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FACTORS WITHIN THE PRIMARY HEALTH CARE SYSTEM AFFECTING COMPLIANCE WITH STANDARD INFECTION PREVENTION PRECAUTIONS AMONG COMMUNITY HEALTH PRACTITIONERS IN BAYELSA STATE, NIGERIA

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Article history: Acceptance Date June 20th 2025 And Published Date 28th June 2025

ABSTRACT

Background: The cross-sectional study explored factors in the primary healthcare system affecting compliance with infection prevention precautions and strategies to improve compliance level among community health practitioners in Bayelsa State.

Methods: The study involved 389 CHPs recruited through multistage sampling techniques. Data was collected using a mixed method techniques involving questionnaires, focus group discussions, and Key information interviews. However, 354 (91%) questionnaires were correctly filled out and returned. Item Mean Analysis was used to analyze data with a 2.0 criterion mean to determine factors affecting compliance with standard infection prevention precautions. Any item mean that is less than the criterion mean affects compliance with infection prevention precautions.

Results: The study found that a significant proportion of CHPs (139, 39.3%) are aged 48 and above, with a 'mean age' of 42 (SD = 11.3). The majority were male (217; 85%), married (190; 54%), Christian (345; 96.8%), and had served for 21-30 years (119;37%). The study identified unavailability of resources (1.2), lack of infection prevention training (1.0), and absence of policy enforcement (1.0) as key factors of the primary health care system affecting compliance with standard infection prevention precautions. Regular training on SIPP, increase availability of resources, improve staffing levels, enhance facility infrastructure, strengthen supportive supervision, enforce IPP in PHC, and provide funding for supportive supervision were considered as strategies to improve compliance level among community health practitioners.

Conclusion: The findings of this study underscore the crucial role of policymakers and government officials in addressing the factors affecting compliance with infection prevention precautions. They should commit to

infection prevention by providing resources, support, and responsible personnel for overseeing and enforcing measures at the primary health centers.

Keywords: Primary Health Care, Community Health Practitioners, Bayelsa State, infection prevention, standard precaution.

INTRODUCTION

Infection prevention and control (IPC) is a practical, evidence-based approach to prevent avoidable infections, requiring continuous action at all health system levels (1). Infection prevention policy includes hand hygiene, use of personal protective equipment, respiratory hygiene, environmental hygiene, injection safety, etc. (2). Healthcare professionals are more likely to contract infection at work when infection control procedures are not followed correctly (7).

However, a study conducted in Saudi Arabia among primary healthcare personnel indicated that the facility's compliance with standard infection prevention precautions was low (49.5%). Still, they were better (p = 0.040) among those who had training in infection prevention (6). A study conducted in Geneva also indicated that even advanced systems have deficiencies in implementing infection control policies (8,9). Another study conducted in Brazil to assess infection control structure in primary health centers indicated that it lacks most infection prevention equipment (10). Low compliance with infection prevention precautions was also discovered in health facilities in Tanzania (11). However, a cross-sectional study conducted in primary health facilities in Enugu, Nigeria, indicated poor knowledge and compliance with infection prevention and suggested more research to unravel this gap (12).

Previous studies indicated that individual, work-related, and primary healthcare systems factors were implicated (3,4,5,15). A study conducted among health workers in primary health centers in Tanzania indicated that attending IPC training or an IPC seminar in the previous year organized by the Primary Health Care system influenced their compliance with infection prevention precautions (13). Another study conducted in Italy among nurses indicated that factors surrounding the management of the system is affected their compliance level (14). However, no study has investigated the primary healthcare system factors affecting compliance with standard infection prevention precautions.

