HIV Knowledge, Stigma, and Care Preparedness among Barangay Health Workers in Leyte: Implications for Community-based Interventions

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ABSTRACT

Background. Despite advancements in antiretroviral therapy, HIV remains a critical public health concern in the Philippines, with stigma posing a major barrier to care. Barangay Health Workers (BHWs) play a frontline role in delivering health services under the Universal Health Care Law, yet their preparedness for HIV-related care is unclear. This study assessed the knowledge, attitudes, perceived behaviors, and HIV-related stigma among BHWs in Leyte, a province with a high HIV incidence in Eastern Visayas.

Methods. The study utilized a descriptive cross-sectional survey design. A total of 579 BHWs from 17 municipalities were selected using proportionate cluster sampling. Self-report questionnaires were used to collect data. The instruments were translated and pilot-tested. Data were analyzed using descriptive statistics in RStudio.

Results. Findings revealed that most BHWs had moderate to high knowledge of HIV transmission and self-protection. However, awareness of ART (mean score: 44.43%) and human rights of PLHIV (mean score: 54.46%) was low. While 58.03% of respondents reported positive attitudes toward PLHIV, 65.46% felt unprepared to care for them. Stigma persisted, with 65.11% showing varying degrees of negative perceptions. Discriminatory behaviors were low overall but present in nearly one-fifth of participants. Most BHWs (95.85%) expressed interest in attending future HIV-related workshops.

Conclusion. Although BHWs possess foundational HIV knowledge, critical gaps in ART awareness, stigma, and preparedness hinder effective HIV service delivery. The findings underscore the need for targeted capacity-building programs, stigma-reduction training, and multisectoral collaboration to empower BHWs in providing inclusive, evidence-based HIV care. Strengthening community-based interventions can bridge service gaps and promote early detection and treatment, ultimately improving health outcomes in grassroots settings.

Keywords: HIV, health knowledge, community health workers, social stigma

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INTRODUCTION

Care preparedness is an essential but often under-examined component of human immunodeficiency virus (HIV) service delivery, particularly at the primary health-care level. In the Philippines, Barangay Health Workers (BHWs) are at the frontline of health promotion and basic care provision under the Universal Health Care (UHC) Law. These community-based volunteers are expected to support prevention, testing, and referral systems in rural and underserved areas. However, their readiness to provide stigma-free, informed, and compassionate HIV-related care or care preparedness remains inconsistent and, in many

cases, insufficient.[1] Gaps in knowledge and prevailing stigmatizing attitudes can hinder effective engagement and trust-building with clients.[2]

Preparedness in HIV care entails more than just technical knowledge. It involves self-efficacy, cultural sensitivity, emotional resilience, and the ability to navigate complex social contexts often marked by stigma, fear, and misinformation. Yet, despite their critical role, many BHWs lack adequate institutional support and capacity-building opportunities to meet these demands.[3] Care preparedness, therefore, must be understood as both an individual and systems-level responsibility requiring investments in training, supervision, and the broader health environment. Institutional structures, policy support, and access to continuous education are vital determinants of how frontline workers translate knowledge into practice. However, limited empirical evidence exists on how these system-level enablers or constraints shape BHWs' readiness to deliver HIV care in community settings.

The advent of antiretroviral therapy (ART) has transformed HIV from a fatal diagnosis into a manageable chronic condition, significantly improving the quality of life for PLHIV.[4,5] Still, HIV remains a serious global public health concern. As of 2023, approximately 39.9 million individuals were living with HIV worldwide, with the Southeast Asian region ranking second, together with the American region in disease burden.[6] Alarmingly, the Philippines has seen a consistent increase in new infections from 2010 to 2022, in contrast to declining rates in neighboring countries.[7]

Among the key challenges undermining care preparedness is HIV-related stigma, which continues to impede access to prevention, testing, treatment, and retention in care. Stigma is strongly linked to reduced health-seeking behaviors, poor ART adherence, and disengagement from care.[8] A Philippine national study reported that 81% of PLHIV had experienced stigma in healthcare settings, most notably in rural health units (37%), hospitals (20%), and private clinics (24%).[9] Such discriminatory encounters not only affect clients but also undermine the confidence and capability of health workers, who may internalize or unknowingly perpetuate stigmatizing behaviors.

Stigma and lack of preparedness are deeply intertwined. Within many primary care settings, discriminatory attitudes, limited training, and unsupportive policies create environments that are not conducive to providing nonjudgmental HIV care.[10] In some cases, healthcare workers may be unaware of how their language, demeanor, or assumptions contribute to stigma. Research shows that when stigma is effectively addressed, improvements are seen in client engagement, ART adherence, and overall clinical outcomes, further underscoring the importance of building care preparedness from the ground up.[11] Yet, much of the existing literature centers on stigma reduction at the individual level, with limited attention to how institutional culture, organizational capacity, and health system preparedness influence frontline workers' performance. This gap highlights the need to explore the intersection of stigma and institutional readiness within community-based HIV care delivery.

Despite the recognized importance of these factors, few studies have empirically examined how stigma and institutional support collectively affect BHWs' preparedness to deliver HIV care in rural Philippine communities. This paper, part of a larger research initiative, presents preliminary findings on the assessment of knowledge, attitudes, perceived behaviors, and stigma-related experiences among BHWs in Leyte, Philippines. By examining these key dimensions, the study aims to identify behavioral and environmental barriers to HIV care preparedness. These initial insights are intended to inform the current state of BHWs' readiness and the factors influencing their engagement in stigma-reduction efforts.

METHODS

Study Design

This study utilized a descriptive cross-sectional survey design.

