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## A study to assess the knowledge on deworming practices among school teachers in corporate schools

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### Abstract

**Background:** Worm infestations or Soil-transmitted Helminths (STH) infects nearly 2 billion people of world's population with children being the most affected. India alone contributes nearly 25% to the total global cases with 220.6 million children in need of preventive chemotherapy.

**Aim:** A study to assess knowledge on deworming practices among school teachers in corporate schools, Tirupati.

**Materials and methods:** A descriptive study, sample size of 100 corporate school teachers selected by convenient sampling technique and data was collected by administering self-structured questionnaire. It included data regarding socio-demographic characteristics and questions pertaining to knowledge on deworming practices adopted by school teachers. Analysis was done SPSS package 21 version.

**Results:** The study results shows that out of 100 study participants, 87(87%) school teachers were females, 52(52%) were had post graduation education, 24(24%) were general science teachers and the most common source of information was family members 57(57%). It was seen that 47(47.0%) were had inadequate knowledge, 31(31.0%) were had moderate knowledge and 22(22.0%) were had adequate level of knowledge. The higher educational level, science subject teaching and years of teaching experience was associated with better knowledge on deworming practices in school children among school teachers.

**Conclusion and recommendation:** The study concluded that knowledge on deworming practices was inadequate. So, there is need to educate school teachers on deworming practices as well as to train them and reduce the morbidity and maintain health status in school children.

**Keywords:** Knowledge, deworming, practices, school teachers

### Introduction

Children are the future of a nation. It is absolutely essential to protect child's health if we are to build a sound foundation for the health of the nation. School children are exposed to various epidemiological factors in the environment which influence their present and future state of health<sup>[1]</sup>.

Worm infestation a common childhood problem, which affects growth and development of children and has a close relationship with the socio demographic and ecological factors like poverty, illiteracy, poor personal and environmental hygiene<sup>[2]</sup>. Worm infestation rarely cause mortality with diarrhea, abdominal pain and low hemoglobin levels as the immediate outcome of infections, however, the long term effects of these infections are far more sinister as those with infections show reduced cognitive abilities, intellectual capacity and lower work productivity<sup>[3]</sup>.

Worm infestations or Soil-transmitted Helminths (STH) infects nearly 2 billion people of world's population with children being the most affected. According to the World Health Organization (WHO) estimates, 870 million children live in the area of high prevalence. Africa, South Asia and South America are the most affected regions of the world. India alone contributes nearly 25% to the total global cases with 220.6 million children in need of preventive chemotherapy<sup>[3]</sup>. In India annual incidence of worm infestation was estimated from 51% to 76% among school children<sup>[4]</sup>.

Periodic mass deworming, proper sanitation and effective health education were three major and vital interventions for the long-term control and elimination of worm infestation<sup>5</sup>. Deworming is recognised as a cost-effective way to increase the educational attainment and health of school-age children who experience high prevalence and intensity of soil

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transmitted helminth (STH) infections and bear the majority of the disease burden [6]. Deworming interventions have clearly been shown to be successful at reducing worm infestation burden in school-age children [7].

The deworming treatment is simple, safe, effective and free of charge. A single dose of deworming treatment drastically reduces the number of worms in each child [8]. The WHO recommended medicines albendazole (400 mg) and mebendazole (500 mg) are effective, inexpensive and easy to administer by non-medical personnel (e.g. teachers) [9].

2.65 million children across 2,400 government schools and 8,200 anganwadis were dewormed in a two-stage process by teachers and anganwadi workers from 21 to 27 February 2012 under the aegis of the Chacha Nehru Sehat Yojana (CNSY) of Delhi State School Health Programme [10].

**Objectives of the study**

- To assess the knowledge on deworming practices among school teachers.
- To identify the association between knowledge on deworming practices among school teachers with their selected socio demographic variables.

**Hypothesis**

**H1:** There will be significant association between knowledge on deworming practices among school teachers with their selected demographic variables.

**Methodology**

The research approach adopted was non-experimental descriptive research design. Study was conducted in corporate schools, Tirupati, Chittoor district, Andhra Pradesh. Sample size was 100 school teachers by administering self-structured questionnaire to collect the data on knowledge on deworming practices in school children. Formal permission was obtained from principals of concern schools. Data was analyzed with help of SPSS 21 version package.