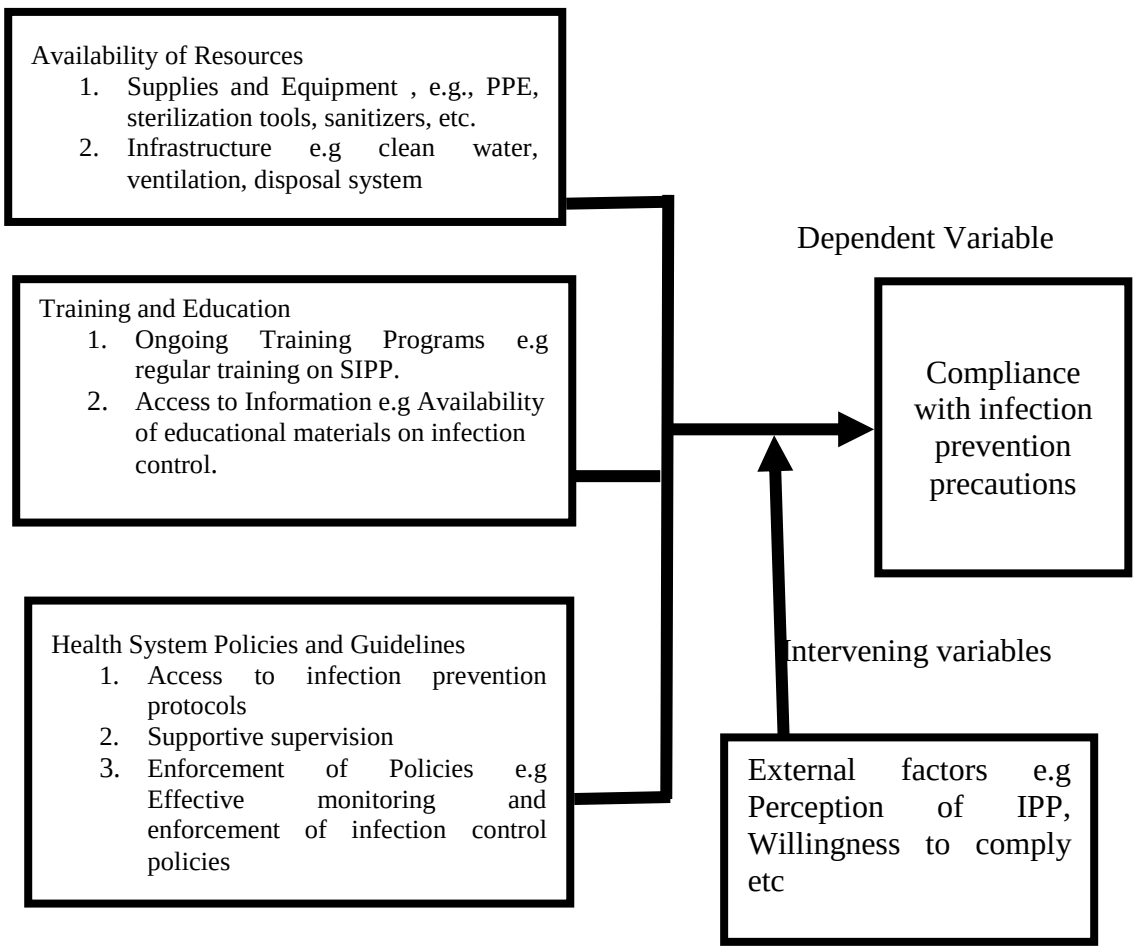
Primary healthcare (PHC) is the foundation of the healthcare system, managing non-emergency health issues and providing preventative care. It is the first point of contact for individuals, families, and communities, ensuring affordability and maintaining primary health centers throughout development. PHC also promotes health promotion and education, connecting patients with secondary care. It aims to bring health closer to the community (20). PHC is a comprehensive approach to health, focusing on people's needs from health promotion to disease prevention, treatment, rehabilitation, and palliative care, ensuring equitable distribution and the highest possible health and well-being (21).

Nigeria operates three tiers of the Health System- Tertiary Health Care System, Secondary Health Care System, and Primary Health Care System. The Federal Government funds the tertiary health system, the State Government funds the

secondary health system, and the local government owns and funds the primary health care system. The National Primary Health Care Development Agency (NPHCDA) regulates the Primary Health Care system (22). The Agency is responsible for monitoring and evaluating the National Health Policy, providing technical support for primary health care planning, management, and implementation, and mobilizing resources for its development. Every state in Nigeria is expected to have a State Primary Health Care Development Agency (23).

The study investigated the primary healthcare system factors influencing compliance with infection prevention precautions among community health practitioners in Bayelsa State. It explored the lived experiences of primary healthcare managers and community health practitioners on factors affecting compliance with infection prevention precautions in the primary healthcare system. The findings will help the system identify improvement areas and implement necessary changes, protect public health, prevent healthcare-associated infections, enhance health workers and patient safety, enhance continuous quality improvement, and guide evidence-based policy decisions.

