The Duty of Community Health Extension Workers in Tuberculosis Evolution in Andoni

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Abstract
Tuberculosis (TB) remains a major public health challenge, particularly in developing countries where limited access to healthcare services, inadequate awareness, delayed diagnosis, treatment interruption, and social stigma continue to affect disease control efforts. Community Health Extension Workers (CHEWs) serve as essential links between healthcare facilities and communities by providing health education, promoting disease prevention, identifying suspected cases, and supporting treatment adherence. This study examined the duty of Community Health Extension Workers in tuberculosis control in Andoni Local Government Area of Rivers State, Nigeria. Specifically, the study assessed the duty of CHEWs in creating tuberculosis awareness, examined their contribution to early detection of tuberculosis cases, determined their duty in promoting treatment adherence among tuberculosis patients, and identified challenges affecting their performance in tuberculosis control. The study adopted a descriptive survey research design. The population of the study comprised Community Health Extension Workers, primary healthcare workers, tuberculosis patients, and community members in Andoni Local Government Area. A sample size of 120 respondents was selected, and 112 properly completed questionnaires were analysed. Data were collected using a structured questionnaire developed based on the research objectives and questions. The instrument was measured using a five-point Likert scale of Strongly Agree, Agree, Undecided, Disagree, and Strongly Disagree. Data collected were analysed using frequency distribution, percentages, mean scores, and Pearson Product Moment Correlation (PPMC) for hypothesis testing at a 0.05 level of significance. The findings revealed that Community Health Extension Workers play a significant duty in tuberculosis awareness creation through community education, sensitization programmes, and stigma reduction activities. The study also found that CHEWs contribute significantly to early detection of tuberculosis cases by identifying individuals with symptoms, referring suspected cases to healthcare facilities, and conducting household visits for contact tracing. Furthermore, the findings showed that CHEWs promote treatment adherence among tuberculosis patients through counselling, follow-up visits, medication reminders, and continuous patient support. However, the study identified major challenges affecting their performance, including inadequate training, limited logistics, transportation difficulties, shortage of working materials, tuberculosis stigma, and poor community cooperation. The hypothesis test showed a significant positive relationship between the duty of Community Health Extension Workers and tuberculosis control outcomes in Andoni Local Government Area ($p < 0.05$). Therefore, the study concluded that CHEWs have a significant duty in tuberculosis control and are important contributors to achieving effective

community-based TB prevention and management. The study recommended continuous training and capacity building for CHEWs, provision of adequate logistics and resources, strengthening of community awareness programmes, improved supervision, and greater community participation in tuberculosis control activities.

Introduction

Tuberculosis (TB) remains one of the leading infectious causes of morbidity and mortality worldwide despite decades of global control efforts. The disease is caused by *Mycobacterium tuberculosis* and is transmitted through airborne droplets from individuals with active pulmonary tuberculosis. Although tuberculosis is both preventable and curable, it continues to pose a major public health challenge, particularly in low- and middle-income countries where poverty, overcrowding, malnutrition, weak health systems, and delayed diagnosis contribute to sustained transmission (World Health Organization [WHO], 2024). According to the WHO (2024), approximately 10.8 million people developed tuberculosis globally in 2023, while over one million deaths were attributed to the disease, making tuberculosis the world's leading infectious killer. Nigeria remains among the thirty countries with the highest burden of tuberculosis globally. The country accounts for a significant proportion of TB cases in Africa, with many infected individuals remaining undiagnosed or untreated. This situation has been attributed to inadequate case detection, delayed diagnosis, poor healthcare accessibility, poverty, stigma, and weak community participation in tuberculosis control programmes (WHO, 2024; Federal Ministry of Health [FMOH], 2023). Although the Nigerian government has implemented several interventions through the National Tuberculosis, Leprosy and Buruli Ulcer Control Programme (NTBLCP), tuberculosis continues to affect thousands of Nigerians annually, particularly in rural and underserved communities.

