

Public Awareness on Eliminating Neglected Tropical Diseases (NTDs) Among People in Kurfi Town of Katsina State, Nigeria

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Abstract

Neglected Tropical Diseases (NTDs) refer to a various group of infectious diseases that primarily affect tropical and subtropical countries. These diseases are termed "neglected" because they predominantly afflict the poorest and most marginalized communities, often receiving inadequate attention and funding for research and control compared to other diseases. Therefore, research was conducted on Public Awareness on Eliminating Neglected Tropical Diseases (NTDs) Among People in Kurfi Town of Katsina State, Nigeria. A questionnaire was administered to 341 randomly selected individuals in the town and many of them 330 (97%) showed that NTDs is still a major public health problem that is facing humanity. Majority of the respondents 215(63%) know the full meaning of NTDs. Statistically, there is no significant difference between sex groups who are aware of WHO NTDs control measures and those that are not aware ($P= 0.052$). Conclusively this finding revealed that there is inadequate interventions from government in elimination and control of NTDs especially in local areas like Kurfi as such, its recommended that, there is need for the government and non-governmental organizations to provide enough funds, raise research grand and public sensitization on NTDs in order to end the neglects by asking, acting and investing as themed by world NTDs day 2025.

Keywords: Neglected Tropical Diseases, Awareness, Diseases, Public

INTRODUCTION

Neglected Tropical Diseases (NTDs) refer to a various group of infectious diseases that primarily affect tropical and subtropical countries. These diseases are termed "neglected" because they predominantly afflict the poorest and most marginalized communities, often receiving inadequate attention and funding for research and control compared to other diseases. They are widespread in areas with inadequate access to clean water, sanitation, and healthcare. The impact of NTDs can cause chronic disability, disfigurement, and in severe cases, death. They contribute significantly to poverty due to their impact on productivity and healthcare costs (WHO, 2017).

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A. Usman, A. Abdullahi., DUJOPAS 11 (1a): 68-75, 2025

Examples of NTDs include lymphatic filariasis, onchocerciasis (river blindness), schistosomiasis, soil-transmitted helminthiases, and several others. Each disease has its own set of symptoms, transmission modes, and affected populations. Efforts to control NTDs typically involve mass drug administration, improved sanitation, vector control, and health education. Global partnerships and initiatives have aimed to eliminate or control several NTDs, showing progress in reducing their burden (Herricks *et al.*, 2017). However, the classification of NTDs differ in many ways, but WHO as a global health body and CDC consider factors like climate change, zoonosis, poor sanitation, and access to clean and safe water are consistently linked to classify NTDs (Olamiju *et al.*, 2014).

In general, NTDs cost developing economies billions of dollars every year in lost revenue by interfering with labour productivity (agricultural and industrial) and with the wage-earning potential of individuals who are already poor and surviving on less than the US \$ 2 a day (WHO, 2017). Similarly, NTDs limit educational opportunities for school-aged children by interfering with cognitive development and causing undesirable effects on school attendance and child development. Moreover, NTDs trap individuals in a cycle of poverty, leading to social stigma at the family and community levels (Hotez *et al.*, 2014).

Research pertaining to the neglected tropical diseases (NTDs) poses specific challenges that are linked to the diseases investigated, infrastructure (or lack thereof), culture, social-ecological systems, conflicting health policies, and ethics requirements, among others (Hotez, 2009). However, many NTDs in endemic regions lack robust systems to track disease prevalence, monitor drug resistance, and evaluate intervention outcomes, underreporting of many cases particularly in remote areas which can leads to an underestimation of disease burden, there is also lack of public perception on many NTDs particularly on rural areas (WHO, 2025).

METHODOLOGY

Study Area

This survey was carried out in Kurfi Local Government town of Katsina State, which is located on latitude 12.7099N and Longitude 7.4626E. It has an estimated area of 572 kilometers square and has an estimated population of 369732 inhabitants it was created in the year 1989. Kurfi Local Government Area is part of the illustrious Katsina Emirate and is made up of a number of towns and villages which include Birchi, Wurma, Barkiya, Tsauri, Yar Unguwa, Sabon Layi, Tamawa, Kurfi and Fadumawa and most of the people are peasant farmers (NPC, 2006).

The area is mostly inhabited by members of the Hausa-Fulani ethnic groups. The Ffulde language is commonly spoken in the area especially villages while the religion of Islam is mostly practiced in the LGA. Notable landmarks in Kurfi LGA include the Government Science Secondary School Kurfi (NPC, 2006).