**Results**

**Demographic profile of school teachers**

Majority (39.0%) were in the age group of 41-50 years, Regarding gender of the teachers, more than 1/3<sup>rd</sup> (87.0%) were females, majority of sample respondents (94.0%) were adhering to Hinduism, Regarding to educational status of school teachers, nearly (52.0%) were educated upto post

graduation. Based on marital status of the respondents, majority (87.0%) were married. Considering the number of children, more than half of the participants (54.0%) were have two children, related to residence, majority (78.0%) were living in urban. Pertaining to subject taught in school, nearly half (24.0%) of the teachers were teaching General Science and Mathematics, (16.0%) were teaching English, (11.0%) were Social studies, (9.0%) were Hindi and Telugu and remaining (7.0%) were teaching other subjects. Considering the total experiencing of teaching in years, majority (36.0%) were had above 15 years, (26.0%) were had 6-10 years, (22.0%) were had below 5 years and (16.0%) were had 11-15 years of teaching experience. Regarding source of information, majority (57.0%) were received from family members. In relation to participation of school teachers in deworming programme, majority (91.0%) were not participated. Out of 100 school teachers (5.0%) were participated in School deworming day and (2.0%) were participated in Community health camp and Hospital based programmes.

**Table 1:** Distribution of knowledge levels on deworming practices among school teachers, n=100

| Assess the knowledge on deworming practices among school teachers | F   | %    |
|---|-----|------|
| Inadequate level  | 47  | 47.0 |
| Moderate level  | 31  | 31.0 |
| Adequate level  | 22  | 22.0 |
| Total   | 100 | 100  |

The above table depicts that the level of knowledge on deworming practices among school teachers, majority (47.0%) were had inadequate knowledge, (31.0%) were had moderate knowledge and (22.0%) were had adequate level of knowledge.

**Table 2:** Mean and standard deviation for knowledge on deworming practices among school teachers.

| S. No | Category  | Mean | SD    |
|-------|-----------|------|-------|
| 1.    | Knowledge | 1.75 | 0.796 |

The above table depicts that the mean and standard deviation were 1.75 and 0.796 with regard to knowledge on deworming practices.

**Table 3:** Association between demographic variables with level of knowledge on deworming practices among school teachers, n=100

| S. No | Demographic variables | Assess the knowledge regarding deworming practices among school teachers |       |                |       |                |       | (χ <sup>2</sup> ) | P value | Sig |       |
|-------|-----------------------|--|-------|----------------|-------|----------------|-------|-------------------|---------|-----|-------|
|       |                       | Inadequate level   |       | Moderate level |       | Adequate level |       |                   |         |     |       |
| 1.    | Age                   | N  | %     | N              | %     | N              | %     | 15.453<br>df=6    | 0.017   | NS  |       |
|       |                       | Below 30 years   | 9     | 19.1           | 4     | 12.9           | 0     |                   |         |     | 0.0   |
|       |                       | 31 -40 years   | 17    | 36.2           | 8     | 25.8           | 11    |                   |         |     | 50.0  |
|       |                       | 41 – 50 years  | 17    | 36.2           | 17    | 54.8           | 5     |                   |         |     | 22.7  |
|       |                       | Above 50 years   | 4     | 8.5            | 2     | 6.5            | 6     |                   |         |     | 27.3  |
|       | Total                 | 47   | 100.0 | 31             | 100.0 | 22             | 100.0 |                   |         |     |       |
| 2.    | Gender                |  |       |                |       |                |       | 8.014<br>df=2     | 0.018   | *   |       |
|       |                       | Male   | 5     | 10.6           | 8     | 25.8           | 0     |                   |         |     | 0.0   |
|       |                       | Female   | 42    | 89.4           | 23    | 74.2           | 22    |                   |         |     | 100.0 |
|       |                       | Total  | 47    | 100.0          | 31    | 100.0          | 22    |                   |         |     | 100.0 |
| 3.    | Religion              |  |       |                |       |                |       | 10.589<br>df=4    | 0.032   | *   |       |
|       |                       | Hindu  | 46    | 97.9           | 28    | 90.3           | 20    |                   |         |     | 90.9  |
|       |                       | Muslim   | 1     | 2.1            | 0     | 0.0            | 2     |                   |         |     | 9.1   |
|       |                       | Christian  | 0     | 0.0            | 3     | 9.7            | 0     |                   |         |     | 0.0   |
|       |                       | Total  | 47    | 100.0          | 31    | 100.0          | 22    |                   |         |     | 100.0 |
| 4.    | Educational Status    |  |       |                |       |                |       |                   |         |     |       |