Fig 1: **Conceptual framework**



Systemic Factors set the foundation for compliance with infection prevention precautions by ensuring that necessary resources, training, and policies are in place. Figure 1 above indicates that when factors within the primary health care system, like availability of resources, training, education, and health system policies and guidelines, are put in place, compliance with standard infection precautions is achievable. The conceptual framework outlines the key elements and their relationships that guide the research. This framework integrates systemic factors to provide a comprehensive understanding of the determinants of compliance.

Theoretical framework

Systems Theory was an effective guiding framework. This theory emphasizes that health care systems are complex entities composed of interrelated components that work together to achieve health outcomes. The Systems Theory was primarily propounded by Ludwig von Bertalanffy, a biologist who introduced the concept in the 1940s and 1950s. His seminal work, "General System Theory: Foundations, Development, Applications," published in 1968, laid the groundwork for understanding systems as interconnected components that interact to form a whole. Bertalanffy aimed to establish universal principles applicable across various scientific disciplines, emphasizing the importance of viewing organizations and systems holistically rather than as isolated parts (29,30,31).

Key Aspects of Systems Theory in Infection Prevention

1. Interconnected Components: The primary health care system includes various elements such as healthcare providers, facilities, policies, and resources. Each component influences infection prevention practices. For instance, the availability of personal protective equipment (PPE) and hand hygiene supplies directly impacts compliance rates among practitioners (29,30).

2. Feedback Loops: Systems Theory posits that feedback from different levels of the healthcare system can influence behaviors and practices. For example, if community health practitioners receive positive reinforcement (e.g., successful outcomes or recognition for adherence to infection control measures), they are more likely to maintain compliance(29,32).

3. Environmental Context: The theory acknowledges the role of external factors, such as socio-economic conditions and cultural beliefs, which can affect the implementation of infection prevention protocols. In Bayelsa State, challenges like inadequate infrastructure or limited access to clean water can hinder effective infection control practices(30,33).

4. Policy and Governance: Effective governance and clear policies are critical for establishing standards and protocols for infection prevention. Comprehensive infection prevention guidelines within health facilities correlate with improved compliance among healthcare providers(3,5). Systems Theory helps in understanding how these policies are developed, communicated, and enforced throughout the healthcare system.

5. Training and Education: Continuous professional development is essential for ensuring that community health practitioners are equipped with the latest knowledge and skills related to infection prevention. Systems Theory highlights the importance of integrating training programs into the health system to foster a culture of safety and compliance[30].

Application of theory to the study

By applying Systems Theory, researchers investigated various systemic factors—such as resource allocation, training opportunities, policy frameworks, and environmental conditions (Workload)—interact to influence compliance with infection prevention precautions among community health practitioners in Bayelsa State. This holistic approach allows for identifying leverage points where interventions could be most effective in enhancing compliance and improving overall health outcomes in the community.

Methods

Study Area

Bayelsa State was carved out of Rivers State in the Niger Delta Region of Nigeria in 1996. it's bounded to the East and West by Rivers and Delta State, with the beautiful waters of the Atlantic Ocean dominating its southern borders. Bayelsa, known as the cradle of Ijaw culture and tradition, has established a separate ministry for culture and Ijaw national affairs, mandating public servants to wear traditional attire every Friday and promoting the importance of the people's culture (17).

There are eight (8) Local Government Areas in Bayelsa State. The State is characterized by scattered villages and rural settlements, with 25% of the population living in urban villages like Ogbia, Oloibiri, Bassambiri, Okpuama, Twon-Brass and Nembe. These towns have over 10,000 residents and are now local government headquarters. Out of 1,121,493 residents of Bayelsa State, only 280,280 live in urban centers, with high urbanization in Nembe and Yenagoa. The indigenes of Bayelsa State are mostly farmers, fishermen, petty traders, and civil servants (18).

Study design

A descriptive study with a mixed-method approach was adopted to investigated factors within the primary health care system affecting compliance with infection prevention precautions and strategies to improve compliance among community health practitioners in Bayelsa State.