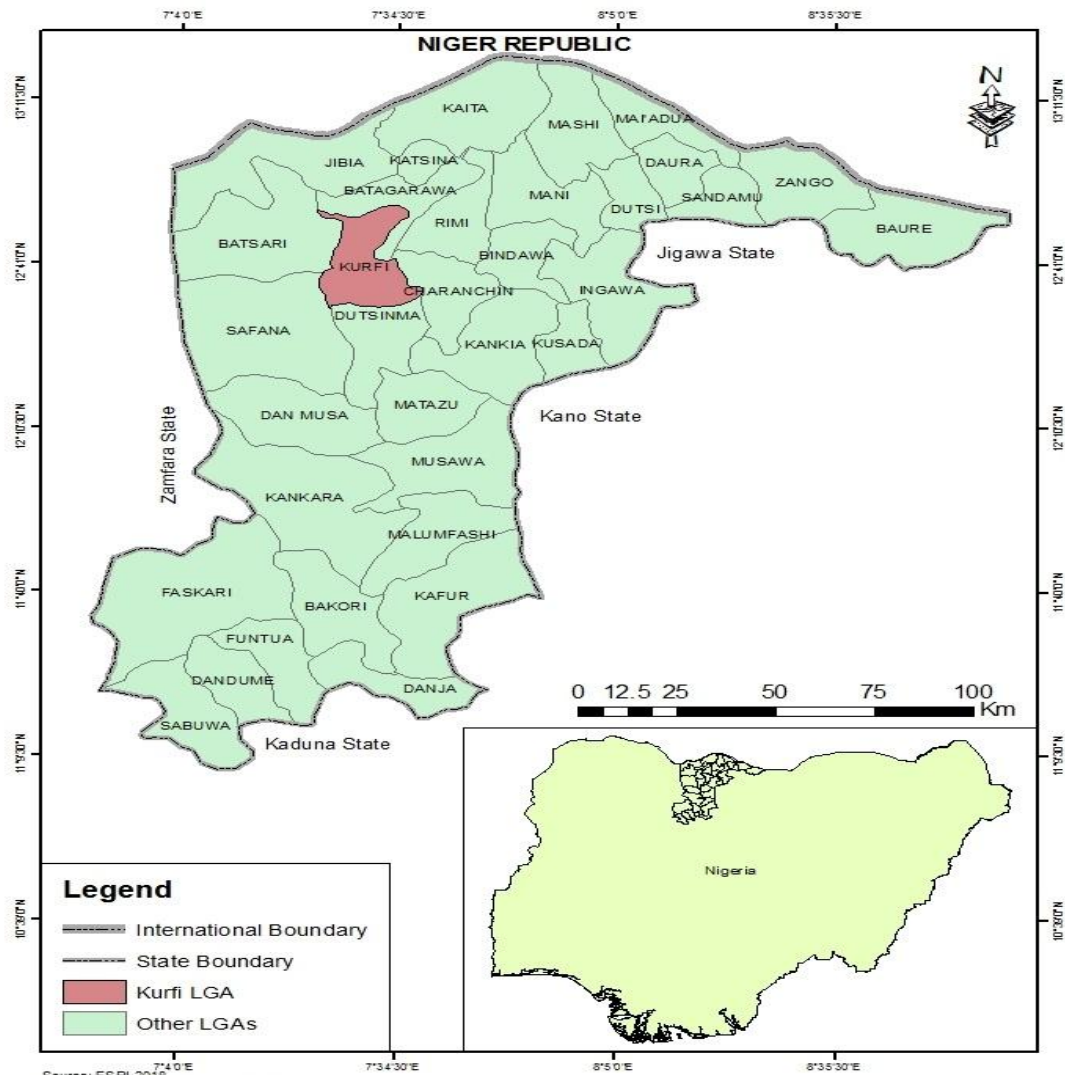


Figure 1: Map of Katsina State showing Kurfi Local Government
 Source: GIS Federal University Dutsin-Ma (2024)

Study Design

This research is cross-sectional and questionnaire was used to test the awareness of NTDs in Kurfi town of Katsina State. Participants were randomly approached and interviewed to indicate their interest in filling out the questionnaire that aimed to hide their personal identity. Participants were asked to complete an informed consent form, after the purpose of the study had been explained to them.

Data Analysis

Statistical Package for Social Science (SPSS) version 16 software was used to analyse the data. Descriptive statistics was also employed to categorize crucial factors and chi-square was used to test the significance level at 95%.