Study Locale

This study was conducted in the Province of Leyte, which has a high incidence of HIV in the Eastern Visayas Region. Preliminary data analysis of HIV cases in the region indicated that the Province of Leyte recorded the highest number of HIV cases from 2010 to 2022. The selection of locales was based on the number of recorded HIV cases in each locality, as reported by the Regional Epidemiology Surveillance Unit of the Department of Health Region 8. As of 2022, there were a total of 17 localities (14 municipalities and 3 cities) with more than 10 recorded HIV cases

Sampling Technique

Participant selection utilized a proportionate cluster sampling approach. First, the researchers coordinated with the Health Offices and inquired about the number of accredited BHWs that served as the basis for the allotted proportionate samples across the 17 municipalities. Then, the study population was refined by applying strict eligibility criteria to ensure relevant experience. The criteria required participants to be accredited BHWs who were in active service at the health facility, had served the institution for at least one month, and had provided informed consent to participate. The service period threshold was not intended to define expertise, but a minimum exposure to the daily operational setting in a health facility. BHWs were excluded if they lacked actual client-caring experience, such as those in purely administrative roles, or had acute or chronic health conditions that would prevent participation. The total population of targeted BHWs in the study locale is 3,376. Sample size determination for estimating proportions was employed, using a 95% confidence level, a conservative variance of proportion (0.25), and a 3.75% margin of error, which resulted in a minimum required sample size of 569. We

Figure 1. Participant flow diagram.

approached 600 BHWs for participation. After accounting for refusals, incomplete surveys, and ineligible individuals, 579 participants were included in the study, which reduced the achieved margin of error to 3.71% (Figure 1).

Instrumentation

Three instruments were utilized to gather data on participants' knowledge, attitude, perceived behavior, and HIV stigma. These instruments were contextualized and translated by a local language expert fluent in the Visayan and Waray-Waray dialects of the selected locale. Additionally, these questionnaires were pilot-tested prior to the actual data gathering.

HIV/AIDS Questionnaire for Health Care Providers and Staff

The HIV/AIDS Questionnaire for Health Care Providers and Staff was a 55-item questionnaire developed and tested by the International Planned Parenthood Federation/Western Hampshire Region (2013). The scale was suitable for testing the knowledge, attitudes, and practices of health workers in relation to HIV/AIDS patients. Furthermore, in the knowledge and awareness scales, the raw score was converted to a standardized percentage score by dividing the individual raw score by the maximum possible score and multiplying by 100; these resulting percentage scores were then categorized into low, moderate, and high levels using data-driven cutoffs based on tertiles.

Nurse Behaviors toward Confirmed or Suspected HIV/AIDS Patients (NB-CSHAP)

The NB-CSHAP was a 16-item scale measured using a five-point Likert scale. The scale was composed of four factors: (1) service-oriented behaviors; (2) discriminatory behaviors; (3) open-handed behaviors; and (4) perceptive behaviors.[12] The questionnaire was revised to be contextualized for BHWs. The highest possible score was 80 points. Scoring was described as appropriate caring behaviors (53-80 points), mediocre behaviors (26-52 points), and undesirable/stigmatizing behaviors (0-25). The scale had an acceptable psychometric property of 0.73. For each factor, five data-driven interpretive levels (very low, low, fair, high, very high) were established using quintiles of the score distribution.

Health Care Provider HIV/AIDS Stigma Scale (HPASS)

The HPASS was a validated and reliable instrument used to assess HIV stigma among healthcare providers.[13] The scale had 30 items and demonstrated high internal consistency (a = 0.96). It was composed of three subscales: (1) prejudice subscale; (2) stereotyping; and (3) discrimination, each displaying excellent Cronbach's values.

Data Collection Methods

After gaining approval from the implementing and cooperating agencies, the researchers prepared for a courtesy call to the different local government units to disseminate the study's intention and secured permission from the Chief Health Officer for participant recruitment. The researchers sent a formal invitation to the different health facilities through the BHW Program Coordinator to inform them of the purpose of the study and the recruitment of participants. Informed consent was initially obtained from the participants. Once permission was granted, data collection commenced. The data collectors underwent standardized training on maintaining neutrality, avoiding leading questions, and using uniform instructions. Prior to the interview schedule, participants were assured of anonymity and confidentiality, and they were informed that responses would not affect their employment or standing in the barangay. Completion of the survey forms was through the assistance of the research team. The survey forms did not contain any identifying information, and participants were seated privately while responding, with field researchers only providing clarifications when asked. To further ensure data quality, the research team reviewed questionnaires for completeness without discussing content, and data were double-entered and checked for patterned or inconsistent responses. Data collection was done between September 2023 and July 2024.

Data Analysis

The data from the questionnaire were coded and entered into a computerized database and analyzed using RStudio. Descriptive statistics such as frequency, percentage, and mean were used for the analysis to answer the study's objective. A self-report questionnaire was administered to BHWs to assess knowledge, attitude, and perceived behaviors. Missingness was purely item non-response; therefore, available case analysis (ACA) was employed in calculating the numerical summary measures, using the number of non-missing entries for a specific variable as the denominator. Moreover, only four variables of interest have missingness, which ranges from 0.17% to 1.73%.

Ethical Considerations

This research adhered to the ethical standards of the Declaration of Helsinki, respecting the rights of human

participants involved in the study. The participants underwent the informed consent process, during which they were made aware of their rights, roles, risks, and benefits of the study, and their voluntary participation was honored. They were informed of their right to remain anonymous, and the information shared with the research team was handled with the utmost confidentiality. Signed forms and other relevant data were stored in a locked filing cabinet. Some questions may have elicited negative emotions and posed possible legal implications; however, the participants were assured that the information would not be used against them and would only be presented as aggregate data. The study protocol was reviewed and approved by the Eastern Visayas Health Research and Development Consortium Ethics Review Committee with the protocol code: 2022-018.