|       |                                    |  |       |                |       |                |       |                   |         |     |
|-------|------------------------------------|--|-------|----------------|-------|----------------|-------|-------------------|---------|-----|
|       | Graduate                           | 27   | 57.4  | 16             | 51.6  | 5              | 22.7  | 7.472<br>df=2     | 0.024   | *   |
|       | Post Graduate                      | 20   | 42.6  | 15             | 48.4  | 17             | 77.3  |                   |         |     |
|       | Total                              | 47   | 100.0 | 31             | 100.0 | 22             | 100.0 |                   |         |     |
| 5.    | No. of Children                    |  |       |                |       |                |       | 3.732<br>df=4     | 0.443   | NS  |
|       | No Children                        | 9  | 19.1  | 3              | 9.7   | 1              | 4.5   |                   |         |     |
|       | One                                | 13   | 27.7  | 11             | 35.5  | 9              | 40.9  |                   |         |     |
|       | Two                                | 25   | 53.2  | 17             | 54.8  | 12             | 54.5  |                   |         |     |
|       | Total                              | 47   | 100.0 | 31             | 100.0 | 22             | 100.0 |                   |         |     |
| 6.    | Marital status                     |  |       |                |       |                |       | 6.583<br>df=4     | 0.037   | *   |
|       | Married                            | 41   | 87.2  | 30             | 96.8  | 16             | 72.7  |                   |         |     |
|       | Unmarried                          | 6  | 12.8  | 1              | 3.2   | 6              | 27.3  |                   |         |     |
|       | Total                              | 47   | 100.0 | 31             | 100.0 | 22             | 100.0 |                   |         |     |
| 7.    | Residence                          |  |       |                |       |                |       | 7.859<br>df=2     | 0.020   | *   |
|       | Rural                              | 8  | 17.0  | 12             | 38.7  | 2              | 9.1   |                   |         |     |
|       | Urban                              | 39   | 83.0  | 19             | 61.3  | 20             | 90.9  |                   |         |     |
|       | Total                              | 47   | 100.0 | 31             | 100.0 | 22             | 100.0 |                   |         |     |
| S. No | Demographic variables              | Assess the knowledge on deworming practices among school teachers. |       |                |       |                |       | (χ <sup>2</sup> ) | p value | Sig |
|       |                                    | Inadequate level   |       | Moderate level |       | Adequate level |       |                   |         |     |
| 8.    | Subject taught in school           | N  | %     | N              | %     | N              | %     |                   |         |     |
|       | Social studies                     | 2  | 4.3   | 6              | 19.4  | 3              | 13.6  | 24.035<br>df=4    | 0.01    | *   |
|       | General Studies                    | 5  | 10.6  | 8              | 25.8  | 11             | 50.0  |                   |         |     |
|       | Mathematics                        | 15   | 31.9  | 6              | 19.4  | 3              | 13.6  |                   |         |     |
|       | English                            | 8  | 17.0  | 4              | 12.9  | 4              | 18.2  |                   |         |     |
|       | Hindi                              | 6  | 12.8  | 2              | 6.5   | 1              | 4.5   |                   |         |     |
|       | Telugu                             | 7  | 14.9  | 2              | 6.5   | 0              | 0.0   |                   |         |     |
|       | Any other                          | 4  | 8.5   | 3              | 9.7   | 0              | 0.0   |                   |         |     |
|       | Total                              | 47   | 100.0 | 31             | 100.0 | 22             | 100.0 |                   |         |     |
| 9.    | Total teaching experience in years |  |       |                |       |                |       | 13.175<br>df=6    | 0.040   | *   |
|       | Below 5 years                      | 14   | 29.8  | 6              | 19.4  | 2              | 9.1   |                   |         |     |
|       | 6 – 10 years                       | 10   | 21.3  | 5              | 16.1  | 11             | 50.0  |                   |         |     |
|       | 11 - 15 years                      | 8  | 17.0  | 4              | 12.9  | 4              | 18.2  |                   |         |     |
|       | Above 15 years                     | 15   | 31.9  | 16             | 51.6  | 5              | 22.7  |                   |         |     |
|       | Total                              | 47   | 100.0 | 31             | 100.0 | 22             | 100.0 |                   |         |     |
| 10.   | Source of information              |  |       |                |       |                |       | 1.306<br>df=6     | 0.971   | NS  |
|       | Doctors                            | 4  | 8.5   | 3              | 9.7   | 2              | 9.1   |                   |         |     |
|       | Health workers                     | 1  | 2.1   | 1              | 3.2   | 0              | 0.0   |                   |         |     |
|       | Family members                     | 27   | 57.4  | 16             | 51.6  | 14             | 63.6  |                   |         |     |
|       | Mass media                         | 15   | 31.9  | 11             | 35.5  | 6              | 27.3  |                   |         |     |
|       | Total                              | 47   | 100.0 | 31             | 100.0 | 22             | 100.0 |                   |         |     |
| 11.   | Deworming programme                |  |       |                |       |                |       | 5.883<br>df=2     | 0.053   | *   |
|       | Yes                                | 2  | 4.3   | 6              | 19.4  | 1              | 4.5   |                   |         |     |
|       | No                                 | 45   | 95.7  | 25             | 80.6  | 21             | 95.5  |                   |         |     |
|       | Total                              | 47   | 100.0 | 31             | 100.0 | 22             | 100.0 |                   |         |     |
| 11.1  | If yes                             |  |       |                |       |                |       | 7.799<br>df=6     | 0.253   | NS  |
|       | School deworming day               | 1  | 50.0  | 3              | 55.6  | 1              | 100   |                   |         |     |
|       | Community health camps             | 0  | 0.0   | 2              | 33.3  | 0              | 0.0   |                   |         |     |
|       | Hospital based programmes          | 1  | 50.0  | 1              | 16.7  | 0              | 0.0   |                   |         |     |
|       | Total                              | 2  | 100.0 | 6              | 100.0 | 1              | 100.0 |                   |         |     |

\*= Significant 0.05 level  
NS = Not significant

The above table shows that there was significant association between knowledge on deworming practices with gender, religion, educational status, marital status, residence, subjects taught in the school, total experience of teaching in years and participation in deworming programme at  $p < 0.05$  level.

