Bangladesh rural household (community dialogues project) antibiotic knowledge, attitudes and practices survey: overview and methods

# Aim

The survey’s aim was to help us understand rural Bangladeshi household members’ knowledge, attitudes and practices (KAP) in relation to antibiotics (as used in humans only).

# Setting and participants

The survey done in Cumilla district, Bangladesh. Within rural villages we interviewed adult (>18 years old) women with at least one child (<15 years old) who identified as the female household head within their household about their antibiotic KAPs. However, we also asked these women about the antibiotic KAPs of their children and their husband, if married, as our formative work indicated that these individuals were typically able provide this information.

# Sampling

We sampled respondents using a slightly modified version of the original WHO Expanded Programme on Immunization (EPI) cluster survey methodology to ensure a rapid and efficient sample could be selected1. This involved selecting respondents via a two-stage, non-probability, cluster-sampling approach. In the first stage we selected five community clinics. Community clinics are simple, rural, primary healthcare facilities that provide basic, essential healthcare services and medication. Community clinics are based in rural villages and typically cover a catchment area of around 6,000 individuals, which typically include the village the community clinic is located in along with two to five further surrounding villages. These five community clinics were selected purposively on the basis of being functional and having functional management committees (including community involvement), along with the Bangladesh research team having familiarity with the areas (due to previous research activities) and good relationships with the communities. Therefore, we treated each community clinic catchment area as a cluster and then aimed to sample 49 respondents (i.e. 49 eligible women from 49 separate households) per cluster. As the number of villages varied between clusters the cluster-specific sample size of 49 was divided as equally as possible among the villages. See the “Sampling list” file for a list of the community clinics and villages selected and the sample size sampled from each village.

In the second stage of sampling the interview team then visited each selected village within each community clinic catchment area in turn. Within each village they first located the approximate centre of the village and from there they used a compass and a random number table to select a random direction. They then walked in that direction to the edge of the village, sketch mapping and numbering (consecutively) all households on either side of the transect. Using a random number table they then then selected a starting household, where they interviewed (subject to availability and consent) the female household head. They then moved to the fifth next-nearest household, conducted their interview, and repeated this process until the sample size for the village was reached. Where a respondent was not available the interview team attempted to return later to complete the interview. If this was not possible or achieved they selected a new household using the same approach. All participants were provided with an information sheet describing the survey’s purpose, or they were read the information if they were illiterate, and written or verbal (if illiterate) informed consent was taken prior to participation.

# Sample size

Most of our questions would produce categorical variables and would therefore result in binary outcomes, with one binary outcome per potential categorical response to a question. We therefore estimated that we required a total of 245 respondents to estimate such outcome percentages and their 95% confidence intervals with an absolute margin of error (95% confidence interval) of ± 10%, which we felt was suitable for our intervention design needs. This assumed outcome percentages of 50%, as the least precisely estimable outcome percentage, and a design effect of 2.5, based on typical design effects in the 2014 Bangladesh Demographic Health Survey, to account for the clustered sampling.

# Questionnaire

We developed a questionnaire based on previous related surveys, recommendations from the WHO for best practices when using antibiotics, and our qualitative work and contextual knowledge. The questionnaire contained questions on: 1) the basic socio-demographic details of household members, 2) the female respondent’s awareness of antibiotics, 3) the antibiotic related practices of the female respondent, as well as their children and husband (as appropriate), including questions on previous use of antibiotics, reasons for use, and places of purchase, and 4) practices related to adherence or non-adherence to the WHO’s recommended best practices for antibiotic use. To understand whether respondents were aware of antibiotics as a class of medicines we simply asked females whether they had heard of antibiotics, using the English language term “antibiotic” because our formative work and contextual knowledge indicated that there is no commonly accepted Bengali word for “antibiotic”, while the English word is primarily used in Bangladesh. Where respondents indicated that they were not aware of antibiotics we did not ask them any further questions related to antibiotics. Prior to surveying we pilot tested the questionnaire twice to check it was understandable, feasible and acceptable for the respondents and interviewers, and adapted as necessary.

# Data collection and processing

All data were collected via paper questionnaire forms, which were then taken back to the research team’s office at regular intervals. Data were then entered into an Excel database and a random selection of 5% of respondents’ data were compared to the paper data forms to check for and correct any data entry errors, which were then corrected and the relevant forms fully checked. When completed the database was then checked for obvious errors and anomalous values via standard checks.

# References

1. World Health Organization (1991). Training for mid-level managers: the EPI coverage survey. Geneva: WHO Expanded Programme on Immunization. WHO Technical Report Series. 1991;EPI/MLM/91.10.