RESULTS

This study examined the sociodemographic characteristics, knowledge, awareness, preparedness, attitudes, and stigma toward HIV among BHWs in selected municipalities of Leyte Province, Philippines. A total of 579 BHWs participated in the survey. Baseline characteristics, including sex, age, educational attainment, and length of service, are summarized in Table 1. The majority of participants were female (95.51%), with a mean age of 52 years, predominantly within the 41–60 age group. In terms of experience, the majority had been serving as BHW for over 15 years. Educational attainment was found to vary, with 41.45% having completed high school and only 7.94% possessing a college degree. Exposure to HIV-related contexts was limited. Only 5.18% of BHWs reported having personally met someone living with HIV, and a large majority (94.82%) had not encountered any PLHIV. The majority, or 76.68%, had not attended any HIV/AIDS training in recent years, with merely 23.14% reporting participation in such capacity-building activities.

Figure 2 illustrates respondents' levels of knowledge on four domains of HIV understanding: transmission, protection, risks, and mother-to-child transmission (MTCT). Overall, the BHWs demonstrated variable comprehension across these domains, revealing both strengths and critical gaps in their HIV-related literacy.

Specifically, in terms of knowledge of HIV transmission, a mean of 61.19% (SD = 20.36) was found, where the majority, or 46.98% of respondents, exhibited a moderate level of understanding. In terms on the knowledge of HIV protection, it yielded the highest scores, with 86.18% of participants exhibiting a high level of understanding, or a mean score of 84.59% (SD = 23.27) In contrast, knowledge of HIV transmission risks showed a more heterogeneous pattern, where 47.50% demonstrated a moderate level, 26.42% a high level, and 26.08% a low level of understanding, with a mean score of 65.34% (SD = 26.96). With respect to knowledge on MTCT, varied scores were evident. There were

Table 1. Profile of Participants (n = 579)

Variable	Category	Count	Percentage (%)	Mean	Standard Deviation
Years in service [a] *(Mean = 16.03; SD = 11.37)*	5 and below	98	16.93	16.03	11.37
	6 - 10	122	21.07		
	11 - 15	105	18.13		
	16 - 20	74	12.78		
	21 - 25	51	8.81		
	above 25	119	20.55		
Educational attainment	Elementary Level	21	3.63		
	Elementary Graduate	43	7.43		
	High School Level	115	19.86		
	High School Graduate	240	41.45		
	College Level	114	19.69		
	College Graduate	46	7.94		
Sex	Female	553	95.51		
	Male	26	4.49		
Age (in years) [b] *(Mean = 51.84; SD = 11.95)*	30 and below	23	3.97	51.84	11.95
	31 - 40	85	14.68		
	41 - 50	155	26.77		
	51 - 60	170	29.36		
	more than 60	143	24.70		
Have you ever met someone who is HIV-positive?	No	549	94.82		
	Yes	30	5.18		
Attended any training or sensitization sessions about HIV/AIDS in the last 6 months [c]	No	444	76.68		
	Yes	134	23.14		

missingness: a = 1.73%, b = 0.52%, c = 0.35%

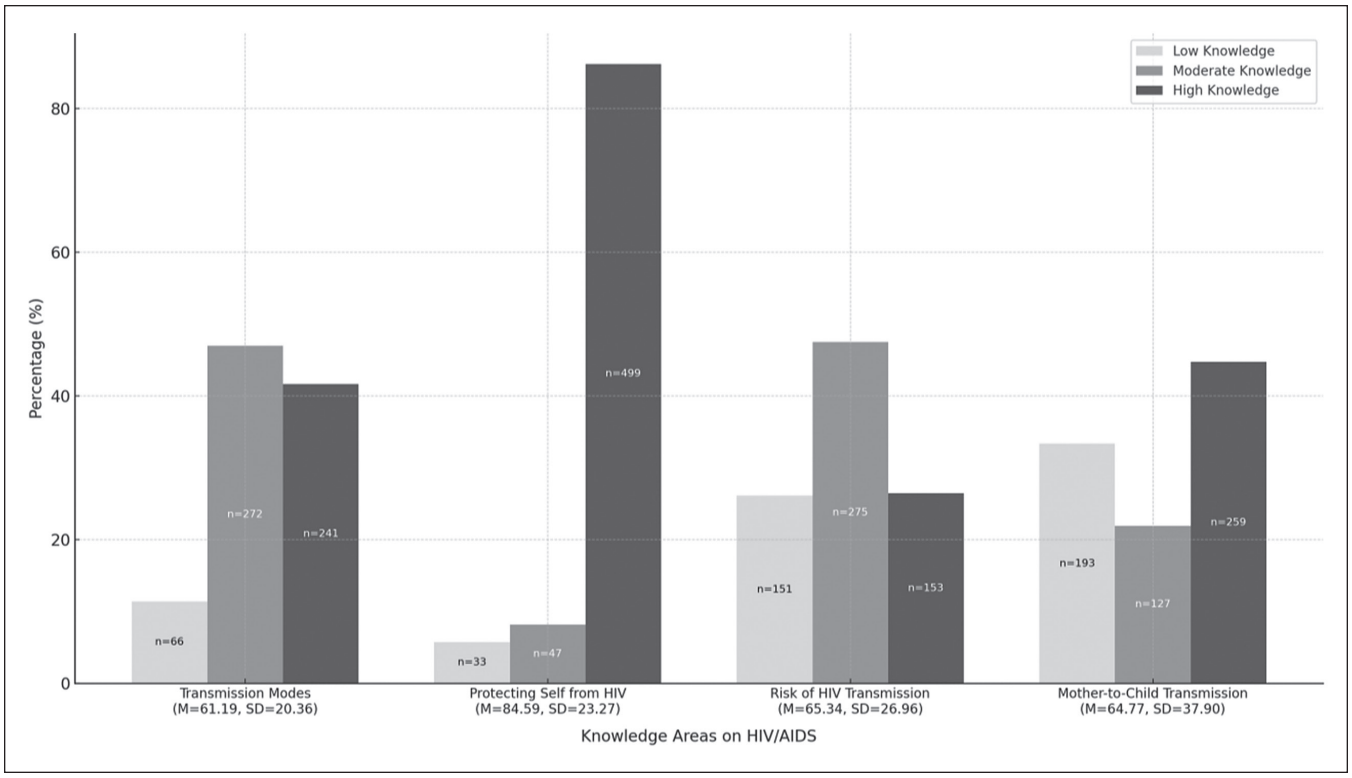

Figure 2. Responses of participants to knowledge items on HIV/AIDS transmission modes.