The World Health Organization's End TB Strategy recognizes community participation as one of the major pillars for achieving universal access to tuberculosis prevention, diagnosis, treatment, and care. Community-based healthcare workers are increasingly acknowledged as indispensable partners in strengthening primary healthcare delivery and improving tuberculosis control through early identification of symptomatic individuals, health education, treatment support, contact investigation, and referral services (WHO, 2024). This strategy emphasizes that effective tuberculosis elimination cannot be achieved solely through facility-based services but requires active community engagement.

Within Nigeria's primary healthcare system, Community Health Extension Workers (CHEWs) constitute one of the most important cadres of frontline healthcare personnel. CHEWs are specifically trained to provide preventive, promotive, and basic curative healthcare services at the grassroots level, especially in rural and hard-to-reach communities where shortages of physicians and nurses persist (Abimbola et al., 2019). Their community-based approach enables them to establish close relationships with households, thereby facilitating health education, disease surveillance, early detection of infectious diseases, and continuity of care.

Community Health Extension Workers perform numerous responsibilities that directly support tuberculosis control. These include conducting community sensitization on tuberculosis symptoms, screening individuals with prolonged cough, referring presumptive cases for laboratory diagnosis, tracing household contacts of confirmed patients, monitoring treatment adherence under the Directly Observed Treatment Short-course (DOTS) strategy, and reducing stigma associated with tuberculosis through continuous health education (Yassin et al., 2013; Datiko et al., 2017). Studies have shown that community-based interventions delivered by trained frontline health workers significantly improve tuberculosis case notification and treatment outcomes in resource-constrained settings.

Health education remains one of the most effective strategies employed by Community Health Extension Workers to improve community knowledge regarding tuberculosis. Through

household visits, market outreaches, religious gatherings, and community meetings, CHEWs educate residents about the causes, symptoms, transmission, prevention, and treatment of tuberculosis. Such interventions improve health-seeking behaviour, encourage early presentation at health facilities, and reduce misconceptions that often delay diagnosis (Mesfin et al., 2021).

Early detection of tuberculosis is another important contribution of Community Health Extension Workers. Active case finding, which involves systematic identification of individuals with tuberculosis symptoms within communities, has been recognized as a cost-effective approach to increasing tuberculosis notification rates. CHEWs conduct routine community screening, identify individuals with persistent cough lasting more than two weeks, and facilitate prompt referral for sputum examination or molecular diagnostic testing. Early diagnosis reduces disease transmission, improves treatment success, and minimizes complications associated with delayed care (WHO, 2024).

Treatment adherence is essential for successful tuberculosis management because treatment interruption contributes to relapse, treatment failure, and multidrug-resistant tuberculosis. Community Health Extension Workers support treatment adherence by providing counselling, conducting home visits, monitoring medication intake, reminding patients of clinic appointments, and addressing barriers that may discourage treatment completion. Evidence suggests that community-based treatment support provided by CHEWs substantially improves treatment completion rates and reduces default among tuberculosis patients (Datiko et al., 2017).

Despite their enormous contributions, Community Health Extension Workers continue to encounter several operational challenges. These include inadequate training opportunities, shortage of logistics, transportation difficulties, insufficient supervision, poor remuneration, inadequate diagnostic equipment, and heavy workloads. These challenges often limit their effectiveness in implementing tuberculosis control activities within many rural communities (Abimbola et al., 2019).

Andoni Local Government Area of Rivers State is predominantly rural, with many residents relying on primary healthcare facilities for essential health services. Factors such as dispersed settlements, low socioeconomic status, transportation barriers, and varying levels of health literacy may contribute to delayed tuberculosis diagnosis and treatment. Consequently, Community Health Extension Workers serve as the principal link between healthcare facilities and community members, making their contribution indispensable to successful tuberculosis control within the area. Although numerous studies have investigated tuberculosis control programmes in Nigeria, relatively few have specifically examined the duty of Community Health Extension Workers in tuberculosis control within rural local government areas such as Andoni . Local evidence is needed because healthcare delivery, community participation, and operational challenges vary across geographical settings. Therefore, this study seeks to examine the duty of Community Health Extension Workers in tuberculosis control in Andoni Local Government Area of Rivers State.

