standard deviation of degree of worm infestation among pre-school children before and after administration of neem flower powder**

N = 30

S.NO	Health status	Mean	Standard deviation
1.	Assessment day	53.53	4.11
2.	Evaluation day	36.07	2.66

Table shows the comparison of mean and standard deviation of degree of worm infestation among pre-school children before and after administration of neem flower powder. The mean value of degree of worm infestation on assessment day was 53.53 and standard deviation was 4.11. On evaluation day, the mean value was 36.07 and standard deviation was 2.66.

## **Results and Discussion**

The aim of the present study was to evaluate the effectiveness of neem flower powder on worm infestation among pre-school children in selected rural area in chengalpattu district. Total numbers of thirty samples were selected for the study. Assessment was done by modified observational checklist after the neem flower therapy was given as for ten days and after one week evaluation was done by using observational checklist and ova cyst was assessed. The result of the study has been discussed according to the objectives of the study, conceptual framework and on related literatures.

### **The first objective was to assess the prevalence of worm infestation among pre-school children**

It was observed in the present study that demographic data of pre-school children were 3-4 yrs of age group (46.67%), 5-6 yrs of age group (53.33%) studying population. The researcher assumed that in this age pre-school children the major factor that contribute to worm infestation namely increased independence, desire to play in the mud, increased involvement in challenging activities due to peer influence and poor desire to maintain the personal hygiene. The worm infestation were quite common in India were poor-sanitary and hygiene practice. Hence, the worm infestation is common in pre-school children. So, these were the reason for the researcher to select the pre-school children. The findings was constant with the study findings Ulukanligil M.Seyrek et.al (2013) conducted a study and inferred that the worm infestation is most commonly seen in the children with age group of 4-6 yrs, as the age increasing the prevalence of worm infestation and decreasing above 6 yrs. In the present study, the male distribution was 16(53.33%) and female were 14(46.67%). Akbar.E.Aluned et al evidenced that the overall infestation was 30%. The intestinal infestation is common among male children rather than the female children and might be the reason of anaemia and malabsorption in the pre-school children.

### **The second objective was to compare the degree of worm infestation among pre-school children before and after administration of neem flower powder.**

While assessing the degree of worm infestation through pre-test it was found that most (93.3%) were with the severe degree of worm infestation before administration of neem flower powder. The finding of degree of worm infestation of pre-school children after administration of neem flower powder was found that many (90%) were mild signs and symptoms. A similar study was conducted by Raman Kutty, Soma Vijayakumar (2016) stated that helminthic infestation is a serious public health problem. In the going stage, children are more susceptible to the ill-effects of parasitic attack, as their need for nutritious is high. Young children, physical and mental development may be affected by malabosorption and also protein loss, diarrhea, generated often by severe type of worm infestation that affects the gut. The worms interfere with the process of intestinal absorption of nutrients. They feed on the nutrients, depriving the child of its source of nutrition. Hence, hypothesis 'H<sub>1</sub>' – there will be significant difference between degree of worm infestation before and after administration of neem flower powder was supported.

**The third objective was to associate between the demographic variables and the degree of worm infestation among pre –school children before and after administration of neem flower powder**

There was a significant correlation between the age, gender, family monthly income, weight of the child, dietary pattern and educational qualification of the mother and degree of worm infestation before administration of neem flower powder. The similar study was conducted by the findings of Williamson P (2020), a study was conducted to assess the anthelmintic drugs for treating the worms in children and affects on growth and cognitive performance. It was found that there was some limited evidence that routine treatment in areas where worms have small effects on weight gain, but there was insufficient evidence to know whether this intervention improves the demographic variables such as age, sex and socio-economic status. The expectation that there will be an improvement in growth and learning, were not based on constant or reliable evidence.

**The fourth objective was to associate between the selected standard of living and the degree of worm infestation among pre-school children before and after administration of neem flower powder**

There was significant association exists between the type of toilet, type of latrine, disposal of kitchen waste, use of slipper to the child, methods of disposing wastes/faeces, general cleanliness around the house, play activities of the children, bathing and changing of cloth to the children and degree of worm infestation before administration of neem flower powder.

**Conclusion**

The findings of the study indicate that the worm infestation is a major problem faced by pre- school children which need a non pharmacological healing approach administration of neem flower is simple and easy to implement, easily available, no notable side effects and most by acceptable to reduce the degree of worm infestation among pre- school children. To evaluate the result supported that incorporation of neem flower powder administration among pre-school children is the best intervention to treat worm infestation.

**References**

1. Achar's(1995) " Test book of paediatrics",4<sup>th</sup> edition,orient longman limited.
2. Dorothy.R.Marlow(2005)," Textbook of pediatric Nursing"6<sup>th</sup> edition,W.BSaunders company
3. Ghai O.P.(2001)"Essential of pediatrics"4<sup>th</sup> editionmMehta offworks.
4. Gulani K.K.(2005),"community health nursing"1<sup>st</sup> edition, kumar publishing house
5. Kamalam.S(2005) Essential in community health nursing" 2<sup>nd</sup>edition jaypee publication
6. park's (2020) " test book of prevention and social medicine,21<sup>st</sup> edition,M.S Banarsidas Bhanot publishers.
7. Polit.F.(2004)," Nursing Research:Principles and methods " 7<sup>th</sup> edition,Lippincott publication.

8. Banaif N and chaturpedi P(2018),“ pattern of helminthic infestation”, Indian journal of paediatrics,vol 67
9. Bhatia V.(2019) ,“malnutrition among under six children” health education research,vol 6
10. charmaine lioyd A.C (2008), menon T.Uma maheswari K,“medicinal effects of neem” Indian journal of Pharmacology 37(6);386-389
11. Garikapati, P. R., Balamurugan, K., Latchoumi, T. P., & Shankar, G. (2022). A Quantitative Study of Small Dataset Machining by Agglomerative Hierarchical Cluster and K-Medoid. In *Emergent Converging Technologies and Biomedical Systems* (pp. 717-727). Springer, Singapore.
12. Latchoumi, T. P., & Parthiban, L. (2022). Quasi oppositional dragonfly algorithm for load balancing in cloud computing environment. *Wireless Personal Communications*, 122(3), 2639-2656.
13. Banu, J. F., Muneeshwari, P., Raja, K., Suresh, S., Latchoumi, T. P., & Deepan, S. (2022, January). Ontology Based Image Retrieval by Utilizing Model Annotations and Content. In *2022 12th International Conference on Cloud Computing, Data Science & Engineering (Confluence)* (pp. 300-305). IEEE.
14. Karnan, B., Kuppusamy, A., Latchoumi, T. P., Banerjee, A., Sinha, A., Biswas, A., & Subramanian, A. K. (2022). Multi-response Optimization of Turning Parameters for Cryogenically Treated and Tempered WC-Co Inserts. *Journal of The Institution of Engineers (India): Series D*, 1-12.
15. Pavan, V. M., Balamurugan, K., & Latchoumi, T. P. (2021). PLA-Cu reinforced composite filament: Preparation and flexural property printed at different machining conditions. *Advanced composite materials*.
16. Latchoumi, T. P., Kalusuraman, G., Banu, J. F., Yookesh, T. L., Ezhilarasi, T. P., & Balamurugan, K. (2021, November). Enhancement in manufacturing systems using Grey-Fuzzy and LK-SVM approach. In *2021 IEEE International Conference on Intelligent Systems, Smart and Green Technologies (ICISSGT)* (pp. 72-78). IEEE.