Table 2. Participants' Level of Awareness on ART, Risks, and Rights of PLHIVs

Variable	Level	Count	Percentage (%)	Mean	Standard Deviation
Awareness on Antiretroviral Therapy (%)	Low	214	36.96	44.43	28.56
	Moderate	180	31.09		
	High	185	31.95		
Awareness on HIV-related Risks (%)	Low	85	14.68	67.39	23.73
	Moderate	188	32.47		
	High	306	52.85		
Awareness on Human Rights of PLs (%)	Low	93	16.06	54.46	20.09
	Moderate	293	50.60		
	High	193	33.33		

44.73% who exhibited high knowledge, 21.93% moderate, and 33.33% low knowledge, corresponding to a mean score of 64.77% (SD = 37.90).

Table 2 presents respondents' awareness levels across three key dimensions: antiretroviral therapy, HIV-related risks, and the human rights of people living with HIV. Awareness of ART was found to be relatively low, with 36.96% of respondents reporting limited awareness, and only 31.95% demonstrating high awareness. The mean awareness score of 44.43% indicates a generally insufficient understanding of ART among Barangay Health Workers. In contrast, awareness of HIV-related risks was notably stronger. More than half of the respondents (52.85%) reported high awareness, and only 14.68% demonstrated low awareness. As to the participants' awareness of PLHIVs' human rights, findings revealed a mixed distribution of awareness: 33.33% reported high awareness, 50.60% moderate awareness, and 16.06% low awareness, with a mean score of 54.46%.

Figure 3 illustrates the respondents' perspectives on disclosing HIV test results to clients' families and sexual partners. The data reveal that a vast majority of Barangay Health Workers opposed such disclosure without the client's consent. Specifically, the majority (88.95%) of respondents disagreed with informing a client's family of an HIV-positive result. Similarly, 95.16% disagreed with notifying a client's sexual partners.

Table 3 summarizes Barangay Health Workers' attitudes, preparedness, and stigma toward people living with HIV. Overall, the findings reveal a complex mix of acceptance, uncertainty, and persisting stigma within the community

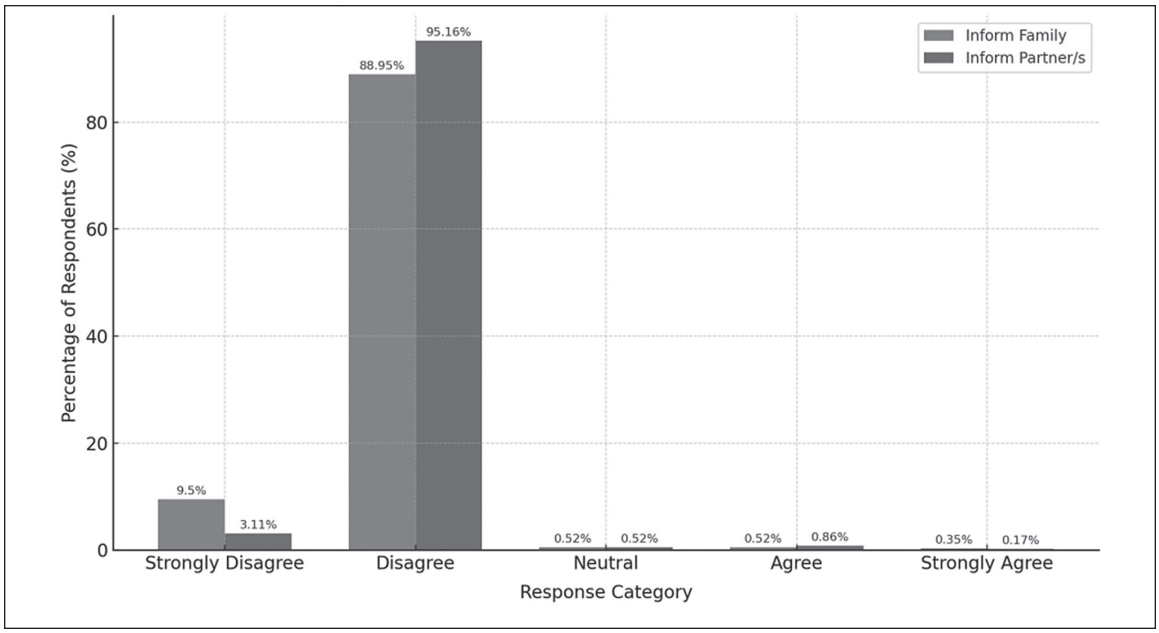

Figure 3. Distribution of responses on the dissemination of HIV test results.