Study population

Community health practitioners are frontline primary health care workers in Nigeria. They are trained and licensed to provide promotive, preventive, curative, and rehabilitative health care services to people in the community and at the primary health care center (15, 30). Their educational qualifications include Certificates, National Diplomas, higher national Diplomas, Bachelor of Community Health Science (BCHS), MSc in Community Health, and Ph.D. in Community Health (16, 28). They are trained at the College of Health Technology, University Teaching Hospitals, and Universities in Nigeria. The Community Health Practitioners Registration Board of Nigeria (CHPBN) is saddled with the responsibility of Licensing and regulating the training and practice of Community Health Practitioners in Nigeria (16). In Bayelsa State, 511 Community health practitioners are employed by the State Government to provide health services in primary health care centers. Bayelsa State has about 189 primary healthcare facilities, mostly in rural areas, and are manned by community health practitioners (16, 29).

Sample Size determination

The Taro Yemen formula and a 10% response rate was used to determine the sample size of 389.

Inclusion Criteria

Community health practitioners who are employed by the Bayelsa State Government, work in primary health care settings, provided verbal consent to participate and were actively present and working at the health facility during the study period.

Exclusion Criteria

The study excluded community health practitioners who are not employed by the Bayelsa State Government, do not work in primary health care settings, declined to provide verbal consent for participation and were on extended leave or unavailable during the study period.

Sampling technique

A multistage sampling technique was employed to recruit participants for the study. First, Bayelsa State was stratified into three geopolitical zones: Bayelsa East, Bayelsa West, and Bayelsa Central. Second, a simple random sampling technique was used to select 159 communities with primary health centers within each zone. Third, 389 community health practitioners were randomly selected from these communities for participation in the study. Additionally, a snowball sampling technique was used to recruit six (6) PHC managers for the Key Informant Interviews (KII). Three focus group discussion comprising of four persons each were held in the three senatorial districts.

Study instrument

A self-structured Likert scale questionnaire of always, sometimes, and never was used for data collection. Key informant interviews and focus group discussions were used to collect qualitative data from CHPs and primary healthcare system managers.

Validity of the Instrument

The validity of the quantitative instrument is the ability to measure what it can (25). The principal investigator and analysis specialists ensured face and material validity, covering all aspects of the construct to ensure accurate content and accurate outcomes (25). The validity of qualitative data collection instruments (Interviews and focus group discussions) is based on trustworthiness (credibility, transferability, dependability, and confirmability) (27).The credibility of the qualitative data was tested through triangulation, member checks, and saturation. Triangulation involves documenting evidence from various sources, while member check allows participants to verify findings. Saturation involves continuous recruitment until rich information is gathered (27).

Reliability Test

The reliability of the quantitative instrument was also tested. Reliability refers to an instrument's ability to produce similar results when replicated under the same conditions (26). The test-retest reliability technique was used to assess the instrument's reliability. This entails conducting an overview with a group of respondents, rehashing the study with a similar gathering sometime in the not-too-distant future, and looking at the reactions at the two focuses in time (26). Twenty questionnaires were distributed to community health practitioners in yenagoa local government area of Bayelsa State. The questionnaires were distributed and retrieved immediately, and a second collection of 20 questionnaires was redistributed and retrieved immediately after two weeks. The Pearson Product Moment Correlation Coefficient was used

to compare outcomes. A coefficient of 0.76 was obtained, which is considered sufficient.

Researchers created a detailed description of interview participants' experiences on factors of the primary healthcare system affecting compliance with standard infection prevention precautions, ensuring transferability for future research. The study utilized triangulation, interviews, focus group discussions, observation, tape recorder, and field notes to ensure dependability, enhancing reliability. Researchers used a reflexivity strategy to ensure confirmability and trustworthiness in the study. They made their position explicit, acknowledging biases and values, and allowed data to speak for itself, ensuring the truth and accuracy of participant opinions.

Data collection

The study involved ethical clearance certificates from Bayelsa State Health Research Ethics Committee, permissions from the Association of Community Health Practitioners and Primary Health Care Board were obtained before the commencement of data collection. Only community health practitioners who met the inclusion criteria participated in the study. Researchers used direct delivery technique (DDT) to distributed 389 questionnaires to community health practitioners with a 30-minute time limit for responses. Three focus group discussions were conducted focus group with four practitioners from each senatorial district. Key informant interviews were conducted with primary health care managers to gather information on related variables. A tape recorder was used to document these discussions and interviews. The data collection period lasted 12 months, from December 2022-Nov 2023.