Ethical Clearance

The Ethical clearance form for this study was obtained from the Katsina State Ministry of Health (Ref. No.: MOH/ADM/SUB/1152/23/1316) prior to conduct this research

RESULTS

The 341 respondents filled out these questionnaires for this survey and among these figures, 199(58.4%) are males and 113 (33.1%) are females while only 29 (8.5%) have not stated their sex and their age ranged from 15 years to above with a mean range age 25 ± 3 . 73.9% of the respondents are students (secondary schools or higher institutions) as seen in Table 1.

Table 1: Demographical Characteristics of the Respondents

Factors		Number of Respondents	Percentage of the Respondents (%)
Sex	Male	199	58.4
	Female	113	33.1
	No sex Status	29	8.5
Occupation	Students	252	73.9
	NGO Staff	25	7.3
	Civil Servants	23	6.7
	Farming	32	9.4
	Business Man	5	1.5
Age Group	Others	9	2.6
	15-20	25	7.3
	21-25	119	34.9
	26-30	98	28.9
	31-35	44	12.9
	36- Above	12	3.5
	No Age Status	43	12.6

Most of the respondents (63.1%) are fully aware of the full meaning of NTDs while only 5 (1.4%) did not answer. The majority of the respondents 245 (71.8%) selected that they had heard of NTDs around their area and have seen someone with one of the diseases and 218 (63.9%) chose River blindness, Schistosomiasis, Trypanosomiasis and so on as the most commonly known NTDs. Majority of the respondents (97%) believe that, the NTDs are a public health setback in their society that drastically affect their smooth growth of their economy in one way or another with 229(67.1%) believe to have seen someone with one of the diseases NTDs). 134(39.3%) reported having read information on NTDs from a scientific journal while 40(11.7%) have come from endemic areas (Table 2).

Table 2: General Information on Knowledge Attitude and Practice of the Respondents on NTDs

General Information		Number of the respondents	Percentage of the Respondent (%)
Do you know the full meaning of NTDs	Yes	215	63.1
	No	121	35.5
	No answer	5	1.4
Have you heard of any NTDs Around Your Area?	Yes	245	71.8
	No	92	26.9
	No answer	4	1.2
If yes from above, Where did You Heard it?	School	61	17.8
	Social Media	29	8.5
	Scientific Journal	105	30.7
	Conferences	50	14.6
	All of the Above	92	26.9
	I can't Recall	4	1.2
	Yes	331	97

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Is NTDs a Problem in Public Health?	No	8	2.3
	Not Answered	2	0.6
If yes from the Above, why do you think So?	I Reads it on Social Media	68	20
	I Reads it in Scientific Journal	134	39.3
	I knew People with a Disease	78	22.9
	I Live in an Endemic Area	40	11.7
	I Have no Idea	21	6.2
	Not Answered	0	0
Which of These Diseases You Consider as NTDs	River blindness,	218	63.9
	Schistosomiasis,		
	Trypanosomiasis etc.		
	Malaria	39	11.4
	HIV/AIDs	24	7

The significant number of respondents 269(78.8) shows that, controlling vector, innovatory and intensive management, chemotherapy prevention, veterinary public health and provision of safe water, sanitation and hygiene are crucial when applied in order to control and eliminates NTDs from endemic area (Table 3).

Table 3: Response of Respondents on the awareness of NTDs Control Measures by WHO

Control Measures	Number of Respondents	Percentage of Respondents (%)
Vector Control	11	3.2
Innovatory and Intensive Disease Management	5	1.5
Preventive Chemotherapy	23	6.7
Veterinary Public Health	9	2.6
Provision of Sanitation, Safe Water and Hygiene	18	5.3
All of the Above	269	78.8
I Don't Know	6	1.8

This research revealed that, 101(30.8) of the male respondents are aware of WHO control measures on NTDs even though there are 39 (11.4%) of the female respondents not aware of WHO control measures in NTDs. Moreover statistically, there is no significant difference between sex groups of WHO NTDs control measures. 81(23.7%) of those that are aware of WHO NTDs control strategies are between the age group of 21-25 years without any significant differences among these age groups (Table 4).

