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Water source and sanitation

Majority 204 (68%) of the respondents obtained drinking water from pipe line, only 194(64.7%) of the respondents treat their drinking water. Regarding hygiene majority 285 (95%) of respondents wash their hand by soap and water after utilization of toilet facility. Majority 287 (95.7%) of the respondents have private toilet, from them 180 (60%) had pit latrine type of toilet. Concerning west disposal system majority 199 (66.3%) of the households have place for waste disposal at their compound. Concerning the end disposal of waste 148 (49.3%) of the respondents dispose solid waste on open field. Regarding liquid waste 208 (69.3%) of the respondents dispose on open field (Table 4).

Table 4. Water, Sanitation and Hygiene (WASH) practice among household in Gyadi-Gyadi communities in Kano, Nigeria (n=300)

Characteristics	**Frequencies (n=300)**	**Percentages (%)**
What is the main source of your drinking water?		
Pipe line	204	68
Public stand point	96	32
Always treat your drinking water?		
Yes	194	64.7
No	106	35.3
Mainly how do you treat drinking water?		
Boiling	188	62.7
Chemical (Chlorine, bishangari)	112	37.3
Wash hands by soap and water before preparing food		
Yes	189	63
No	111	37
Wash your hands by soap and water before meal		
Yes	205	68.3
No	95	31.7
Is there private latrine facility for the family		
Yes	287	95.7
No	13	4.3
If yes what is the type of latrine		
Pit latrine	180	60
VIP	97	32.3
Water wash	23	7.7
No private functional latrine where does the family use		
Open field	95	31.7
Relative latrine	7	2.3
Public (communal)	198	66
Wash hands by soap and water after using the toilet		
Yes	285	95
No	15	5
Place to store wastes at house hold level		
Yes	199	66.3

No	101	33.7
There separate container for different types of waste		
Yes	250	83.3
No	50	16.7
Is the container covered		
Yes	164	54.7
No	136	45.3
Where do you dispose solid waste at the end		
Open field	148	49.3
Local pit	96	32
Municipality	51	17
Compost	5	1.7
Where do you dispose liquid wastes at the end		
Open field	208	69.3
Local pit	81	27
Link to sewage system	11	3.7

Discussion

The community-based cross- sectional study conducted among community at Gyadi-Gyadi town revealed the socio demographic characteristics of the study participants as follows out of three hundred participants above 55% were male. Regarding the last educational status of the participants majority 48.3% were secondary school. The result of this study is almost in line with the study done in Nigeria 61% and 20% [JO, 2015].

In this community based cross sectional study attempted to identify the knowledge and risk perception towards typhoid fever among community at Gyadi-Gyadi town. Regarding knowledge towards typhoid fever the study found that about 75% of the respondents have good knowledge related to typhoid fever. The result of this study is higher than the study done in Zimbabwe 33% [Bara, 2016]. The difference is might be due to the effort of health extension worker implementation in Nigeria.

Concerning on the transmission majority 65% and 59.3% of the respondents know that typhoid fever is transmitted by drinking contaminated water and eating contaminated food respectively. The result of this study is higher than the study done in Tanzania which is 42.5% [Malisa and Nyaki, 2010]. The difference is might be due to implementation of health extension worker in the area.

Regarding the causes of typhoid fever about 61.7% of the respondents knew that typhoid fever is caused by germ. The result of this study is slightly higher than the study done in Elmina in the Central Region of Ghana 49.2% [Ethel Osei-Tutu, 2011]. The difference is might be due to the socio demographic characteristic.

Concerning the sign and symptom of typhoid fever about 64.7% were answered loss of appetite. The finding of this study is higher than the study done in Nigeria 6.3% [Okore Oghale, 2015]. The difference is might be due socio demographic characteristic.

Concerning the way of prevention of typhoid fever, the majority 279 (93%) answered drinking boiling water, who said proper waste disposal were 275 (91.7%), and 225 (75%) have answered hand washing. The result of this study is higher than the study done in Zimbabwe 54% drinking water from safe source, 54% washing hand with soap and 30% proper west disposal [Bara, 2016]. The difference is may be due to effort of the health extension worker in the area.

Concerning the risk perception on the transmission of the diseases about 48.3% thought carriers could transmit the disease to others. The result of this study is almost in line with the study done in Elmina Ghana which about half of the respondents thought carriers could transmit the disease to others [Ethel Osei-Tutu, 2011]. The difference is may be due to socio demographic characteristic of the respondents.

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Regarding perception on hygiene majority 70% of the respondents agree that poor sanitation practices among households in the community contribute to the spread of typhoid fever. The result of this study is slightly higher than the study done in Kenya which was 48% [Khanyelele, 2014]. The difference is may be due to the socio demographic characteristic of the respondents.

Concerning the risk perception towards typhoid fever, the study showed that majority 95% of the respondent perceived typhoid fever as serious diseases. The result of this study is slightly higher than the study done in Zimbabwe which was 70% [Bara, 2016]. The difference is may be due to effort of the health extension worker in the area.

Regarding water supply and toilet facility in the study area the result of the study showed that majority 68% of the respondents obtained drinking water from pipe line and also about 60% of the respondents used pit latrine type of toilet. The result of this study is different from the study done in Kenya 54.6% pipe source for drinking water and 83% used pit latrine [Nguri, 2016]. The difference is may be due to the study area.

Regarding treatment of drinking water and the means of treatment the study revealed that only 64.7% treat their drinking water, by different means such as 62.7% used boiling, 37.3% used different chemical. The result of this study is higher than the study done in Tanzania 42.5%, 30% and 12.5% respectively [Malisa and Nyaki, 2010]. The difference is may be due to the difference in the study area and period.

Concerning hygiene, the study result showed that majority 95% washed their hand by soap and water after using toilet facility. The result of this study is almost in the same line with the study done in Nigeria 221 (94.0%) [Marie-Rosette, 2017].

Conclusion

The study revealed that, the respondents has good knowledge towards typhoid fever. However, majority have poor risk perception towards typhoid fever. Therefore, according to this research education has its own contribution for risk perception. In general, according to the study the risk perception level of the community is poor. Since knowledge and risk perception are the key factor for the control and prevention of typhoid fever, strengthen the awareness of the community towards typhoid fever is mandatory.

Recommendations

- Local health desk should strengthen supportive supervision for health extension workers in order to strengthen effective health education to the community on the causes of the diseases and possible preventives measures.
- Health institution of the area should include health education program.
- The municipal office of the town should work on the waste disposal system.

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