

RESEARCH NOTE

APPRECIATION OF SCHOOL DEWORMING PROGRAM BY PARENTS IN HA GIANG PROVINCE (VIETNAM)

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Abstract. School-based deworming programs are one of the most cost-effective public health strategies to reach children with anthelmintics and health education. However, despite their low cost and high health impact, they are not implemented on a large scale. The present survey investigated a school-based deworming program in Ha Giang Province, Vietnam, to assess the community perception and support towards these programs. Information from 81 households, 88 primary school students, 25 teachers and 9 people in charge of commune health stations was collected by structured questionnaires. The survey displayed complete satisfaction and a high level of support within all 4 questioned groups. In addition 96.1% of all parents noticed an improvement in their children's health. The great appreciation of the deworming program by the community is an additional argument to convince decision makers to implement and scale up these programs. Even teachers that did not receive any specific training were able to distribute the drug successfully following the page of written instructions accompanying the drug.

INTRODUCTION

Soil-transmitted helminths (STH) have a serious detrimental impact on the health of children and adults. STH are frequently transmitted in most tropical and sub-tropical countries due to lack of education, proper sanitation and essential health care (WHO, 2002). Children and pregnant women are particularly vulnerable, since worm infections are associated with intestinal malabsorption, iron and vitamin A deficiency, reduced growth and impaired school performances (Crompton and

Whitehead, 1993; Stephenson *et al*, 1993; Stoltzfus *et al*, 1997). Current control strategies based on regular deworming (mass distribution of anthelmintic drugs and health education) are considered one of the most cost-effective health interventions (Hotez *et al* 2006).

School deworming programs proved to be effective in improving child health in a number of studies (Montresor *et al*, 2002), and the low cost of the drugs and the use of the school infrastructure allow the program to be sustainable even in the least developed countries. (Sinuon *et al*, 2005). Despite these facts, school-based deworming is not popular among health decision makers and only a few developing countries have reached the WHO target of 80% coverage of schoolchildren (WHO 2006). This study investigated community perceptions after a school deworming

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campaign in Ha Giang Province (Vietnam). The aim was to document the level of appreciation of the community as an additional tool to convince decision makers and politicians of the high return of deworming campaigns.

MATERIALS AND METHODS

Ha Giang is one of the poorest provinces in Vietnam, geographically situated in the extreme north of the country. The survey was carried out in rural, suburban and urban areas of the province. The study was conducted in April 2005, soon after a school deworming program, and it aimed to collect data from 4 different groups: members of households with school-age children, teachers, primary school-age children and commune health personnel.

Ten communes were selected using the probability proportional to size (PPS) method. (Bennett *et al*, 1991). In each of the 10 selected communes 8 households were selected using a cluster-sampling method (Bennett *et al*, 1991). Two teachers and 10 students were randomly selected among those present at the communal school and administered structured questionnaires. The head of the commune health station was also interviewed.

Data on appreciation of the deworming program were collected. Teachers were also interviewed regarding the training received for drug distribution and the problems which occurred during and after the campaign. The interviews were carried out in Vietnamese by local health staff. Approval for the study was received from the local authorities and health center directors of the communes covered by the survey.

RESULTS

The survey involved 81 households with at least one school-age child, 88 primary school students, 25 teachers in 13 schools and 9 staff from commune health stations.

Families were classified "poor" or "well-off" depending on access to water and gas and the presence of a motor-cycle or bicycle.

Household questionnaire

The mean respondent age was 36 years old (range 26 - 82). Most of the people interviewed were mothers (69.1%) or fathers (27.2%) of school-age children. Fifty-one point three percent of all questioned households were classified as "poor". Forty-three point two percent of the households were located in rural areas, 22.2% in suburban areas and 34.6% in urban areas of Ha Giang Town.

The great majority (85%) of the interviewed people reported to have received health education regarding intestinal parasites (95.6% of this group from local health personnel, 22.1% from television ads and 10.3% from the radio). All the people who did not receive information were living in rural and suburban areas, and 92% of them were classified as "poor". Five percent of people interviewed stated they normally use fresh human feces as fertilizer, in spite of having been informed about the risk of this practice. All of them were "poor" farmers without school-education.

All the children (111 children age 6 and 11) in the surveyed households received deworming drugs. Ninety-five point five percent of them have received it at school, while the remaining children were given the drugs directly by local health personnel, as they did not attend primary school. About 35% of those interviewed stated they had seen worms in their children's stool after deworming and this was considered an important confirmation of the importance of the intervention.

Ninety-five percent of interviewees stated they noticed improvement in their children's health after the deworming drugs were administered, and 100% of those interviewed ranked the intervention at a maximum level of appreciation, wishing the deworming program would continue.

Primary school student questionnaire

The mean age of the interviewed students was 9.3 years (range 6-13 years) and 50% were males. Most of them (53.4%) lived in rural areas, 23.9% lived on the outskirts of town and 22.7% in urban areas. Thirty-six point four percent stated they noticed worms in their stool without significant differences by location of the student.

Eighty-five point two percent of the students reported receiving information at school about intestinal parasites and their prevention, again without significant differences by location. Ninety-two percent of all children proved to be aware of the adverse effects of intestinal worms on health and named at least one hygienic practice helpful in preventing infection.

All the interviewed children remembered receiving deworming drugs from their teachers and only 6.8% of them reported suffering from temporary side-effects, primarily stomach ache.

Teacher questionnaire

The sample size was composed of 25 teachers in 13 schools. Fifteen (60%) of them had undergone formal training on deworming and the training was highly dependent on the geographical location of their school: 100% of the teachers living in town, 83% of those living on the outskirts of town and 31% of teachers in rural areas received formal training.

No teacher reported problems or difficulties in drug distribution independently from the training received and from the presence of health personnel in the school on deworming day. Twenty-eight percent of teachers stated the children were making better progress in school and that absenteeism was reduced after deworming.

Commune health personnel questionnaire

Nine people in charge of commune health stations were interviewed; all actively partici-

pated in the deworming campaign, organizing the delivery and administration of the drugs. In their opinion, no particular problems occurred during the campaign.

DISCUSSION

Despite the fact that only 60% of the teachers received training in deworming, no difficulties were reported during drug administration. In our opinion, this proves that administering deworming drugs in school is simple and does not necessarily require a formal training session for teachers.

Our survey showed a high level of appreciation for the deworming campaign. All 4 questioned groups not only asked not to discontinue the program, but also recommended strengthening and extending the program to other segments of the population. Treatment coverage of schoolchildren was very high, the health benefit immediately evident and only light and transient side effects were reported.

This information can be used by managers of control programs to convince decision makers of the advantage of the intervention.

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