Data analysis

Quantitative data were analyzed with descriptive statistics of item mean analysis, frequency, and percentages. The scoring of the questionnaire on factors influencing SIPP compliance was analyzed by using the " 3point Likert where (3) Always , (2) Sometimes, and (1) Never) scale". The criterion mean was set at 2.0 (3+2+1 = 6/3=2.0). Data on strategies to improve compliance were analysed with simple frequency and percentages. Colaizzi's phenomenological method was used to analyze the qualitative data. The Colaizzi method is a phenomenological research method used to analyze qualitative data, identifying and extracting meaningful themes or categories to understand individual subjective experiences (19). The study investigated factors within the primary health care system affecting compliance with infection prevention precautions and strategies to improve compliance among community health practitioners in Bayelsa State. Three hundred and eighty-nine (389) questionnaires were administered, but 354 (91%) were correctly filled and returned, which was considered high for making quality inferences. Three focus group discussions with four participants each and Six key informant interviews with PHC managers that lasted for 1hr each. The data obtained were subjected to statistical analysis such as descriptive statistics (Item Mean Analysis, percentages, and frequency) using the Statistical Package of Social Sciences (SPSS) version 21. The criterion mean was set at 2.0, which means that any item mean greater than or equal to the criterion is accepted. Any item mean less than the criterion mean is rejected and is considered a factor within the primary health care system affecting compliance with infection prevention among community health practitioners in Bayelsa State. Thematic analysis was conducted on the qualitative data, extracting meaningful

themes or categories to understand individual subjective experiences.

Ethical consideration

Ethical clearance certificate was obtained from the Bayelsa State Ethical Review Committee, and all participants were dully informed. Before they were recruited for the study, consent was sought, and verbal consent were given by participants. Participants willingly participated and were free to quit the research as they wished. In developing the questionnaire, focus group discussion, and Key informant interview guide, insulting or inappropriate language was avoided. The privacy and anonymity of respondents were a top priority for the researcher. All participants were treated with respect and dignity.

RESULTS

Demographic Variables of Participants

Table 1 indicated that majority were 48 years and above (139;39.3%) with a "mean age" of 42 ('SD' = 11.3), Males (217;61%), Christian (343;99%), Married (190 (54%), possessed National Diploma in community health (CHEWS) (200;56%) possessed, and have served for 21-30years (119; 34%).

Table 1: Demographic Variables of Participants

Age	**Frequency**	**Percentages**
18-27 years	40	11.3
28-37 years	90	25.4
38-47 years:	85	24
48 and above	139	39.3%
Total	354	100
Sex	Frequency	Percentage
Male	217	61
Female	137	39
Total	354	100
Marital status	Frequency	Percentage
Single	40	11.3
Married	190	54
Divorce	85	24
Widowed	39	11
Total	354	100
Religion	Frequency	Percentage

Christianity	343	97
Islam	2	0.6
Others	9	2
Total	354	100
Educational/Professional Qualification	Frequency	Percentage
JCHEW	80	23
CHEW	200	56
CHO	30	8
BCHS	0	0
PGD	20	6
MSc	24	7
Total	354	100
Years of Service	Frequency	Percentages
1-10 years	66	12
11-20 years	72	20.3
21-30 years	119	34
31 and above	97	27
Total	354	100

Factors of Primary Health Care System affecting Compliance with Standard Infection Prevention Precaution

Table 2 indicated that resources for compliance with standard infection prevention precautions are unavailable: The item mean was 1.2 lower than the criterion mean of 2.0. Training on standard infection prevention precautions is not available. The item mean was 1.0, lower than the criterion mean of 2.0. There is no enforcement of infection prevention policy. The item mean is 1.0, lower than the criterion mean of 2.0.

Table 2: Factors of Primary Health Care System affecting Compliance with Standard Infection Prevention Precaution