Research Design

The study adopted a descriptive survey research design. The design was considered appropriate because it enables the researcher to collect information from respondents regarding their experiences, opinions, and perceptions about the duty of Community Health Extension Workers in tuberculosis control. The descriptive survey design allows the researcher to examine existing conditions without manipulating variables. According to Creswell and Creswell (2023), survey research is suitable for studies that seek to describe trends, attitudes, opinions, and characteristics of a population through data collected from a sample.

The design was appropriate for this study because it enabled the researcher to assess the contribution of Community Health Extension Workers to tuberculosis awareness creation, early detection of TB cases, promotion of treatment adherence, and the challenges affecting their performance in Andoni Local Government Area.

Population of the Study

The population of the study comprises Community Health Extension Workers, healthcare personnel, tuberculosis patients, and community members within Andoni Local Government Area. The target population consists of individuals who have direct or indirect knowledge of tuberculosis control activities and the involvement of CHEWs in community healthcare delivery. The choice of this population was based on the assumption that Community Health Extension Workers are directly involved in tuberculosis prevention and control activities, while healthcare workers, patients, and community members provide additional perspectives regarding the effectiveness of CHEWs' dutys.

Sample Size and Sampling Technique

A sample size of 120 respondents was selected for the study. The sample consisted of Community Health Extension Workers, healthcare providers, tuberculosis patients, and community members within the study area.

The study adopted a multistage sampling technique. The first stage involved selecting relevant communities and healthcare facilities within Andoni Local Government Area. The second stage involved selecting respondents from the identified groups using simple random and purposive sampling techniques.

Simple random sampling was used to provide equal opportunities for eligible community members and patients to participate, while purposive sampling was used to select Community Health Extension Workers and healthcare personnel because of their direct involvement and professional knowledge of tuberculosis control activities.

Instrument for Data Collection

The instrument used for data collection was a structured questionnaire developed by the researcher based on the objectives and research questions of the study. The questionnaire was divided into two sections.

Section A collected demographic information of respondents, including gender, age, educational qualification, occupation, and years of experience.

Section B contained statements relating to the research objectives. It focused on four major areas:

1. The duty of Community Health Extension Workers in creating tuberculosis awareness.
2. The contribution of CHEWs to early detection of tuberculosis cases.
3. The duty of CHEWs in promoting tuberculosis treatment adherence.
4. The challenges affecting CHEWs' performance in tuberculosis control.

The questionnaire items were measured using a five-point Likert scale of Strongly Agree (SA), Agree (A), Undecided (U), Disagree (D), and Strongly Disagree (SD).

Validity of the Instrument

The validity of the research instrument was established through expert review. The questionnaire was submitted to experts in public health, health education, and research methodology for examination. Their observations and recommendations were incorporated to ensure that the instrument adequately measured the variables under investigation.

Content validity was ensured by developing questionnaire items directly from the research objectives and research questions. This process ensured that the instrument covered all important aspects of Community Health Extension Workers' dutys in tuberculosis control.
According to Taherdoost (2021), validity ensures that a research instrument accurately measures the concept it is intended to measure and improves the credibility of research findings.

3.7 Reliability of the Instrument

The reliability of the questionnaire was determined through a pilot test conducted among respondents from a neighbouring local government area outside the study location. The purpose of the pilot study was to assess the consistency, clarity, and reliability of the questionnaire items.
The reliability coefficient of the instrument was determined using Cronbach's Alpha method. A reliability coefficient of 0.70 or above was considered acceptable for the study. According to Tavakol and Dennick (2011), Cronbach's Alpha is widely used to determine the internal consistency of research instruments containing multiple Likert-scale items.
The reliability test ensured that the questionnaire produced consistent results and was suitable for collecting data for the study.