Table 3. Distribution of the Level of Attitude, Preparedness, and Stigma on HIV among the BHWs

Factor	Level	Count	Percentage (%)
Personal feelings towards HIV-positive patients *[Attitude toward a person with HIV]*	Highly Positive	66	11.40
	Positive	270	46.63
	Negative	110	19.00
	Highly Negative	133	22.97
Level of being worried about helping HIV-positive patients *[Attitude toward caring for a person with HIV]*	Very Worried	28	4.84
	Worried	111	19.17
	Slightly Worried	157	27.12
	Not Worried	283	48.88
Level of preparedness about helping HIV-positive patients *[Preparedness in caring for a person with HIV]* [d]	Prepared	37	6.39
	Slightly Prepared	161	27.81
	Unprepared	379	65.46
Feelings toward the need to know the clients' sexual orientation	Strongly Agree	21	3.63
	Somewhat Agree	37	6.39
	Somewhat Disagree	100	17.27
	Strongly Disagree	421	72.71
Feelings toward the need to know about the clients' sexual behavior	Strongly Agree	27	4.66
	Somewhat Agree	47	8.12
	Somewhat Disagree	142	24.53
	Strongly Disagree	363	62.69
Feelings of nervousness in caring for a patient with HIV/AIDS	Very Nervous	104	17.96
	Somewhat Nervous	297	51.30
	Not Nervous	178	30.74
Ideas about helping HIV-positive patients *[Healthcare Provider HIV Stigma Scale]*	Highly Negative	31	5.35
	Negative	133	22.97
	Slightly Negative	213	36.79
	Slightly Positive	94	16.23
	Positive	75	12.95
	Highly Positive	33	5.70

missingness: d = 0.17

health workforce. With respect to general attitudes toward HIV-positive individuals, 46.63% of BHWs reported having a positive attitude, while 22.97% expressed highly negative feelings. Despite this, nearly half (48.88%) indicated that they were not worried about assisting HIV-positive clients, and 27.12% were only slightly worried. However, when assessing preparedness to provide HIV-related care, most respondents (65.46%) felt unprepared, and an additional 27.81% reported being only slightly prepared.

In terms of privacy, sexual orientation, and behavioral inquiries, most respondents viewed personal sexual information as irrelevant to providing equitable care. A total of 72.71% strongly disagreed that they needed to know a client's sexual orientation, and 87.22% somewhat disagreed that knowing a client's sexual behavior was necessary for care provision. Likewise, a particularly concerning finding is that 69.25% of BHWs reported feeling nervous about caring for an AIDS patient. Stigma levels further reinforce these concerns, with 65.11% of BHWs found to hold somewhat negative views toward assisting HIV-positive individuals.

Table 4 summarizes the behavioral responses of BHWs toward suspected or confirmed HIV-positive individuals. Overall, the findings show that many BHWs demonstrate pro-social and service-oriented behaviors, yet pockets of discriminatory tendencies persist, underscoring the need for targeted interventions. A substantial proportion of respondents exhibited high or very high service-oriented behavior (83.25%). Likewise, open-handed behavior, reflecting willingness to assist and provide care, was also prominent (84.63%). In terms of perceptive behavior, which encompasses empathy, understanding, and non-judgmental interaction, the majority (58.03%) rated high or very high. Despite these strengths, the data also point to areas of concern. Although discriminatory behavior was generally low or very low among 56.58% of respondents, a non-trivial proportion (20.73%) displayed high to very high discriminatory behavior.

Figure 4 illustrates Barangay Health Workers' perceptions toward HIV-related training and their readiness to

Table 4. Distribution of the Level of Different Behaviors towards HIV

Factor	Level	Count	Percentage (%)
Service-oriented behavior	Very High	176	30.40
	High	306	52.85
	Fair	74	12.78
	Low	10	1.73
	Very Low	13	2.25
Open-handed behavior	Very High	213	36.79
	High	277	47.84
	Fair	61	10.54
	Low	14	2.42
	Very Low	14	2.42
Perceptive behavior	Very High	56	9.67
	High	280	48.36
	Fair	135	23.32
	Low	88	15.20
	Very Low	20	3.45
Discriminatory behavior	Very High	11	1.90
	High	109	18.83
	Fair	132	22.80
	Low	287	49.57
	Very Low	40	6.91

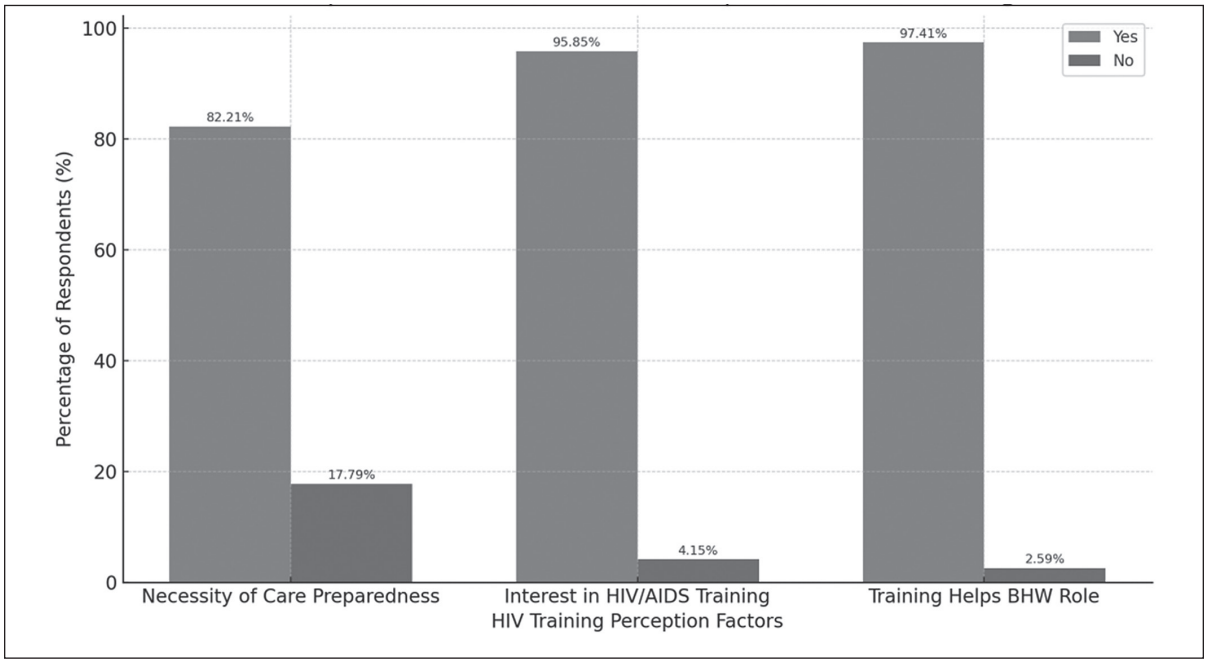

Figure 4. Perceptions of BHWs in HIV training.

enhance their competencies. A large majority (82.21%) agreed that BHWs should be adequately prepared to care for suspected or confirmed HIV-positive clients, reflecting strong acknowledgment of their responsibility in frontline HIV service delivery. Additionally, the findings also demonstrate overwhelming interest in capacity-building initiatives. Nearly all respondents (95.85%) expressed willingness to participate in HIV/AIDS workshops, and an even greater proportion (97.41%) believed such training would improve their effectiveness.

