 DOI: 10.18231/2394-6776.2017.0030

Coverage and compliance of Albendazole in Mass Drug Administration in Kalaburgi district

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Abstract

Introduction: Parasitic intestinal worms, especially the soil trasnmitted are important public health problem in many developing countries. Poor nutritional outcomes can occur because of these infections especially in children. Yearly or biannual mass drug administration, which is inexpensive can reduce worm burden.

Objective: To assess the coverage and compliance of Albendazole in mass drug administration in Kalaburgi district

Materials and Method: This cross-sectional survey was done in one urban and three rural clusters in Kalaburgi district. Data was compiled, tabulated and analyzed using proportions.

Results: Out of the total 791 subjects, male population constituted about 47.7%. Majority of the study subjects were in the age group 16-60 years (70.0%); 75.1% subjects received drugs. Among the 594 study subjects who have received, 449(74.7%) consumed the drugs. Only 36.9% consumed drugs in front of health workers. Half of the subjects (52.4%) reported fear of side reaction as the reason for non-consumption of drug.

Recommendations: The coverage rate was 75.1% and compliance 74.7%. IEC activities should be strengthened with more emphasis on counseling the subject about importance of taking drugs and removing fear about side effects.

Keywords: Albendazole, Coverage, Compliance, Kalaburgi

Introduction

Many children in low income countries are commonly infected with parasitic helminths and this can have important consequences for their development.(1) Soil transmitted helminths (STH) infect over one billion people with children and the poor having the greatest burden of disease. In many parts of sub-Saharan Africa and Asia, National deworming programmes are being implemented regularly. Despite, in areas where mass drug administration (MDA) has been implemented, infection often occurs rapidly even after treatment. Environmental control– specifically improving access to Safe water supply, basic sanitation and improved hygiene (WASH) – may serve to complement these deworming efforts and prove to be cost-effective.(2) Intestinal helminth infections are a leading cause of morbidity and are associated with nutritional deficiency, anemia, growth stunting, and cognitive deficits in children.(3,4) Sufficient evidence from clinical studies has shown that children infected with intestinal worms experience height and weight gains following de-worming. Since DEC by itself has only a limited impact on intestinal helminths, drug combinations that include Albendazole provide de-worming and nutritional benefit.(5) The study was done to assess the coverage and compliance of Albendazole which was a part of mass drug administration in Kalaburgi district.

Objective of the study

To assess the coverage and compliance of Albendazole in mass drug administration in Kalaburgi district.

Materials and Method

The survey included the evaluation of mass drug administration of both DEC and Albendazole in Kalaburgi district. This article includes coverage and compliance of Albendazole only. There are 7 taluks in the district, as per the guidelines, four sites have to be selected. One among them is urban. Kalaburgi city is selected for urban. The sites were arranged in the descending order of the coverage of MDA. It was decided to select an average performed area and Khanapur was selected as urban site from Kalaburgi. There are 80 primary health centers in the rural part of the district. In order to select three sites, the PHC's have been classified into three strata, that is, mutually exclusive and exhaustive groups. The primary health centers are arranged according to the coverage, as reported, in descending order. The width of the class interval of each stratum is made equal, that is divided by three, works out to be 19. The three strata, along with class intervals, were high (100-119), medium (80-99) and low (60-79) performance. From each stratum, one PHC is selected randomly using the MS excel worksheet. The respective selected PHC's were K. Hipparga in Chittapur taluk, Kamalapur in Kalburgi rural taluk and Madana in Sedam taluk. In the selected primary health centers, the sub centers (SC) under the PHC were arranged in descending order of the

coverage. The high performance SC in the first group is selected and the middle one is selected in the second one and the poor performance SC is selected in the third one. This selection is made giving the weight to the performance of each SC's. A village is selected from each of the sub center randomly. The households in the villages were contacted and the details were collected as per the pre-designed schedule. The population to be contacted was fixed at a minimum of 150 in each site, so that the total coverage should be at least 600.

Collection of data at village level: The team of investigators visited PHC's and then selected sub centers. They interacted with the concerned drug distributors in the selected SCs as well as the medical officers of the PHC's. Investigators visited the selected villages and with the help of drug distributors collected the required information from the residents of the villages. In total, 140 houses were visited during the survey, with a minimum of 29 houses in each of the cluster. The data were collected in the pre-designed and structured questionnaire and were entered in the excel sheet for processing.

Results

A total of 791 subjects were interviewed. The overall coverage of Albendazole in Kalaburgi district was 75.1% and compliance rate was 74.7%.

Table 1: Shows age and gender-wise distribution of the study population. The male population constituted 47.7%. Majority of the participants are in the age group 16-60 years(70.0%), 20.6% are in the 2-15 years age group, while only 3.2% in <2 years age.

Table 1: Age-gender wise distribution

Age intervals	Male	Female	Total
	No. (%)	No. (%)	No. (%)
<2 years	14 (53.8)	12 (46.2)	26 (100.0)
2-15 years	91 (55.8)	72 (44.2)	163 (100.0)
16-60 years	246 (44.5)	307 (55.5)	553 (100.0)
60 years and above	26 (53.0)	23 (47.0)	49 (100.0)
Total	377 (47.7)	414 (52.3)	791 (100.0)

Table 2. Shows distribution of study subjects, whether they had received drugs or not.