Table 4: Response on WHO NTDs Control Measures based on Age and Sex

Variables	Aware of WHO NTDs Control Measure (%)	Not Aware of WHO NTDs Control Measure (%)	P- Value	Confidence Level (95%)
Sex	Male	101(30.8)	0.052	0.996-2.317
	female	74(21.7)		
	No Sex	17 (4.9)		
Age	Status		0.125	0.996-2.317
	15-20	17 (4.9)		
	21-25	81 (23.7)		
	26-30	69 (20.2)		
	31- 35	30 (8.7)		
	36- Above	8(2.3)		
No Age	29(8.5)	14(4.1)		

A high percentage 285(83.5%) recorded in this research were gave their opinion that; there is lack of awareness of governments (MDAs) on NTDs than 50 (14.6%) argued that there is enough awareness of governments (MDAs) on NTDs. However, almost all the respondents 326(95.6%) are willing to participate in any NTDs control, elimination or prevention programs either by publication (11.1%), by donation (26%), by social media handles (26.3%) while 106 (31.2%) can participate on all the above means (Table 5)

Table 5: How to Eliminate NTDs in the Society

Reasons		Number of Respondents	Percentage (%)
	Public lectures on NTDs	13	3.8
What can reduce the burden of NTDs	More Research Grant	21	6.2
	More funding by MDAs	18	5.3
	All of the above	289	85
Do you think there is enough awareness of NTDs among Governmental Organisations	Yes	50	14.6
	No	285	83.5
	I don't know	6	1.8
Can you participate in any program on NTDs control and Elimination	Yes	326	95.6
	No	12	3.5
	I don't know	3	0.9
	Publication	38	11.1
If yes to the above answer, what are the preferable activities	Donation	89	26
	Social media handles	90	26.3
	All of the above	106	31.2
	Others	18	5.3

DISCUSSION

Awareness of the general public and the conscious understanding of these diseases (NTDs) are crucial factors in eliminating and controlling these NTDs. In the background of NTDs control, public awareness may affect the formulation of policy and implementation strategy. Even though this survey shows that, the majority of the respondents have heard about NTDs control activities by WHO, however, their awareness of specific NTD control measure is poor when relative to the percentage of the respondents that considered the diseases as a public health problem especially in area with security of Kurfi Local Government. It was also vital to know that about 63% knew the full meaning of the NTDs. This finding revealed that public awareness of NTD control measure is high in the surveyed population. This finding agreed with other studies in Nigeria (Hotez and Adesina 2012) and other African nations (Hotez *et al.*, 2007). Although, there is high knowledge of NTDs control measures but consequently, River blindness, Schistosomiasis and Trypanasomiasis are set to be the most known NTDs by the public. This may be due to the fact that control measures in the country have been ongoing since 1991 (Adeoye *et al.*, 2010) and there are several national and international partners such as MITOSATH, UNICEF, WHO and Sight savers, working on the control of these diseases in Nigeria. Additionally, the drug Ivermectin was made available and is distributed freely to the population at risk using the program that involves community members; Community directed Treatment with Ivermectin (CDTI) has also contributed to making control measures a public knowledge in the country (Suleiman, 2016). Despite the availability of Preventive Chemotherapy Drugs for schistosomiasis and soil-transmitted helminthiasis which also carries heavy burden in Nigeria; awareness about their control was low (Abbas *et al.*, 2023). This could be due to inadequate government funding of schistosomiasis and soil-transmitted

helminthiasis control programme for many years (Babatunde *et al.*, 2013). Respondents' erroneous knowledge about control activities could have been negatively influenced by knowledge of people suffering from these diseases, even though there have been reported cases in Nigeria (Emeto *et al.*, 2021). This implies that people knowledge about control measures could be relatively influenced by the knowledge of the infected person (Njepuome *et al.*, 2009). The knowledge about NTDs control measures is higher in males than the females although not statistically significant (0.052) and agrees with a report from Cameroon that males showed more knowledge about NTDs than females (Yan *et al.*, 2015). Furthermore, the general public believes that the government is playing a little role toward eliminating and controlling of NTDs despite the NTDs targeted control programmes, as the result of poor funding of these programmes by the government when compared to other control program like malaria and HIV, which suggests the fact that NTDs controls are given lesser funds and attentions when compared to HIV/AIDS, malaria and tuberculosis control in sub-Saharan Africa (Yan *et al.*, 2015).

The desire of the participants to play a crucial role in any NTDs elimination and control programmes is an opportunity for the government and its global partners in NTDs to join hands to eliminate and control NTDs. Enough resources and funds should be allocated to public awareness programmes, jingles in social media, use of mobile telephony to send information as it is being done for malaria control (Wogu *et al.*, 2021). Without the public being mobilized to participate in NTDs control activities, it would be difficult and not impossible for the current intervention using preventive chemotherapy drug to succeed (Kamga *et al.*, 2012). Sample size and lack of funds are the major limitation of this research.