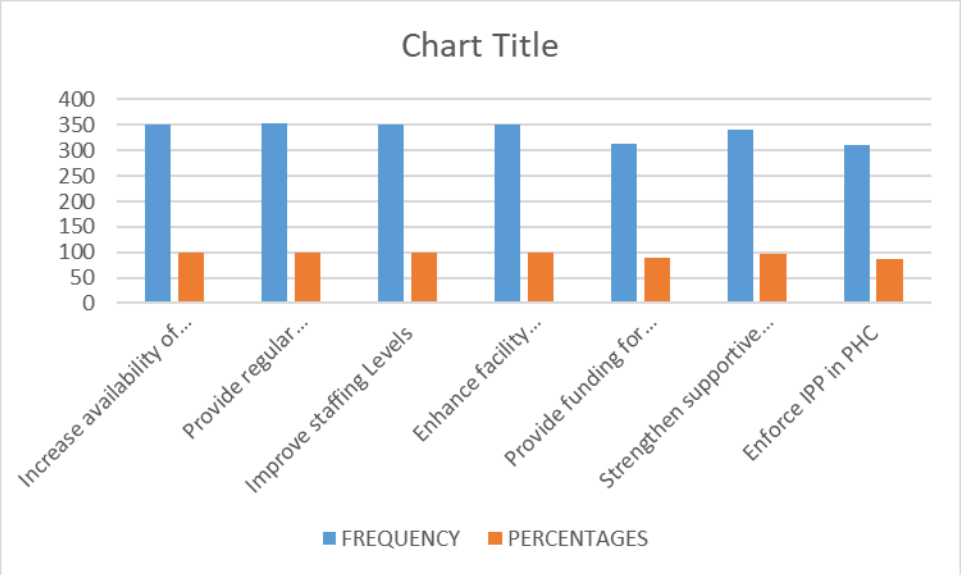
S/N	ITEMS	RESPONSES					
		ALWAYS	SOMETIMES	NEVER	TWS	MEAN	DECISION
1	Availability of resources for infection prevention e.g PPE	15 (45)	39 (78)	300(300)	423	1.2	Rejected
2	Infrastructure e.g, clean water, waste disposal system, ventilation	20(60)	25(50)	309(309)	419	1.2	Rejected
3	Regular training on Standard Infection Prevention Precaution	5 (15)	4 (8)	345 (345)	368	1.0	Rejected
4	Availability of educational materials on infection control.	200(600)	50(100)	104 (104)	804	2.3	Accepted
5	Access to infection prevention protocols	9 (27)	335 (670)	10 (10)	707	2.0	Accepted
6	Enforcement of infection prevention policies	4 (12)	2 (4)	348 (348)	364	1.0	Rejected

Strategies to improve compliance with SIPPs among community Health practitioners

Fig 2 below indicated that participants considered regular training on SIPP (354. 100%), increase availability of resources (350, 99%), improve staffing levels (352, 99.4%), enhance

facility infrastructure (350, 99%) strengthen supportive supervision (340,96%) enforce IPP in PHC (310, 88), and provide funding for supportive supervision (312, 88.1%) as strategies to improve compliance among community health practitioners in Bayelsa State.

Fig 2: Strategies to improve compliance with SIPPs among community Health practitioners.



Discussion

The findings indicated that the Primary Health Care system's factors affecting compliance with standard infection prevention precautions on infection among Community Health Practitioners in Bayelsa State include unavailability of resources for infection prevention ($\bar{x} = 1.2$) and No adequate infrastructure ($\bar{x} = 1.2$),. The item mean for availability of resources and no adequate infrastructure are significantly lower than the criterion mean of 2.0, indicating that the primary hearethcare facilities often lack the necessary infrastructure, materials and equipment to adhere to infection prevention protocols effectively. Participants in the focus group also confirmed that the government has not provided them with PPE for some years but that they go individually to the health facility with disposable gloves and sanitizers. Participants also confirmed that most facilities do not have a good water supply and that the infrastructures are dilapidated. This is consistent with previous studies that have identified shortages of personal protective equipment (PPE) as a major barrier to compliance (29,30). Another studies indicated that lack of accessibility of personal protective equipment, and lack of management support were responsible for noncompliance with infection prevention among health worker (14).). The unavailability of resources not only hinders compliance but also exposes healthcare workers and patients to increased risks of healthcare-associated infections (HAIs) (31,32). A study highlighted the lack of knowledge, infrastructure, and management support as significant impediments to implementing IPC measures effectively (36). Healthcare facilities should prioritize resource allocation to ensure that necessary equipment and materials are available for

infection prevention. This includes providing adequate PPE, maintaining a well-stocked inventory of essential supplies and providing necessary infrastructures like hand washing facilities.

