



Knowledge, Attitudes and Practices Related to Typhoid - the Case of Glen View Suburb, City of Harare, 2016

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2. UNICEF

Background

- Glen View (GV) has been among the epi-centres for each of the outbreaks that have affected Harare between 2013 and 2016
- In an outbreak in Harare in 2016, Glen View contributed 36% of the cases
- Knowledge, Attitude and Practices (KAPs) have been demonstrated as key drivers in the transmission and control of typhoid
- This study was therefore undertaken to:
 - **evaluate the knowledge, attitude and practices among different strata of the community of GV with regards to typhoid fever**
 - **assess preferred information, education and behavior change communication**

Methodology

- Design- Descriptive cross sectional study in GV
- Study population- residents of GV suburb
- Data collection
 - Interviewer administered questionnaires
 - 3 point Likert scale used for attitudes and practices
 - Observations using a checklist
 - Focus group discussions (FGD) using an FGD guide
- Sampling
 - Homesteads: systematic sampling from the housing list using Microsoft Excel 2013[®]
 - Households and study participants: simple random sampling
 - Using Dobson's formula and factoring in an attrition rate of 10% and design effect of 1.5 we calculated a minimum sample size of 632

Methodology

- Six FGD sessions with 9-12 participants as follows
 - primary school students
 - secondary school students
 - adult males
 - adult females
 - vendors
 - home industry workers
- Study tools pilot tested in Mbare
- Data collection done by trained research assistants (10) and data collectors (17)



Methodology – working definitions

- Good knowledge:
 - ≥ 3 out of 8 correct signs and symptoms PLUS
 - ≥ 3 out of 7 correct methods of transmission of typhoid PLUS
 - ≥ 3 out of 7 correct ways of preventing typhoid PLUS
 - mentioning that none of water sources are safe
 - as well at mentioning ≥ 2 ways of making water safe for drinking

Methodology – working definitions

- Good attitudes:
 - rating the risk of contracting typhoid as high on ≥ 3 out of 5 questions PLUS
 - rating the perceived severity of typhoid as a disease as high on 3 out of 3 questions PLUS
 - rating the perceived benefits of different prevention strategies as important on 7 out of 7 questions
- Good practices:
 - Getting ≥ 5 correct responses out of a total of 10 questions

Methodology

- Data analysis: Epi Info TM 7.2.0.1; Stata 13© Statacorp LP, College Station, Microsoft Excel[®] and Atlas.ti7 ©
- Permission to proceed
 - Institutional Review Board
 - Medical Research Council of Zimbabwe (MRCZ)
 - Zimbabwe Republic Police (ZRP) and school authorities to conduct FGDs
- Ethical considerations observed

RESULTS

Demographic Characteristics of Study Participants, GV, Harare, 2016

- A total of 635 participants interviewed, 10 questionnaires discarded
- Sixty five (65) participants took part in the FGDs
- Majority (82.1%) of the participants were female
- Median age: 32 years (**$Q_1=25$, $Q_3=45$**)
- Majority (62%) were married and living together with their spouses
- Median number of households per homestead was 3 (**$Q_1=2$, $Q_3=3$**)
- Seventy seven percent (77%) were earning less than \$480 per month
- 58% were landlords while 42% were tenants

Knowledge Assessment, GV, Harare, 2016

- Two thirds (2/3) of the respondents had received health education on typhoid
- Source of health education
 - health workers (29%)
 - Friends/ church/ IEC material (25%)
 - health promoters (22%)
 - newspapers and radio / television (18%)

Knowledge – Transmission of Typhoid, GV, 2016

- Reported modes of transmission were
 - Bad hygiene (51%)
 - Drinking unsafe water (37%)
 - Not washing hands (32%)
 - Eating cooked food from vendors (15%)
- Almost a quarter (24%) did not know how typhoid is transmitted
- FGD participants cited the following
 - Public toilets with no running water
 - *Drinking tap (municipal) water*
 - *Inhaling smell from burst sewer pipes*
- Proportion who could mention ≥ 3 ways of typhoid transmission = 33%

Knowledge – Prevention of Typhoid, GV, 2016

- Ways of preventing typhoid cited were
 - Washing hands with soap and water (54%)
 - Drinking water from safe sources (54%)
 - Washing fruits before eating them (30%)
 - Proper disposal of waste (30%)
 - Avoiding eating cooked food from vendors (9%)

- About 44% mentioned at least 3 correct ways of preventing typhoid

Knowledge – Safe Water Sources, Glen View, 2016

Water sources perceived to be safe

- Boreholes (83%)
- Well (11%)
- Municipal water (6%)
- None (4%)

