



RESEARCH ARTICLE

ASSESSMENT OF FRONTLINE HEALTH WORKERS' KNOWLEDGE AND ATTITUDE TOWARDS TUBERCULOSIS SCREENING IN OYO STATE

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Abstract

Background: A good knowledge of Tuberculosis (TB) and favourable attitudinal disposition of frontline health workers (FLHWs) would be required to improve TB diagnosis, treatment, and prevention and to reach global eradication targets. This study aims to assess the level of knowledge and attitudinal disposition of frontline health workers towards Tuberculosis screening and case finding in Oyo State, Nigeria.

Methods: A cross-sectional study was conducted among FLHWs in Oyo State, Nigeria. Respondents were randomly selected, health workers at DOTS and ART units were excluded from the study. A sample size of 102 was calculated based on results of previous study (Global Fund, 2018). A confidence interval of 95% and absolute precision of 0.05 were used. Eighteen (18) Local Government Areas (LGAs) out of 33 in the State were randomly selected and 5 FLHWs meeting the inclusion criteria across 5 health facilities were selected at each LGA. The study was approved by the Babcock university health research ethical committee (BUHREC). Signed consents were also obtained from the respondents. A semi-structured questionnaire comprising of 43 questions covering socio-demographic information (13), knowledge (15) and attitude (15) of the respondents. It was developed based on WHO Advocacy, communication and social mobilization for TB control: A guide to developing knowledge, attitude and practice surveys instrument (World Health Organization, 2008). Data was analyzed using Statistical Package for Social Sciences (SPSS), version 20. Results were presented in percentages and proportions. The association between knowledge and attitude was tested using chi-square. Significance was considered at a p-value < 0.05. Results Socio-demographic data shows that 71% (71/100) of the respondents were aged 40 years and above, 88% (88/100) were females and the CHOs were the most prominent cadre- 64% (64/100). Total knowledge score ranged from 7 to 13 with an average total knowledge score of 10.7 (SD 1.4) with only 34% (34/100) having good knowledge of Tuberculosis. Attitudinal scores ranged from 5 to 13, mean attitudinal score was 8.59 (SD 2.225). Only 11 percent (11/100) of the respondents had a good attitude towards TB screening, a larger proportion (80%) had fair attitude while 9% had poor attitude. Chi-Square test of association shows a significant relationship between

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knowledge and attitude; $X^2(2, N=100) = 9.992, p = .007$, effect size was however low 0.25. Conclusion: Knowledge and attitudinal disposition of frontline health workers to TB and TB screening in Oyo State is sub-optimal. Further studies might be needed to examine the effect of structured training towards improving health workers attitude towards TB services including screening.

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Introduction:-

Tuberculosis (TB) is an infectious disease with the bacillus *Mycobacterium tuberculosis* as its aetiological agent. It is one of the prominent causes of sickness and despite the availability of effective treatment, still accounts for a large proportion of deaths amongst the infectious diseases related deaths (World Health Organization, 2019).

In terms of global disease burden, Nigeria, ranks sixth globally. Along with seven other countries, Nigeria contributes two-thirds of the global burden of the disease. The rate of new infections is estimated to be about 219 new infections in 100,000 populations and about 440,000 new cases annually (World Health Organization, 2020). The country also, alone accounts for 11% of the missing 92.9 million cases ranking only second to India- 17% (World Health Organization, 2020). In 2020, only about 29% of the 440,000 people estimated to have come down with the disease, were diagnosed and placed on treatment (World Health Organization, 2020).

Intensified efforts to improve TB diagnosis, treatment, and prevention are needed to meet global End TB targets. Noe, et al., (2017) opined that the control of Tuberculosis is better achieved by improving the knowledge of frontline health workers (FLHWs). Poor attitude towards TB screening and stigmatization has contributed to the ineffective control of the disease. This poor attitude alongside poor knowledge of TB, had also been found to be responsible for over a 70 percent of the major barriers to patients' adherence to treatment (Luka, et al., 2014). Sub-optimal knowledge of FLHWs on TB screening and triaging has been observed to increase their risk of exposure to TB infection (Shrestha, et al., 2017).

This study aimed to assess the level of knowledge and attitudinal disposition of frontline health workers towards Tuberculosis screening and case finding in Oyo State, Nigeria.

Methods:-

As part of a larger multi-component interventional study, a cross-sectional study was conducted with FLHWs in 102 health facilities in Oyo State, Nigeria. Respondents' knowledge and attitudinal disposition of tuberculosis was assessed using questionnaires.

The respondents were randomly selected using systematic random sampling. FLHWs at DOTS and ART units were excluded from the study. The sample size of 92 was calculated based on results of previous similar study (GlobalFund, 2018). A confidence interval of 95% and absolute precision of 0.05 were used. Eighteen (18) LGAs out of 33 in the State randomly selected. At each LGA, 5 FLHWs meeting the inclusion criteria across 5 health facilities were selected. At LGAs having more than 5 facilities meeting the inclusion criteria, five facilities were randomly selected.

The study was approved by the Babcock university health research ethical committee (BUHREC). Signed consents were also obtained from the respondents. A semi-structured questionnaire comprising of 43 questions covering socio-demographic information (13), knowledge (15) and attitude (15) of the respondents. It was developed based on WHO Advocacy, communication and social mobilization for TB control: A guide to developing knowledge, attitude and practice surveys instrument (World Health Organization, 2008). The questionnaire was seen and reviewed by senior researchers and lecturers of Public Health at the Babcock University, Ilishan, Nigeria and was piloted among 10 randomly selected FLHWs at a secondary health facility in the State Capital before the study was conducted. Although, respondents were present physically at the point of administration, the questionnaires were administered electronically and completed forms were downloaded by the researcher.