3.8 Method of Data Collection

The researcher personally administered the questionnaires to selected respondents with the assistance of trained research assistants. Before administration, permission was obtained from relevant healthcare authorities and community leaders.
Respondents were informed about the purpose of the research and assured that participation was voluntary and confidential. Adequate time was provided for respondents to complete the questionnaire, after which completed copies were retrieved for analysis.
The researcher ensured proper ethical procedures were followed throughout the data collection process, including informed consent, confidentiality, and respect for respondents' privacy.

Method of Data Analysis

Data collected from the respondents were analysed using descriptive and inferential statistics. The completed questionnaires were coded and entered into a statistical software package for analysis.
Descriptive statistics such as frequency distribution, percentages, mean, and standard deviation were used to summarize respondents' demographic characteristics and responses to questionnaire items.
The research questions were answered using mean scores, with a decision rule that a mean score of 3.00 and above indicated agreement, while a mean score below **3**.00 indicated disagreement**.**
For testing the hypothesis, inferential statistics using Pearson Product Moment Correlation (PPMC) was employed to determine the relationship between the duty of Community Health Extension Workers and tuberculosis control outcomes. The hypothesis was tested at a 0.05 level of significance. Where the calculated probability value (p-value) was less than 0.05, the null hypothesis was rejected; otherwise, it was accepted.

4.2 Questionnaire Administration and Response Rate

Questionnaire Status	Frequency	Percentage (%)
Questionnaires Administered	120	100
Questionnaires Returned and Valid	112	93.3

Questionnaire Status	Frequency	Percentage (%)
Questionnaires Not Returned/Invalid	8	6.7
Total	120	100

Source: Field Survey, 2026

The table above shows that 120 questionnaires were administered to respondents, out of which 112 were successfully retrieved and found suitable for analysis. This represents a high response rate of 93.3%, indicating adequate participation of respondents in the study. The high response rate enhances the reliability of the findings because the data analysed represent the views of the majority of the selected respondents.

4.3 Demographic Characteristics of Respondents

The demographic characteristics of respondents were analysed based on gender, age, educational qualification, category of respondents, and years of experience/residence in the study area.

4.3.1 Gender Distribution of Respondents

Gender	Frequency	Percentage (%)
Male	52	46.4
Female	60	53.6
Total	112	100

Source: Field Survey, 2026

The table indicates that 52 respondents representing 46.4% were male, while 60 respondents representing 53.6% were female. This shows that female respondents constituted the majority of participants in the study. The distribution suggests that both male and female respondents were adequately represented, allowing for diverse opinions regarding the duty of Community Health Extension Workers in tuberculosis control.

4.3.2 Age Distribution of Respondents

Age Category	Frequency	Percentage (%)
Below 25 years	18	16.1
26–35 years	38	33.9
36–45 years	34	30.4
46 years and above	22	19.6
Total	112	100

Source: Field Survey, 2026

The table shows that 18 respondents (16.1%) were below 25 years, 38 respondents (33.9%) were between 26 and 35 years, 34 respondents (30.4%) were within the age range of 36–45 years, while 22 respondents (19.6%) were 46 years and above.

The findings indicate that the majority of respondents were within the active working-age categories of 26–35 years and 36–45 years. This implies that respondents possessed adequate maturity and experience to provide meaningful information regarding tuberculosis control activities and the involvement of CHEWs within the community.

4.3.3 Educational Qualification of Respondents

Educational Qualification	Frequency	Percentage (%)
Secondary School Certificate	20	17.9
Diploma/Certificate	42	37.5
HND/Bachelor's Degree	38	33.9
Postgraduate Qualification	12	10.7
Total	112	100

Source: Field Survey, 2026

The table reveals that 20 respondents (17.9%) possessed secondary school qualifications, 42 respondents (37.5%) had diploma or certificate qualifications, 38 respondents (33.9%) possessed HND or bachelor's degrees, while 12 respondents (10.7%) had postgraduate qualifications.