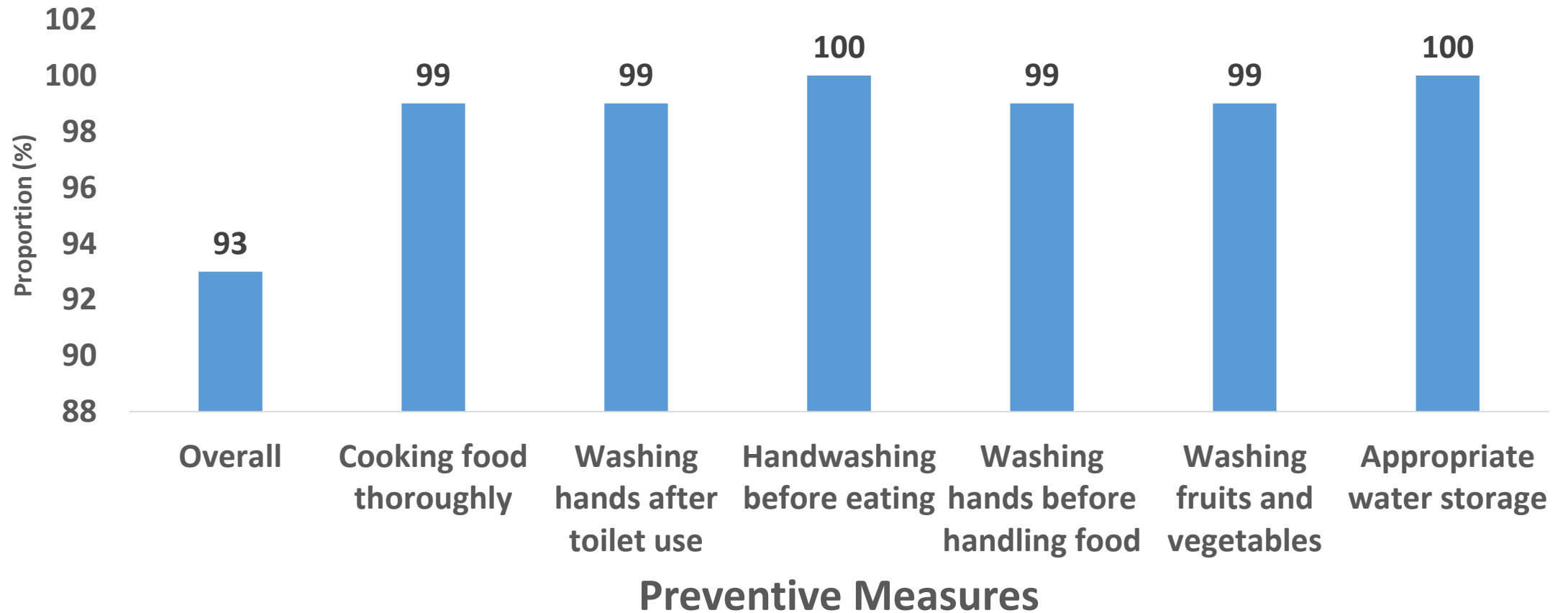
Reported methods of making water safe for drinking

- Boiling water (63%)
- Water guard (59%)
- Aqua tabs (51%)
- Bleach (49%)
- **Overall: 33% of respondents had good knowledge on typhoid**

Attitudes towards Typhoid as a Disease, Glen View, 2016

- Perceived risk of self or family member contracting typhoid reported to be high - 27%
- Likelihood of a carrier transmitting typhoid reported as high - 22%
- Perceived typhoid as a serious disease – 70%
- Perceived typhoid disease as a serious problem in Glen View- 42%
- Likelihood of someone with typhoid to die if not treated perceived as high - 69%

Attitudes – Perceived importance of prevention strategies



Attitudes Assessment, Glen View, 2016

- Good attitudes on preventive measures- 93%
- Preferred methods of water treatment
 - Water guard (43%)
 - Boiling (32%)
 - Aqua tablets (23%)
 - None (2%)
- **Overall, when all perceived risks, perceived severity and perceived benefits were combined it was noted that 15% had good attitudes.**

Practices Assessment, Glen View, 2016

- Sources for drinking water
 - 58% used borehole water always
 - 16% used municipal water always
- Water sources for other domestic use
 - Municipal water always (66%)
 - Well always (6%)
 - Borehole always (2%)



Practices Assessment, Glen View, 2016

- Water treatment methods
 - None (62%)
- Reasons for not treating water
 - Borehole water is safe
 - Unavailability of electricity to boil
 - High cost of electricity
 - Unavailability of water treatment chemicals
 - Have never fallen sick from untreated water
 - Chemicals give an unpleasant taste and smell to water
- FGDs: ***“because it is underground where there are no sewer pipes; underground water is not contaminated”***