CONCLUSION

It's very important to create innovative programs and improve disease surveillance system, collection and management of data, enough intervention and assisting the monitoring and evaluation in order to achieve the WHO's campaign that is "ask, act and invest on NTDs". However, massive drug administration should also be emphasized, improve local healthcare systems, provide portable and safe water supply and initiate a research grant to support a scientific researchers are also inevitable in the fight against the neglected tropical diseases (NTDs).

REFERENCES

- Hotez, P. J. (2009). Neglected tropical diseases in sub-Saharan Africa: a review of their prevalence, distribution, and disease burden. *PLoS Negl Trop Dis*, 3, e412.
- World Health Organization. (2009). *Neglected tropical diseases, hidden successes, emerging opportunities* (No. WHO/HTM/NTD/2009.2). World Health Organization.
- World Health Organization. Integrating neglected tropical diseases into global health and development: fourth WHO report on neglected tropical diseases. World Health Organization; 2017.
- Hotez PJ, Alvarado M, Basáñez MG, Bolliger I, Bourne R, Boussinesq M, et al. The global burden of disease study 2010: interpretation and implications for the neglected tropical diseases. *PLoS neglected tropical diseases*. 2014. July;8(7). 10.1371/journal.pntd.0002865 [DOI]
- Olamiju, O. J., Olamiju, F. O., Adeniran, A. A., Mba, I. C., Ukwunna, C. C., Okoronkwo, C. and Ekpo, U. F. (2014). Public awareness and knowledge of neglected tropical diseases (NTDs) control activities in Abuja, Nigeria. *PLoS neglected tropical diseases*, 8(9), e3209. <http://kurfilga.kts-ng.org/>

- Hotez, P. J., Asojo, O. A. and Adesina, A. M. (2012). Nigeria: "ground zero" for the high prevalence neglected tropical diseases in sub-Saharan Africa: a review of their prevalence, distribution, and disease burden. *PLoS Negl Trop Dis*, 3, e412.
- Hotez, P. J., Molyneux, D. H., Fenwick, A., Kumaresan, J., Sachs, S. E., Sachs, J. D. and Savioli, L. (2007). Control of neglected tropical diseases. *New England journal of medicine*, 357(10), 1018-1027.
- Adeoye, A. O., Ashaye, A. O., and Onakpoya, O. H. (2010). Perception and attitude of people toward onchocerciasis (river blindness) in South Western Nigeria. *Middle East African Journal of Ophthalmology*, 17(4), 310.
- Suleiman, M. M. (2016). Neglected Tropical Diseases in Nigeria: Situation Analysis. *Advances in Social Sciences Research Journal*, 3(10).
- Abbas, U., Eberemu, N. C., Orpin, J. B., and Kaware, M. S. (2023). Human Water Contact Behaviour and Schistosoma haematobium Infection among Almajiri School Children in Kurfi Local Government Area of Katsina State, Nigeria. *Nigerian Journal of Parasitology*, 44(1).
- Babatunde, T. A., Asaolu, S. O. and Sowemimo, O. A. (2013). Urinary schistosomiasis among pre-school and school aged children in two peri-urban communities in Southwest Nigeria. *Journal of parasitology and vector biology*, 5(7), 96-101.
- Emeto, D. C., Salawu, A. T., Salawu, M. M. and Fawole, O. I. (2021). Recognition and reporting of neglected tropical diseases by primary health care workers in Ibadan, Nigeria. *Pan African Medical Journal*, 38(1).
- Njepuome, N., Ogbu-Pearce, P., Okoronkwo, C. and Igbe, M. (2009). Controlling onchocerciasis: the Nigerian experience. *The Internet Journal of Parasitic Diseases*, 4(1), 1-4.
- Yan, I., Korenromp, E. and Bendavid, E. (2015). Mortality changes after grants from the Global Fund to Fight AIDS, tuberculosis and malaria: an econometric analysis from 1995 to 2010. *BMC public health*, 15(1), 1-10.
- Wogu, W. D. and Okaka, C. E. (2021). The knowledge, attitude and perception of onchocerciasis and ivermectin treatment by the people in Okpuje, Edo State, Nigeria. *International Journal of Biomedical and health sciences*, 4(3).
- Kamga, H. L. F., Assob, N. J. C., Nsagha, D. S., Njunda, A. L. and Njimoh, D. L. (2012). A community survey on the knowledge of neglected tropical diseases in Cameroon. *International Journal of Medicine and Biomedical Research*, 1(2), 131-140.