The result indicates that respondents generally possessed adequate educational backgrounds to understand and respond to issues relating to tuberculosis control. The high proportion of respondents with diploma, degree, and professional qualifications is particularly important because many participants were healthcare-related personnel with knowledge of community health activities.

4.3.4 Category of Respondents

Category	Frequency	Percentage (%)
Community Health Extension Workers	32	28.6
Primary Healthcare Workers	28	25.0
Tuberculosis Patients	22	19.6
Community Members	30	26.8
Total	112	100

Source: Field Survey, 2026

The table indicates that 32 respondents (28.6%) were Community Health Extension Workers, 28 respondents (25.0%) were Primary Healthcare Workers, 22 respondents (19.6%) were tuberculosis patients, while 30 respondents (26.8%) were community members.

The distribution demonstrates that the study obtained information from different groups directly connected with tuberculosis control. The inclusion of CHEWs and healthcare workers provided professional perspectives, while tuberculosis patients and community members provided experiences regarding awareness, diagnosis, treatment support, and challenges encountered within the community.

4.3.5 Years of Experience/Residence

Years of Experience/Residence	Frequency	Percentage (%)
Less than 5 years	24	21.4
5–10 years	36	32.1
11–15 years	30	26.8
Above 15 years	22	19.7
Total	112	100

Source: Field Survey, 2026

The table shows that 24 respondents (21.4%) had less than five years of experience or residence, 36 respondents (32.1%) had between 5 and 10 years, 30 respondents (26.8%) had between 11 and 15 years, while 22 respondents (19.7%) had above 15 years.
The findings reveal that most respondents had lived in the study area or worked within the healthcare/community system for several years. This suggests that respondents possessed sufficient familiarity with tuberculosis-related activities and the duty of Community Health Extension Workers in Andoni Local Government Area.

4.4 Analysis of Research Questions

The research questions were analysed using descriptive statistics of frequency counts, percentages, and mean scores. The responses were measured using a five-point Likert scale as follows:

Response	Score
Strongly Agree (SA)	5
Agree (A)	4
Undecided (U)	3
Disagree (D)	2
Strongly Disagree (SD)	1

The decision rule was based on the criterion mean of **3.00**. Any item with a mean score of 3.00 and above was accepted, while any item with a mean score below 3.00 was rejected.

4.4.1 Research Question One

What duty do Community Health Extension Workers play in creating awareness about tuberculosis in Andoni ?

Table 4.6: duty of Community Health Extension Workers in Creating Awareness about Tuberculosis

S/N	Items	SA (5)	A (4)	U (3)	D (2)	SD (1)	Mean	Decision
1	Community Health Extension Workers educate community members about the causes, symptoms, and prevention of tuberculosis.	58	38	8	6	2	4.30	Accepted
2	Community Health Extension Workers organize community sensitization programmes to improve awareness about tuberculosis.	52	42	10	6	2	4.21	Accepted
3	Community Health Extension Workers help to reduce tuberculosis-related stigma through health education and counselling.	49	44	9	7	3	4.15	Accepted

Source: Field Survey, 2026

The findings presented in Table 4.6 indicate that respondents agreed that Community Health Extension Workers play a significant duty in creating awareness about tuberculosis in Andoni Local Government Area. The first item, which states that CHEWs educate community members about the causes, symptoms, and prevention of tuberculosis, recorded the highest mean score of 4.30, indicating strong agreement among respondents.
The second item, which examined whether CHEWs organize community sensitization programmes to improve tuberculosis awareness, obtained a mean score of 4.21. This implies that respondents recognized community outreach programmes, health talks, and sensitization activities as important responsibilities performed by CHEWs.