Table 2: Distribution of study subjects based on whether they had received drugs

Received Drugs	No. of Persons	Percentage (%)
Yes	594	75.1
No	197	24.9
Total	791	100.0

Out of 791, 594 (75.1%) subjects received drugs.

Table 3. Shows distribution of study subjects whether they had consumed drugs. Out of 594 study subjects who have received, 449(74.7%) consumed the drugs.

Table 3: Distribution of study subjects based on whether they had consumed drugs

Consumed Drugs	Number of persons	Percentage (%)
Yes	449	74.7
No	145	25.3
Total	594	100.0

Table 4. Shows distribution of study subjects consumption of tablets in presence of drug distributor. Only 182 (36.9%) consumed drugs in front of health workers.

Table 4: Consumption of tablets in presence of Drug Distributor

Consumed	No. of persons	Percentage (%)
DOTS	182	36.9
Non-DOTS	267	63.1
Total	449	100.0

Table 5. Shows distribution of subjects based on the reasons for non-consumption. Half of the subjects (52.4%) reported fear of side reaction as the reason for non-consumption of drug, followed by 13.1% people told drug distributor not visited their house.

Table 5: Distribution of subjects based on the reasons for non-consumption

Reasons for non consumption	Frequency	Percentage (%)
Fear of side reaction	76	52.4
Drug Distributor not visited	19	13.1
Out of station	14	9.7
No faith in tablets	14	9.7
Suffering from chronic disease	6	4.1
No faith in Drug Distributor	1	0.7
Others	15	10.3
Total	145	100.0

Table 6. Shows distribution of subjects based on the occurrence of side effects. 9 persons got fever and 11 persons suffered from vomiting & nausea.

Table 6: Distribution of subjects based on the occurrence of side effects

Side effect	Frequency	Percentage (%)
Nausea, Vomiting	11	44.0
Fever	9	36.0
Others	5	20.0
Total	25	100.0

Discussion

In our survey a total of 791 people were interviewed. The overall coverage of Albendazole in Kalaburgi district was 75.1% and compliance rate was 74.7%. The percentages of male and female population were 47.7% and 52.3% respectively. Majority of the participants are in the age group 16-60 years (70.0%). 594 (75.1%) subjects received drugs. Out of 594 study subjects who have received, 449(74.7%) consumed the drugs. Only 182 (36.9%) consumed drugs in front of health workers. Half of the subjects (52.4%) cited fear of side reaction was the reason for non-consumption of drug, followed by 13.1% people told drug distributor not visited their house. 9 persons got fever and 11 persons suffered from vomiting & nausea.

Ranganath BG study in the Kalaburgi (Gulbarga) district in 2008, shows the coverage for DEC consumed for Albendazole 44% (39.9–48%) and for both DEC and Albendazole consumption was 26.6% (22.9–30.1%). The most important reason given was not distributed among 90 (38.5%) of them. About 53 (22.6%) of them had not consumed it because the drug distributor had given the drugs to other household members in their absence.[6] In the study by Patel PK in Bagalkot and Kalaburgi district in year 2010, shows coverage report of 79% in Bagalkot and 39% in Kalaburgi district respectively. The prime reasons for not consuming the tablet were, not received tablet (27.9%), followed by not present at home (18.4%) and drug given at home but no information (9.5%) in Bagalkot district. However, the main reason in Kalaburgi district was fear of side effects (51.2%) and did not receive tablets (15.2%). Only 8% of people who consumed tablets in Bagalkot district and 2.3% in Kalaburgi district actually experienced side effects.[7] Similarly Babu BV et al study reported, the main reason for noncompliance was either the drug was not given or individual not at home and 82.1% fear of side reaction they have not consumed tablet.[8]

Conclusion

The IEC activities carried out for MDA was limited to that period, it may be started earlier as routine to make the community prepared. The stock position of the drug received for MDA programme (in all level from district to drug distributors) need to be included for calculation purpose. Reporting system need to be refined to get the tabulated registered data right from the village level – to PHC level, Taluk level and District level. The staff employed for MDA may be trained to follow DOT and it may be monitored concurrently by the supervisors, it will not only permit the divided dose practice but also drug distribution. The best IEC activity for MDA is inter-personnel communication, so this process may be made regular one in all the endemic pockets of the district. Supportive control measures such as anti-larval work can be initiated to bring down the vector density so as to avoid transmission. The elected leaders of the panchayat have to be involved in all health programmes including MDA and subsequent guidelines may be given to them to avoid breeding sources and up keep environmental sanitation.

Acknowledgements

We express our sincere and heartfelt gratitude to the Senior Regional Director Dr. K. Ravikumar, ROH& FW Bangalore and also to the Joint Director (NVBDCP) and Deputy Director (NVBDCP) Directorate of Health and Family Services, Govt. of Karnataka, Bangalore. We express our sincere gratitude for the support and cooperation provided by the DHO of Kalaburgi District and NVBDCP Officer, Kalaburgi District. We are extremely thankful to the Medical Officers, Senior health assistants and the staffs, Health workers male and female, Anganwadi worker and ASHA of the selected clusters of Kalaburgi district for their valued field support. We also thank all the staff and drivers who provided very pleasant field visit during the study. Last, but not the least, we are thankful to all the study people of four clusters for their extended and valued cooperation.

Funding: NVBDCP, Karnataka

Conflict of interest: None declared

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