DISCUSSION

This province-wide assessment provides an important account of the knowledge, awareness, attitudes, preparedness, and behavioral dispositions of BHWs toward HIV in Leyte, Philippines. The findings reveal a consequential mismatch between BHWs' strong service orientation and willingness to contribute to HIV-related care and their limited technical knowledge, treatment literacy, ethical preparedness, and confidence in engaging individuals who may be living with or at risk of HIV. This distinction is critical. The identified gaps appear to reflect deficits in capability and systems support rather than a fundamental unwillingness to serve. BHWs therefore represent both an underutilized resource and a potential vulnerability within the community HIV response: their extensive reach and established relationships with communities provide a strong foundation for decentralized HIV services, but inadequate preparation may perpetuate misinformation, stigma, delayed referral, and inconsistent rights-based care.

The demographic characteristics of the participants reflect the longstanding feminization of community health work in the Philippines, where women have traditionally assumed caregiving and voluntary health roles within their communities. The substantial work experience reported by many participants indicates that BHWs constitute a mature and deeply embedded grassroots workforce. Their familiarity with local households, social networks, health needs, and referral pathways may enable them to reach individuals who remain underserved by facility-based services. However, extensive service experience does not necessarily translate into competence in a technically and ethically complex field such as HIV care.[14] The relatively modest formal educational preparation of many participants may influence their access to, interpretation of, and confidence in communicating rapidly evolving HIV information. This should not be understood as an inherent limitation of BHWs, but as evidence of the responsibility of health systems to provide information and competencies in forms that are accessible, practical, context-sensitive, and reinforced over time.

The limited proportion of BHWs who had received recent HIV-related training further indicates that HIV has not yet been consistently integrated into routine BHW orientation and continuing development. Historically, BHW programs have concentrated on maternal and child health, immunization, nutrition, sanitation, and the control of more established communicable diseases.[15] Although these functions remain essential, the changing epidemiology and increasing complexity of HIV in the Philippines require the community health workforce to assume broader responsibilities in prevention education, referral, treatment support, stigma reduction, and protection of patients' rights. The training gap identified in this study may therefore be interpreted not simply as an individual knowledge deficit but as a health-system preparedness issue. Without structured and sustained capacity-building, BHWs cannot reasonably be expected to navigate the scientific, psychosocial, legal, and ethical dimensions of HIV-related work.

Knowledge of HIV Transmission, Protection, Risks, and Mother-to-Child Transmission

The variability in participants' HIV knowledge suggests that basic prevention messages have reached many BHWs, but that comprehension remains uneven across different domains. Stronger knowledge of personal protection may reflect the wider dissemination of public health messages related to condom use, safer sexual practices, standard precautions, and avoidance of blood exposure. However, the persistence of incomplete or inaccurate knowledge regarding transmission and specific risk situations remains consequential. Because BHWs are frequently regarded as trusted and accessible sources of health information, uncertainty or misconceptions among them may be reproduced within their communities. Even when such misinformation is communicated unintentionally, it can reinforce fear of casual contact, exaggerate perceptions of occupational risk, and sustain the social distancing of PLHIV.

Knowledge heterogeneity therefore represents more than an educational concern; it may affect the quality and consistency of community-level prevention. BHWs who do not clearly distinguish established transmission routes from non-transmission scenarios may provide overly restrictive advice, avoid appropriate interpersonal contact, or communicate risk in ways that intensify rather than reduce stigma. Conversely, strong factual knowledge can improve risk communication, normalize routine HIV testing, support appropriate referral, and protect both clients and health workers from unnecessary fear.[16] HIV education for BHWs must consequently move beyond memorization of transmission routes and address the misconceptions, moral assumptions, and real-life situations that shape decision-making in community practice.

The uneven understanding of HIV-related risks further indicates that general awareness does not necessarily translate into the ability to assess specific exposure contexts. Risk assessment requires BHWs to recognize the relevance of sexual practices, multiple or concurrent partnerships, occupational exposure, substance use, and barriers to protective behavior without making moral judgments

about individuals. This is especially important because HIV prevention conversations often involve sensitive information that clients may disclose only when they perceive the health worker to be knowledgeable, respectful, and nonjudgmental. Inadequate risk literacy may result in missed opportunities for prevention counseling and referral, while moralized or inaccurate risk communication may discourage individuals from seeking further assistance.

The gaps in knowledge regarding MTCT merit particular attention. BHWs are extensively involved in maternal and child health activities, including pregnancy identification, antenatal referral, health education, birth monitoring, and postnatal follow-up. In this context, inconsistent understanding of MTCT represents a major missed opportunity within an existing community platform. BHWs do not need to provide specialized clinical management; however, they should be able to explain the importance of timely antenatal HIV testing, facilitate referral, counter misconceptions, and encourage continued engagement with maternal and HIV services. Strengthening MTCT literacy could therefore connect HIV prevention more effectively with the maternal and child health functions already familiar to BHWs.