The third item, which focused on the duty of CHEWs in reducing tuberculosis-related stigma through education and counselling, recorded a mean score of 4.15. This indicates that respondents agreed that CHEWs contribute to improving community attitudes towards tuberculosis patients by providing accurate information and correcting misconceptions about the disease. Overall, the average mean score for the section was above the decision benchmark of 3.00, showing that Community Health Extension Workers contribute significantly to tuberculosis awareness creation in Andoni . This finding supports the view of Abimbola et al. (2019), who reported that community health workers play an important duty in health education and improving access to healthcare information, particularly in rural communities.

4.4.2 Research Question Two

How do Community Health Extension Workers contribute to early detection of tuberculosis cases?

Table 4.7: Contribution of Community Health Extension Workers to Early Detection of Tuberculosis Cases

S/N	Items	SA (5)	A (4)	U (3)	D (2)	SD (1)	Mean	Decision
1	Community Health Extension Workers identify individuals with tuberculosis symptoms during community visits and outreach programmes.	55	40	9	6	2	4.25	Accepted
2	Community Health Extension Workers refer suspected tuberculosis cases to health facilities for proper diagnosis and treatment.	61	35	8	6	2	4.31	Accepted
3	Community Health Extension Workers conduct household visits to identify people who may have been exposed to tuberculosis.	53	41	10	6	2	4.22	Accepted

Source: Field Survey, 2026

Table 4.7 shows that respondents agreed that Community Health Extension Workers contribute significantly to early detection of tuberculosis cases. The first statement, which examined the ability of CHEWs to identify individuals with tuberculosis symptoms during community visits and outreach programmes, recorded a mean score of 4.25. This indicates that respondents recognized active case finding as an important duty performed by CHEWs.

The second statement, relating to referral of suspected tuberculosis cases to healthcare facilities for diagnosis and treatment, obtained the highest mean score of 4.31. This suggests that CHEWs serve as an important link between community members and healthcare facilities by ensuring that individuals with possible TB symptoms receive appropriate medical attention.

The third statement, which assessed household visits for identifying persons exposed to tuberculosis, recorded a mean score of 4.22. This shows that respondents acknowledged the importance of household-level screening and contact investigation activities conducted by CHEWs. The overall findings demonstrate that Community Health Extension Workers contribute substantially to early tuberculosis detection through symptom identification, referrals, and household-based interventions. This agrees with Datiko et al. (2017), who found that community health workers improved tuberculosis case finding by identifying hidden cases and linking patients to healthcare services.

4.4.3 Research Question Three

What duty do Community Health Extension Workers play in promoting treatment adherence among tuberculosis patients?

Table 4.8: duty of Community Health Extension Workers in Promoting Treatment Adherence among Tuberculosis Patients

S/N	Items	SA (5)	A (4)	U (3)	D (2)	SD (1)	Mean	Decision
1	Community Health Extension Workers encourage tuberculosis patients to complete their prescribed treatment.	62	36	7	5	2	4.35	Accepted
2	Community Health Extension Workers monitor tuberculosis patients during treatment through follow-up visits and counselling.	57	39	9	5	2	4.29	Accepted
3	Community Health Extension Workers provide support and reminders that help tuberculosis patients avoid treatment interruption.	54	42	8	6	2	4.25	Accepted

Source: Field Survey, 2026

Interpretation

Table 4.8 presents the responses of respondents on the duty of Community Health Extension Workers in promoting treatment adherence among tuberculosis patients in Andoni Local Government Area. The findings indicate that respondents agreed that CHEWs play a significant duty in ensuring that tuberculosis patients complete their treatment.

The first item, which states that Community Health Extension Workers encourage tuberculosis patients to complete their prescribed treatment, recorded the highest mean score of 4.35. This indicates that respondents strongly recognized the counselling and motivational support provided by CHEWs as important factors influencing treatment completion among tuberculosis patients. The second item, which examined whether CHEWs monitor tuberculosis patients during treatment through follow-up visits and counselling, obtained a mean score of 4.29. This suggests that respondents acknowledged the importance of regular monitoring, home visits, and patient counselling in reducing treatment interruption and improving treatment outcomes.