The data was analyzed using Statistical Package for Social Sciences (SPSS), version 20. Knowledge of TB was analyzed by assigning 1 to each correct answer to 14 knowledge questions and '0' to each incorrect answer. One question was assigned 2 points, 1 point and zero for correct, partially correct and incorrect answers respectively. The sum obtained by each respondent ranging from 0 to 16 was used in assessing level of knowledge. A score of 0-6, poor, 7-11, fair while 12-16 was accepted to be optimal (Berg-Johnsen et al., 2020). This also was applied to attitudinal disposition to TB where expected sum also ranged from 0 to 16. Results were presented in percentages and proportions. The association between knowledge and attitude was tested using chi-square. Significance was considered at a p-value < 0.05.

Results:-

One hundred questionnaires were submitted by the respondents out of a hundred and two expected. This gave a response rate of 98 percent which was considered good enough for the study. Results showed that 71% (71/100) of the respondents were aged 40 years and above while 88% (88/100) were females. The CHOs were the most prominent cadre- 64% (64/100) distantly followed by the Registered Nurses/Midwives (20%).

Ninety percent (90%) had paid employments while 10 percent were ad hoc/volunteer workers. Most of the respondents were from the general out-patient departments (91%). Only 4% had a chronic illness and Hypertension was the most prominent of all reported chronic illnesses - 66.7% (8/100). Almost all respondents (97%) were from the Primary Health Centres (PHCs).

Total knowledge score ranged from 7 to 13 with an average total knowledge score of 10.7 (SD 1.4) with only 34% (34/100) having good knowledge of Tuberculosis. Attitudinal scores ranged from 5 to 13, mean attitudinal score was 8.59 (SD 2.225). Only 11 percent (11/100) of the respondents had a good attitude towards TB screening, a larger proportion (80%) had fair attitude while 9% had poor attitude.

About 53% of the CHEWs (7/13) had good knowledge of TB followed by the CHOs with 42% (27/64) and RN/RM, 0% (0/20). Forty-two (42) percent (17/40) of respondents who were once DOTS officers had good knowledge of TB compared with 27% (16/59) who were never DOTS officers. Forty-six (46) percent (30/65) of respondents with previous formal training on TB had good knowledge compared with 11% among those without any previous formal training. However, there seem to be no difference in attitude between these two groups (10.7% versus 11%).

A Chi-Square test of association was performed to assess the relationship between knowledge and attitude. There was a significant relationship between the two variables, $\chi^2 (2, N=100) = 9.992, p = .007$, effect size was however 0.25.

Discussion:-

Similar to many other studies, the knowledge of TB among frontline health care workers is generally poor (Luka, et al., 2014). (Ibrahim et al., 2014) and (Sima et al., 2019). Luka et al., 2014 reported that only 43.3% of FLHWs in Plateau State, Nigeria had good knowledge of TB care and Sima et al., reported only 36% at a district in Ethiopia. A similar study conducted in Ogbomoso town Oyo State reported 40% inadequate knowledge of the TB treatment guidelines and 30% of the health workers having poor attitude towards TB services (Sunday Olakunle Olarewaju, Wasiu Olalekan Adebimpe, Abiodun Oluwatoyin Olarewaju, 2018). The situation is similar in Ethiopia with over half (50.9%) of health workers having poor attitude towards TB. Respondents with good attitude are also more likely going to be provide better quality TB services (Sima et al., 2019)

Conclusion:-

Knowledge and attitudinal disposition of frontline health workers to TB and TB screening in Oyo State is sub-optimal. Further studies might be needed to examine the effect of structured training towards improving health workers attitude towards TB services including screening.

References:-

1. Berg-Johnsen, A., Hådem, S. O., Tamrakar, D., & Harstad, I. (2020). A questionnaire of knowledge, attitude and practices on tuberculosis among medical interns in Nepal. *Journal of Clinical Tuberculosis and Other Mycobacterial Diseases*, 20, 100173. <https://doi.org/10.1016/j.jctube.2020.100173>

2. GlobalFund. (2018). Using Quality Improvement Approaches to increase TB case Detection. The Global Fund to Fight AIDS, Tuberculosis and Malaria, 1–12.
3. Luka, M.I., Idris, S. H., Patrick, N., Ndakilnasiya, E. W., Moses, O. A., Phillip, P., Peter, N. Health care workers' knowledge and attitude towards TB patients under Direct Observation of Treatment in Plateau state Nigeria, 2011. Pan African Medical Journal. 2014;18 (Supp 1):8
4. 1):8
5. Shrestha, A., Bhattarai, D., Thapa, B., Basel, P., Wagle, R. (2017). Health care workers' knowledge, attitudes and practices on tuberculosis infection control, Nepal. BMC Infectious Diseases. 17. 10.1186/s12879-017-2828-4.
6. Sima, B. T., Belachew, T., & Abebe, F. (2019). Health care providers knowledge, attitude and perceived stigma regarding tuberculosis in a pastoralist community in Ethiopia. BMC Health Services Research, 19(1), 1–11.
7. Sunday Olakunle Olarewaju,, Wasu Olalekan Adebimpe, Abiodun Oluwatoyin Olarewaju, M. O. O. (2018). Knowledge and use of Tuberculosis Treatment Guidelines in endemic settings: a cross-sectional study among primary health care workers in Ogbomoso, Oyo State, Nigeria. Nigerian Journal of Medicine, 7(1), 3–10.
8. World Health Organization. (2019). Global Tuberculosis Report 2019.
9. World Health Organization. (2020). Global Tuberculosis Report 2020.
10. World Health Organization (WHO). (2008). Advocacy, communication and social mobilization for TB control: a guide to developing knowledge, attitude and practice surveys.