Practices – Observations, Glen View, 2016

- Mentioned using water treatment chemicals but had no chemicals in their homes at the time of interview- 74%
- Clean, covered and narrow mouthed containers in 24% of the respondents
- For drawing water: 33% were using either taped buckets, a long handled ladle or the pouring method
- Good food storage practices (food stored in covered containers; raw and cooked foods stored separately; leftover cooked food stored in the fridge) in 63% of the respondents

Practices – Sanitation, Glen View, 2016

- Proportion using a piped sewer toilet system- 96%
- Mixed methods of waste disposal methods
 - Council waste collection system always (53%)
 - Burning method sometimes (45%)
 - Disposing in open bushes (14%)
 - Burying method (12%)
- Vendors (FGDs): ***“we commonly throw our waste behind the shops or nearby open fields if Council doesn’t come to collect”***

Practices – waste disposal, Glen View, 2016



Practices – Hand hygiene, Glen View, 2016

- Frequency of hand washing high before and after activities
- Frequency of using soap and water for hand washing was low
- After using the toilet
 - A third would always use soap and water to wash hands
 - 26% always used water only to wash their hands
- Before eating food
 - 16% would always wash hands with soap and water
 - 56% would always use water only to wash their hands
 - 80% - run to waste method

Overall: 44% had good practices

Discussion

- Generally the study demonstrated low proportions of participants with; Good knowledge; Good attitudes and Good practice with regards to typhoid in Glen View
- Majority of participants were females
 - Data collection done during the day
- Average of 15 people per homestead
 - Most of the houses in Glen View are three bedroomed
 - Majority were married and living with their spouses
 - Therefore: 1 bedroom / family
 - WHO standards: overcrowding = a situation where two persons over 9 years of age, not husband and wife, of opposite sex are obliged to sleep in the same room
 - Overcrowding promotes fast spread of infections

Discussion

- Low proportion had good knowledge on typhoid
 - Despite the fact two thirds had received health education
 - Need to look into strategies and modalities being used to deliver health education on typhoid in Glen View
 - Muti et al (2010) noted knowledge levels to be low in both cases and controls
 - Mobile population
- Since 2010, the main message from City of Harare Health Department has been ***“treat all drinking water regardless of source”***
 - 4% mentioned that there were no safe water sources
 - People not likely to treat their drinking water
 - After distribution of chlorine tablets in DZ and Kuwadzana (2010) only 18% had reportedly treated their water (***Imanishi et al, 2014***)

Discussion

- Despite the fact that some boreholes in Glen View have been found to be unsafe
 - 83% mentioned that borehole water was safe for drinking
 - Almost 60% of participants were always using borehole water for drinking
 - 62% were not treating their drinking water at all
 - If underground contamination from burst sewer pipes happens the likelihood of typhoid becomes very high
 - Contrary to our findings: in Islamabad it was noted that the majority (65%) were using tap water and 20% were using borehole water (Alam & Qureshi, 2008)

Discussion

- High risk perception is generally associated with precautionary and preventive measures however in our study risk perception was low despite the fact:
 - Majority of participants were women
 - majority were living below the poverty datum line
- Women and poor communities tend to have higher risk perceptions of infectious diseases than men and wealthier communities respectively (Poblette-Davila et al, 2005))
- Perceived seriousness of a disease shapes health seeking behavior of a community

Discussion

- Generally with regards to hand washing:
 - Knowledge on the importance of handwashing was good
 - Perception of hand washing as one of the means of preventing typhoid was high
 - Actual practice of washing hands was reported by large proportions
- However the majority were not using soap for hand washing
- Hand washing with soap = single most effective and inexpensive way to prevent diarrhoeal diseases including typhoid
- 30% to 45% of GI illnesses prevented by adequate hand washing with soap at key moments

Study Limitations

- The possibility of social desirability bias cannot be ruled out given the high ratings of handwashing for both attitudes and practices
- The fact that the study was carried out during the day could have brought in an element of selection bias– it is possible that these men may have had characteristics that are relevant to the spread, prevention and control of typhoid

Conclusion

- Proportion that had good knowledge on typhoid, good attitudes on typhoid and good practices in relation to typhoid was low
- The gap between the proportion which had received health education and the proportion which had good knowledge might indicate the need to re-strategize in health promotion
- The missing link between attitudes on risk perception and the perceived safety of borehole water call for more intensified health education
- Practices that negatively impact on prevention and control of typhoid were identified in this study

Recommendations

- Health education strategies and social and individual behaviour change messages that are effective for positively influencing desired preventive attitudes and behaviours. ***Principal Health Promotion Officer***
- Promotion of point of use water treatment. ***Principal Health Promotion Officer***
- Fitting of inline chlorinators and their subsequent regular servicing. ***Director of Health Services***
- Further studies to determine prevalence of carriers and to determine risk factors and resistance pattern. ***Health studies office***

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