To our knowledge, this is among the first comprehensive province-wide assessments of HIV-related knowledge, attitudes, and preparedness among BHWs in the Philippines. In contrast to the more localized assessment undertaken in Ormoc City, the present study included BHWs from multiple municipalities and cities across Leyte, providing a broader baseline of community workforce preparedness.[17] The findings indicate that future educational interventions should not treat HIV knowledge as a single construct. Training must be differentiated according to the domains in which gaps are most pronounced, particularly transmission misconceptions, contextual risk assessment, and MTCT. This approach is likely to be more effective than repeating general HIV information that many BHWs may already know.

Awareness of Antiretroviral Therapy, HIV-related Risks, and the Rights of PLHIV

The uneven pattern of awareness observed across ART, HIV-related risks, and the rights of PLHIV further illustrates the limitations of predominantly prevention-focused HIV education. Participants appeared more familiar with general risk behaviors than with ART and rights-based care. This imbalance is important because contemporary HIV responses require community health workers to understand not only how HIV is acquired but also how it is treated, how individuals can remain healthy, and how access to services should be protected.

The limited awareness of ART was among the most important findings. Although ART management is a specialized clinical responsibility, basic treatment literacy is essential for any health worker expected to provide HIV education, referral, or adherence support. BHWs who lack foundational knowledge of ART may be unable to reassure newly diagnosed individuals that HIV is a manageable chronic condition, explain the importance of early treatment initiation, or encourage sustained engagement with care. More importantly, inadequate treatment literacy may allow outdated perceptions of HIV as inevitably fatal to persist. These perceptions contribute to fear, hopelessness, testing avoidance, and stigma.

Community-level ART literacy is also relevant to the continuity of the HIV care cascade. BHWs may encounter individuals who have been referred for testing but have not attended, people who have disengaged from services, or families who require accurate information and psychosocial support. While confidentiality and role boundaries must be strictly maintained, properly trained BHWs could reinforce adherence messages, identify barriers to care, and facilitate referrals through existing local pathways. The findings of Boyd and colleagues, who reported inadequate ART knowledge even among healthcare providers without specialized HIV responsibilities, suggest that such gaps are not unique to community health workers but may occur across multiple levels of the health system.[18] Strengthening ART literacy should therefore form part of a broader strategy to build HIV competence throughout primary healthcare rather than being confined to designated HIV treatment facilities.

The findings concerning the rights of PLHIV are similarly important. Knowledge of non-discrimination, confidentiality, informed consent, and equitable access to health services is not an optional addition to technical HIV training. It is central to safe and effective HIV care because individuals' willingness to seek testing and remain engaged in services depends substantially on whether they expect to be treated with dignity and whether they trust that personal information will be protected. Even well-intentioned BHWs may contribute to rights violations when they have not been adequately oriented to the boundaries of their roles, appropriate information-sharing, and the legal and ethical protections afforded to PLHIV.

A rights-based approach is particularly important within small communities, where social relationships are dense, and anonymity may be difficult to maintain.[19] BHWs commonly know clients personally, interact with their families, and live within the same neighborhoods. These relationships can facilitate access and trust, but they can also create heightened risks of inadvertent disclosure, gossip, labeling, and social exclusion. Training must therefore contextualize human rights principles within the realities of community-level work. Abstract discussions of confidentiality and non-discrimination are unlikely to be sufficient unless BHWs are also taught how to respond to requests for information from family members, local officials, coworkers, and other community members.

Disclosure of HIV Test Results

The strong preference among BHWs for maintaining the confidentiality of HIV test results is an encouraging

finding. It indicates recognition that HIV status is sensitive personal information and that unauthorized disclosure may cause substantial social and psychological harm. Similar emphasis on confidentiality has been observed among healthcare workers in Vietnam, suggesting that privacy is widely recognized as a core ethical obligation in HIV-related practice.[20] Respect for confidentiality is essential to preserving the dignity of PLHIV and maintaining community trust in HIV services. Individuals who believe that their information will remain protected are more likely to pursue testing, discuss risk behaviors honestly, and remain engaged in care.[21]

Nevertheless, confidentiality in HIV care is not merely a matter of withholding information. It requires health workers to understand who is authorized to access information, how records should be protected, what forms of disclosure require consent, and how to respond when partners or family members may be at risk. The findings suggest that BHWs may respect confidentiality in principle while remaining uncertain about the procedures and ethical reasoning required in complex situations. Such uncertainty is understandable given that BHWs are rarely provided with detailed preparation in public health ethics, partner notification, informed consent, and legal accountability.

The tension between individual confidentiality and the prevention of harm to others is particularly evident in partner notification. However, this should not be framed as a simple choice between protecting privacy and controlling transmission. Effective HIV practice requires proportionate, legally compliant, and rights-sensitive procedures that prioritize voluntary disclosure and professionally managed partner services. The Philippine HIV and AIDS Policy Act of 2018, or Republic Act No. 11166, provides the legal framework governing confidentiality and the limited circumstances under which disclosure may be permitted.[22] BHWs should not be placed in the position of independently determining whether a client's HIV status should be disclosed. Rather, they require clear role boundaries, referral protocols, and access to trained HIV service providers when disclosure-related concerns arise.

Training on confidentiality should consequently emphasize practical decision-making rather than legal provisions alone. Case-based scenarios could help BHWs distinguish between appropriate referral, authorized information-sharing, inadvertent disclosure, gossip, and breaches of confidentiality. Particular attention should be given to situations involving spouses or partners, pregnant clients, adolescents, local government officials, and family members requesting information. Such training should also reinforce that contact tracing and partner notification must be undertaken through established protocols and by appropriately trained personnel, rather than through informal disclosure within the community.

The findings of this study reflect both ethical strength and preparedness gaps. BHWs appear to recognize the importance of confidentiality, but this positive orientation must be supported by procedural competence. Strengthening ethical literacy and clarifying the scope of BHW responsibility would protect clients, reduce the likelihood of harmful disclosure, and enable BHWs to participate appropriately in a coordinated public health response.