Another finding of the study also indicated that health workers in primary health care facilities have no regular training on Standard infection precautions. The mean score for training on standard infection prevention precautions was 1.0, falling short of the criterion mean of 2.0. Participants in the focus group discussions also stated that they had not received training on personal protective equipment. Their knowledge of standard infection prevention precautions was based on personal studies of the infection prevention protocols available in the facility and what they learned during their school days.This suggests that healthcare workers do not receive adequate training, which is crucial for understanding and implementing infection control guidelines effectively (30). This finding aligns with a study that states that compliance with standard infection prevention precautions among healthcare workers is very low due to lack of training on standard infection prevention precautions (3). Another study indicated that attending IPC training or an IPC seminar in the previous year was identified as predictors of HCWs compliance with IPCSPs in Tanzania (31). A study at St. Francis Regional Referral Hospital at Ifakara, Morogoro region also indicated that IPC training was statistically significant to IPC compliance (33). Training is essential for updating healthcare workers on the latest practices and ensuring they can apply them correctly. Studies have shown that comprehensive and regular training programs can significantly improve compliance with infection prevention and control (IPC) guidelines (33).

Findings of the study also indicated that enforcement of infection prevention policies was lacking in the primary health care facilities in Bayelsa State. The lack of enforcement of infection prevention policies is a significant concern. The item mean for enforcement was 1.0, lower than the criterion mean of 2.0. This indicates that there is insufficient monitoring or consequences for non-compliance, which can lead to inconsistent adherence to guidelines (29,34). The key informant interview with management of the Primary Health Care System revealed that the lack of funds to conduct supportive supervision and monitoring for health workers in the primary health centers had been a challenge.This aligns with the findings of the World Health Organization that indicated that only 37% of countries have correctly implemented and monitored infection prevention and control programs nationwide, with significant gaps in low-income countries (35). This lack of implementation is often due to inadequate governance and resources, which hinder the enforcement of infection control policies (35). Monitoring by superiors or public health authorities has been shown to encourage compliance (29). Establishing clear enforcement mechanisms, such as regular audits and feedback sessions, can help maintain high levels of compliance. This could include incentives for adherence and consequences for non-compliance to ensure that policies are consistently followed (29,31). A study in a Jamaican teaching hospital found that only 17% of healthcare workers were fully compliant with all infection control policies, indicating selective adherence and a need for better enforcement (36). The study suggests that education alone is insufficient; enforcement and behavioral interventions are necessary to improve compliance (36).

The study also indicated that educational materials on infection prevention were

a**vailable** ($\bar{x} = 2.3$) and **accessible** ($\bar{x} = 2.0$). This confirms what the managers of PHC stated in the Key Informant Interview that when there are infection prevention protocols from the National Primary Health Care Agency, they ensure that these protocols are distributed to primary health care facilities. Consistent support in terms of training and resources is essential for enforcing infection control policies (37). Another study conducted in Lagos, Nigeria, among Nurses, indicated that the most reported factors affecting the practice of standard precautions were non-availability of personal protective equipment (PPE) (92.1%), lack of regular training on standard precautions (91.1%) and lack of good policy on standard precautions (81.5%) (24).

Findings also indicated that recommended strategies
to improve compliance with SIPPs among community Health practitioners are regular training on SIPP, increase availability of resources, improve staffing levels, enhance facility infrastructure, strengthen supportive supervision enforce IPP in PHC and provide funding for supportive supervision. These identified strategies are very crucial to improving compliance with infection prevention in Bayelsa State primary health care facilities. A study in Tanzania found that IPC training and years of work experience were significant predictors of high compliance with IPC standard precautions (31). Regular training ensures that practitioners are updated on the latest protocols and best practices. While training is crucial, a study noted that lack of formal training is a significant barrier, but it also highlighted that even with training, other factors like workload and time constraints can hinder compliance (30). This suggests that training alone may not be sufficient without addressing other systemic issues.

The availability of resources is a critical factor in compliance. Studies have shown that lack of resources hinders effective implementation of infection control measures (39). Ensuring that necessary resources, such as PPE, are available supports compliance. The availability of resources is often cited as a critical factor, but studies highlight that even when resources are available, other barriers such as poor infrastructure and lack of trained personnel can limit their effectiveness (40,38). This indicates that resource availability is necessary but not sufficient on its own.

Adequate staffing is recommended for maintaining high standards of care and compliance. Proper staffing ratios contribute to a safer environment for both patients and healthcare providers. Improved staffing levels can enhance the quality of care and reduce errors related to overwork. Optimizing healthcare infrastructure is vital for effective care delivery and compliance. While adequate staffing is important, notes that even with sufficient staffing, a high workload and inadequate patient-to-community health practitioners ratios can hinder compliance (40). This suggests that staffing levels must be considered in conjunction with workload management.