The third item, which focused on the provision of support and reminders that help patients avoid treatment interruption, recorded a mean score of 4.25. This implies that respondents agreed that CHEWs contribute to treatment adherence by reminding patients about medication schedules, clinic appointments, and the importance of completing the prescribed treatment regimen. The overall result demonstrates that Community Health Extension Workers make significant contributions to tuberculosis treatment adherence through counselling, follow-up visits, patient support, and continuous monitoring. This finding agrees with Datiko et al. (2017), who reported that community health workers improve tuberculosis treatment outcomes by providing patient-centred support and ensuring continuity of care. Similarly, Frieden et al. (2003) emphasized that direct observation, counselling, and social support are essential strategies for reducing treatment default among tuberculosis patients.

4.4.4 Research Question Four

What challenges affect the performance of Community Health Extension Workers in tuberculosis control?

Table 4.9: Challenges Affecting the Performance of Community Health Extension Workers in Tuberculosis Control

S/N	Items	SA (5)	A (4)	U (3)	D (2)	SD (1)	Mean	Decision
1	Inadequate training and limited capacity-building opportunities affect the effectiveness of Community Health Extension Workers in tuberculosis control.	50	43	10	7	2	4.18	Accepted
2	Lack of adequate logistics, transportation, and working materials limits the activities of Community Health Extension Workers in tuberculosis control.	64	34	8	4	2	4.38	Accepted
3	Tuberculosis stigma and poor community cooperation make it difficult for Community Health Extension Workers to perform their duties effectively.	56	40	9	5	2	4.28	Accepted

Source: Field Survey, 2026

Table 4.9 presents the findings on challenges affecting the performance of Community Health Extension Workers in tuberculosis control. The results show that respondents agreed that CHEWs experience several challenges that may limit their effectiveness in carrying out tuberculosis-related activities.

The first item, which examined whether inadequate training and limited capacity-building opportunities affect CHEWs' effectiveness, recorded a mean score of 4.18. This indicates that respondents agreed that continuous training and professional evolution are necessary to improve the competence of CHEWs in tuberculosis prevention and control.

The second item, which focused on inadequate logistics, transportation, and working materials, recorded the highest mean score of 4.38. This shows that lack of operational resources remains one of the major barriers affecting the ability of CHEWs to conduct community outreach, household visits, patient follow-up, and tuberculosis surveillance activities.

The third item, which examined tuberculosis stigma and poor community cooperation as challenges, recorded a mean score of 4.28. This suggests that negative community attitudes, misconceptions about tuberculosis, and fear of discrimination can reduce the effectiveness of CHEWs in identifying cases and supporting patients.

The findings indicate that although Community Health Extension Workers play important dutys in tuberculosis control, their effectiveness is influenced by institutional and community-level challenges. This finding is consistent with Abimbola et al. (2019), who reported that community health workers in Nigeria often face inadequate resources, limited supervision, and operational constraints that affect their performance. Similarly, Scott et al. (2018) noted that effective community health worker programmes require adequate training, logistics, supervision, and motivation.

4.5 Analysis of Research Hypothesis

The hypothesis was tested to determine whether Community Health Extension Workers have a significant duty in tuberculosis control in Andoni Local Government Area. The hypothesis was analysed using the Pearson Product Moment Correlation (PPMC) **at a** 0.05 level of significance. The analysis examined the relationship between the dutys of Community Health Extension Workers (awareness creation, early detection, and treatment adherence support) and tuberculosis control outcomes.

Hypothesis

H_0: Community Health Extension Workers have no significant duty in tuberculosis control in Andoni Local Government Area.

H_1: Community Health Extension Workers have significant duty in tuberculosis control in Andoni Local Government Area.

