

Acceptability of azithromycin for the control of trachoma in Northern Tanzania.

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Trans R Soc Trop Med Hyg. 2005 Sep;99(9):656-63

Trachoma causes blindness; the prevention strategy includes mass antibiotic treatment. In a community in Northern Tanzania offered mass treatment with azithromycin for the control of trachoma, we used focus group discussions, individual interviews, questionnaires and direct observation to quantify, explore and contextualize reasons for acceptance or refusal of the drug. In the village studied, 76% of the population eligible to receive azithromycin were treated. Uptake was significantly higher among women (79% treated) than men (72%). Factors affecting acceptability included: local prevention norms (such as the belief that injections, rather than oral medicine, should be used for prevention); perceptions of drugs in general and azithromycin in particular; perceptions of the distribution team's expertise; witnessing adverse effects in others; and the timing, quality and quantity of information about azithromycin and its availability. Familiarity with trachoma as a blinding disease was significantly associated with uptake. Individuals who refused treatment seemed to be less altruistic than other respondents. Neither socio-economic status nor use of traditional healers was related to uptake. Pre-distribution community assessment and community education, advance notice of the distribution, standardized distribution guidelines and improved distributor training are recommended to maximize acceptance of azithromycin in future campaigns.

Synopsis prepared by Nicola Desmond

The World Health Organization recommends application of the 'SAFE' strategy in the control of trachoma, the world's leading infectious cause of blindness. Specifically 'SAFE' involves surgery to correct advanced disease, antibiotics to clear *C. trachomatis* infection, facial cleanliness and environmental improvement to reduce transmission. Antibiotic azithromycin to clear infection has been shown to be at least as effective for trachoma control as 6 weeks of tetracycline eye ointment but the success of any treatment campaign depends on coverage achieved which in turn depends on community acceptability of the drug as prophylaxis. The paper 'Acceptability of azithromycin for the control of trachoma in Northern Tanzania' investigates acceptability in terms of uptake of, and attitudes towards azithromycin in a trachoma-endemic community in Rombo District, Tanzania.

In order to measure uptake and to investigate reasons for acceptance or non-acceptance of offered antibiotic under representative, rather than research, conditions, the study was carried out alongside the government's trachoma control initiative in collaboration with the Christoffel Blinden Mission and the International Trachoma Initiative. At the time of the distribution (2001) the programme's community-level target for antibiotic coverage was 75% or greater. A single dose of azithromycin was targeted to all non-pregnant residents over the age of 12 months and uptake coverage of 76% was achieved in a population of 2786 individuals eligible for treatment. Uptake was higher amongst women (79%) than men (72%, $P < 0.0001$) and in both sexes uptake was higher among 1-10 year olds and lowest among 16-40 year olds; a finding that is encouraging since in a nearby village children under 10 have been shown to harbour 90% of the total ocular *C trachomatis*.

Since the overall figure narrowly exceeded the programme's community-level coverage target of 75%, the study investigated the reasons for non-uptake of antibiotic. Factors were multifarious and included both socio-cultural norms and practices and those related to the distribution procedures themselves. Whilst the former are likely to be culturally heterogeneous, and may differ according to social context, the latter are crucial in influencing future uptake in other regions. An understanding of both, however, may have salience in increasing community-level coverage and improving future trachoma control.

Socio-cultural factors found to affect uptake included prevention norms and the belief that injections are more effective than oral medicines in preventing disease. Individual perceptions of drugs in perceived relation to an individual's body and beliefs in the efficacy of oral versus systemic prevention of trachoma also contributed to treatment decisions. Further, heightened awareness and perceptions of severity of the problem in the village, (77.2% of those who accepted treatment were able to relate trachoma to blindness, odds ratio for treatment if had heard of trachoma was 1.8, 95% CI 1.1-3.1 Fisher's exact $P=0.02$) positively influenced uptake. In contrast, the lack of phenomenological connection made between childhood ocular discharge and trichiasis in old age, combined with the minimal disruption of social life caused by active trachoma in children, encouraged perceptions of the disease as a normal part of childhood, recognised but not prioritised for treatment. Finally, prevailing social conditions in the village promote community-level reliance on peer knowledge and experience, thus rumours of benefits or problems following uptake spread rapidly throughout community social networks and awareness of adverse effects was often cause for refusal but conversely provided others with evidence of the drug's effectiveness.

In operational terms, distribution procedures also affected decisions regarding uptake. Both the timeliness of information dissemination and the timing of the distribution over a weekend adversely affected residents' attendance, generally due to alternative social commitments. Perceived levels of providers' biomedical knowledge were related to their position as either co-residents or outsiders. Team members from elsewhere were regarded as 'doctors', whilst village health workers were often not trusted. Trust in external 'others' was also linked to treatment decisions; some residents simply followed instructions because the distribution was associated with the government. Finally, uncertainties and dissimilarities in distribution protocols regarding contra-indications with alcohol meant that treatment decisions were not always consistent between teams and some of those who were eligible and willing were refused treatment.

The results suggest that there is need for improvement in the design of community-based distribution programmes and that a greater understanding of the socio-cultural context prior to distribution would likely improve antibiotic coverage. Specifically, pre-distribution community assessment and education, advance notice of distribution, standardized distribution guidelines and improved distributor training may help to maximise acceptance of azithromycin in future trachoma control programmes.