There was no significance association was found between knowledge on deworming practices with age, number of children, source of information and participation of school teachers in school deworming day, community health camp and hospital based programme.

### Discussion

The results reveal that out of 100 school teachers, majority 47(47.0%) were had inadequate knowledge, 31(31.0%) were had moderate knowledge and 22(22.0%) were had adequate level of knowledge.

The study shows that there was a significant association between knowledge on deworming practices with gender, religion, educational status, marital status, residence, subjects taught in the school, total experience of teaching in years and participation in deworming programme at  $p < 0.05$  level.

There was no significance association was found between knowledge on deworming practices with age, number of children, source of information and participation of school teachers in school deworming day, community health camp and hospital based programme.

#### The study was supported by following studies

Njomo DW *et al.*, (2016) <sup>[11]</sup> a cross-sectional study using qualitative methods was conducted on the role of pre-school teachers in the control of soil-transmitted helminthes in coastal region, Kenya. Results shown that the pre-school teacher had inadequate knowledge and training the pre-school teachers to assist in community sensitization and drug administration would be useful. Study concluded that pre-school teachers are a potential resource to the NSBDP that should be utilized to instill proper water and sanitation practices to the young children and assist in community sensitization. They should be empowered and allowed to administer treatment for STH control.

AL-Delaimy AKA *et al.*, (2014) <sup>[5]</sup> conducted a study to assess developing and evaluating health education learning package (HELP) to control soil-transmitted helminth infections among Orang Asli school children in Pahang, Malaysia. There was significant association between demographic variables with knowledge such as source of information such as clinics/hospital, mass media and internet, signs and symptoms such as loss of appetite, blood in stool and poor performance, preventive measures such as washinf hands before eating, washing vegetables before consumption and boiling drinking water and transmission.

**Ethical approval:** Research Committee College of nursing SVIMS approved the study. Informed consent was obtained from participants.

**Conflict of Intrest:** Nill

**Source of Funding:** Nill

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#### References

1. Lukose A, Margaret EB, Nayak BR. Effectiveness of structured teaching programme on knowledge regarding management of minor ailments among School children. Nitte University Journal of Health Science. 2014; 4:12-16.
2. Leena KC, Sr. Jacinta D'Souza. Effectiveness of Child To Child Approach to Health Education on Prevention of Worm Infestation among Children of Selected Primary Schools in Mangalore. Nitte University Journal of Health Science. 2014; 4:113-115.
3. Salam N, Azam S. Prevalence and distribution of soiltransmitted helminth infections in India. BMC Public Health. 2017; 17:1-12.
4. Nebhinani MR. Effectiveness of structured teaching programme on prevention of worm infestation. Journal of Nursing and Health Sciences. 2015, 1-7.
5. WHO Factsheets. 2016.
6. Njomo DW, Masaku J, Odhiambo G, Musuva R, Mwende F, Matey E *et al.* The role of pre-school teachers in the control of soil-transmitted helminthes

incoastal region, Kenya. Tropical Diseases, Travel Medicine and Vaccines. 2016; 2:1-10.

7. Al-Delaimy AK, Al-Mekhlafi HM, Al Lim Y, Nasr NA, Sady H, Atroosh WM *et al.* Developing and evaluating health education learning package (HELP) to control soil-tramitted helminth infections among Orang Asli children in Malaysia. Parasites and Vectors, 2014; 7:1-18.
8. WHO. Library Cataloguing-in-Publication Data, Conducting a school deworming day: a manual for teachers. 2013, 1-26.
9. Greenland K, Dixon R, Khan SA, Gunawardena K, Kihara JH, Smith JL *et al.* The Epidemiology of Soil-Transmitted Helminths in Bihar State, India. PLOS Negl Trop Dis. 2015; 9:1-14.
10. Delhi Anganwadi And School-Based Mass Deworming Programme report, Deworm the world intitative. 2012, 1-60.
11. Theriault FL, Giroux MM, Blouin B, Casapia M, Gyorkos TW. Effects of a Post-Deworming Health Hygiene Education Intervention on Absenteeism in School-Age Children of the Peruvian Amazon. PLOS Neglected Tropical Diseases. 2014; 8:1-11.