A study highlighted the importance of blending technology, regulatory compliance, and patient-centric design to ensure optimal care (41). Upgrading facilities can improve the environment for healthcare delivery, supporting better adherence to infection control measures. Upgrading infrastructure is crucial, but study points out that poor infrastructure is often accompanied by other challenges like inadequate waste management and non-compliance by patients (42). This underscores the need for a comprehensive approach that addresses multiple barriers.

Supportive supervision has been shown to improve IPC standards and compliance. A study in Liberia demonstrated that supportive supervision significantly enhanced IPC practices during the Ebola outbreak (43). Another study noted that supportive supervision can foster compliance and strengthen healthcare workers' performance (44). Supportive supervision is beneficial, but a study highlights that in resource-constrained settings, supervision may be limited by a lack of trained professionals and inadequate funding (40). This suggests that supervision must be supported by sufficient resources and personnel.

Enforcing IPP is crucial for reducing healthcare-associated infections. Studies emphasize the importance of implementing evidence-based interventions to control infections (39). Strict enforcement can lead to a significant reduction in HAIs and improve patient safety. Enforcement is important, but a study notes that non-compliance by patients and healthcare workers can be significant barriers (42). This indicates that enforcement must be accompanied by education and engagement strategies to foster a culture of compliance.

Funding for supportive supervision is essential for sustaining these programs. While specific studies on funding for supervision are limited, the importance of adequate resources for effective supervision is well-documented(44). Financial support ensures that supervision activities are consistent and effective. Funding is essential, but a study emphasizes that reliance on external funding sources can lead to sustainability challenges (40). This suggests that local funding mechanisms should be developed to ensure long-term support for supervision activities.

These studies highlight the importance of multifaceted strategies, complexities and challenges to improve compliance among healthcare practitioners, emphasizing training, resource availability, staffing, infrastructure, supervision, enforcement, and funding. They underscore the need for a multifaceted approach that addresses various barriers and ensures sustainability.

All recommendations in the discussion should be moved to the recommendation section below; if they are not highlighted there already.

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Strength and Limitations of the study

Strengths:

i. The use of a multistage sampling approach ensures a representative selection of community health practitioners across different regions of Bayelsa State.
ii. The combination of quantitative (survey) and qualitative (Key Informant Interviews) methods enhances the depth and reliability of the findings.
iii. By focusing on community health practitioners within primary health care settings, the study provides valuable, contextually relevant information for improving healthcare delivery.
iv. The involvement of managers through Key Informant Interviews allows for a broader understanding of systemic factors affecting community health practice.

Limitations:

1. The use of snowball sampling for managers may lead to the recruitment of participants with similar

perspectives, limiting diversity in responses.

2. The reliance on verbal consent and self-reported responses may introduce recall bias or social desirability bias.

3. Findings may not be fully generalizable beyond the study area, as healthcare structures and policies may differ in other states or regions.

4. Since participants were selected from those actively present at health facilities, the study may have excluded practitioners on leave or those engaged in outreach services, potentially missing important perspectives.

Recommendation

The findings of this study underscore the crucial role of policymakers and government officials in addressing factors affecting compliance with infection prevention precautions in Primary Health Centers.

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They should commit to infection prevention by providing resources, support, and responsible personnel for overseeing and enforcing measures at the primary health centers. Who are "They" highlighted?

Improving compliance with standard infection prevention precautions (SIPPs) among community health practitioners in Bayelsa State has the potential to drive significant social change by reducing the spread of infectious diseases, enhancing community trust in healthcare services, promoting healthier populations, and strengthening the overall resilience of the primary healthcare system.

Add recommendations from discussions section

Conclusion

Findings indicate that multiple PHC System factors like the unavailability of infection prevention resources, lack of training on infection prevention and how to use PPE, inadequate infrastructures and the non-enforcement of infection prevention policies influence compliance with infection prevention precautions among community health practitioners in Bayelsa State. Addressing these factors through regular training on SIPP, increase availability of resources, improve staffing levels, enhance facility infrastructure, strengthen supportive supervision, enforce IPP in PHC, and provide funding for supportive supervision is essential for enhancing compliance with IPC measures at the primary health centers in Bayelsa State..

Acknowledgment

The authors acknowledged the research assistants and the cooperation of the participants.

Financial Support and Sponsorship

Nil

Conflicting Interest

The Authors declared no conflicting interest.

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