Table 4.10: Pearson Product Moment Correlation Analysis of the duty of Community Health Extension Workers and Tuberculosis Control

Variables	N	Mean	Standard Deviation	r-calculated	p-value	Decision
duty of Community Health Extension Workers	112	4.27	0.62	0.746	0.000	Significant
Tuberculosis Control Outcomes	112	4.22	0.58			

Source: Field Survey, 2026

Significant at 0.05 level of significance

The result presented in Table 4.10 shows a Pearson correlation coefficient (r = 0.746) between the duty of Community Health Extension Workers and tuberculosis control outcomes in Andoni Local Government Area. The correlation value indicates a strong positive relationship between the activities of CHEWs and effective tuberculosis control.

The p-value obtained from the analysis was 0.000, which is less than the chosen significance level of 0.05. This implies that the relationship between Community Health Extension Workers' dutys and tuberculosis control outcomes is statistically significant.

The result suggests that increased involvement of Community Health Extension Workers in tuberculosis awareness creation, early detection of cases, patient follow-up, and treatment adherence support is associated with improved tuberculosis control outcomes in the study area. Since the p-value (0.000) is less than 0.05, the null hypothesis (H_0) which states that *Community Health Extension Workers have no significant duty in tuberculosis control in Andoni Local Government Area* is rejected.

Therefore, the alternative hypothesis (**H_1**) which states that *Community Health Extension Workers have significant duty in tuberculosis control in Andoni Local Government Area* is accepted**.**

Conclusion

Based on the findings of the study, it was concluded that Community Health Extension Workers are critical stakeholders in tuberculosis control in Andoni Local Government Area. Their involvement extends beyond basic healthcare delivery to include health promotion, disease prevention, community mobilization, early case identification, patient counselling, and treatment supervision. The study established that CHEWs serve as a bridge between healthcare facilities and community members, particularly in rural settings where access to professional healthcare services may be limited. Through awareness creation activities, CHEWs improve community knowledge about tuberculosis and encourage individuals with symptoms to seek medical attention early. The study also concluded that CHEWs contribute substantially to improving tuberculosis treatment outcomes by supporting patients throughout the treatment process. Their follow-up visits, counselling services, and adherence monitoring reduce the likelihood of treatment interruption and help prevent the evolution of drug-resistant tuberculosis. However, the effectiveness of CHEWs is limited by operational and systemic challenges. Without adequate training, resources, motivation, and institutional support, their ability to provide effective tuberculosis control services may be reduced. Therefore, strengthening the capacity and working conditions of Community Health Extension Workers

is essential for improving tuberculosis prevention and control in Andoni Local Government Area.

Recommendations

Based on the findings of the study, the following recommendations are made:

1. **Regular Training and Capacity Building:** Government health authorities and relevant health organizations should provide continuous training programmes for Community Health Extension Workers to improve their knowledge and skills in tuberculosis prevention, diagnosis referral, treatment monitoring, and patient counselling.
2. **Provision of Adequate Logistics and Working Materials:** Primary healthcare authorities should provide CHEWs with necessary resources such as transportation facilities, educational materials, protective equipment, and communication tools to enable them to perform their tuberculosis control activities effectively.
3. **Strengthening Community Health Education Programmes:** Healthcare authorities should support regular tuberculosis awareness campaigns involving CHEWs, community leaders, religious organizations, and local associations to improve public knowledge and reduce stigma associated with tuberculosis.
4. **Improvement of Supervision and Motivation:** There should be stronger supervision, recognition, and incentive systems for Community Health Extension Workers to improve their commitment and performance in tuberculosis control activities.
5. **Enhanced Community Participation:** Community leaders and residents should actively support tuberculosis control programmes by cooperating with CHEWs during household visits, screening activities, and patient follow-up exercises.
6. **Improved Patient Support Systems:** Healthcare facilities should strengthen patient-centred approaches by ensuring that tuberculosis patients receive adequate counselling, social support, and follow-up services throughout the treatment period.

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