HIV-related Attitudes, Preparedness, and Stigma among BHWs

The attitudinal findings reveal a complex and, at times, contradictory pattern. Many BHWs expressed openness to providing assistance, yet a substantial proportion also reported unfavorable perceptions, apprehension, or limited readiness to interact with PLHIV. This coexistence of prosocial intention and residual stigma is important because it demonstrates that willingness to serve does not automatically ensure stigma-free care. Health workers may endorse the general principle that PLHIV deserve assistance while simultaneously experiencing fear of infection, discomfort discussing sexuality, or moral judgment toward particular behaviors and populations.

The low level of preparedness reported by participants appears closely related to the limited integration of HIV competencies into routine BHW development. They are less commonly trained in HIV counseling, risk communication, testing referral, treatment literacy, or the psychosocial concerns experienced by PLHIV. Sy and colleagues similarly reported the need for substantial upskilling before health workers could competently participate in HIV counseling and testing services.[23] The present findings extend this concern by demonstrating that the preparedness gap includes not only technical ability but also confidence, ethical competence, and comfort in interacting with clients who may be living with HIV.

This gap is especially consequential in rural and geographically underserved settings. BHWs often constitute the most visible and accessible component of the health system, particularly where professional health workers are limited or facility-based services are distant. A poorly prepared BHW may unintentionally become a barrier to care by providing inaccurate information, displaying discomfort, or discouraging disclosure. Conversely, a knowledgeable and confident BHW can normalize HIV testing, direct clients to appropriate services, and provide respectful support at a point in the care pathway where individuals may be particularly vulnerable to fear and stigma.

The participants' reluctance to inquire about sexual orientation or sexual behavior requires careful interpretation. On one hand, it may reflect respect for privacy and a desire to avoid discrimination. On the other, it may indicate discomfort or uncertainty about discussing clinically relevant aspects of HIV risk. The issue is therefore not whether BHWs should routinely collect highly sensitive information, particularly when such questioning falls outside their role, but whether they can respond appropriately when clients voluntarily disclose concerns related to sexual practices, gender identity,

or sexual orientation. Avoidance of these topics may limit the quality of prevention education and referral, whereas intrusive or judgmental questioning may undermine trust. Training should therefore emphasize role-appropriate, consent-based, and nonjudgmental communication.

Likewise, the nervousness reported in caring for individuals suspected of having HIV further indicates the persistence of fear despite decades of public education. Such anxiety may arise from misconceptions about transmission, insufficient exposure to PLHIV, concern about occupational safety, or uncertainty about what assistance BHWs are expected to provide.[24] Regardless of its source, visible discomfort can be experienced by clients as rejection and may discourage them from returning for support. Addressing this concern requires more than factual lectures. BHWs need opportunities to apply standard precautions, discuss fears openly, interact with trained HIV professionals or PLHIV advocates, and practice communication through supervised scenarios.

The stigma findings reinforce this interpretation. Although some participants demonstrated positive attitudes, stigmatizing views remained present across a substantial segment of the workforce. Stigma among health workers is rarely produced by a single factor. It may arise from misinformation, fear of infection, moral judgment, social norms, limited contact with PLHIV, and organizational cultures that fail to model non-discriminatory care. Ngcobo and colleagues similarly attributed persistent stigma among frontline providers to insufficient training, weak quality assurance, and inadequate supportive supervision.[25] The present findings suggest that stigma reduction must therefore be treated as an organizational and implementation priority rather than as a one-time awareness activity.

The combination of limited preparedness and persistent stigma creates a potentially self-reinforcing cycle. BHWs who receive little HIV training may remain fearful and avoid interaction with PLHIV. Limited interaction then prevents corrective learning and sustains misconceptions. These misconceptions contribute to stigmatizing attitudes, which may further discourage clients from disclosing concerns or seeking assistance. Breaking this cycle requires interventions that simultaneously increase knowledge, build practical competence, strengthen self-efficacy, and provide meaningful opportunities for reflection and contact.

Behaviors toward Persons with Suspected or Confirmed HIV

The behavioral findings offer a more encouraging perspective. High levels of service orientation, open-handedness, and perceptive behavior suggest that BHWs possess interpersonal and motivational qualities that are compatible with compassionate community-based HIV care. These characteristics are particularly important given the voluntary nature of barangay health work and the relational character of primary healthcare in rural communities. BHWs' willingness to assist others and their sensitivity to community needs constitute important assets that can be harnessed in HIV prevention, referral, and treatment support.

The findings also indicate that deficiencies in HIV-related performance may be more accurately characterized as capability deficits than motivational deficits. Many BHWs appear willing to help but lack the knowledge, confidence, skills, and organizational support necessary to translate this willingness into consistently safe and effective practice. This distinction has direct implications for intervention design. Programs that assume resistance or indifference may fail to recognize the existing commitment of BHWs, while programs focused only on motivation may add little value. Capacity-building should instead connect their established service orientation with clear competencies, role definitions, and referral pathways.

Perceptive and empathetic behaviors are especially relevant to HIV care because clients may initially approach community health workers with indirect concerns rather than explicit requests for HIV testing. The ability to listen, respond without judgment, recognize distress, and maintain privacy can influence whether individuals accept referral or disclose additional information. These interpersonal qualities cannot replace technical preparation, but they provide a strong foundation for client-centered communication and trust-building.

Nevertheless, discriminatory behaviors persisted among a subset of participants. Similar patterns among primary healthcare workers in other settings have been associated with inadequate training, misconceptions about transmission, moral judgment, and fear of contagion.[26] Even when discriminatory behavior is not widespread, its presence remains programmatically significant because a single stigmatizing encounter can discourage an individual from seeking testing or continuing care. In small communities, such experiences may also be shared through social networks, damaging trust in local health services more broadly.

Discriminatory tendencies must be interpreted within the context of participants' limited preparation and exposure. Most had not recently received HIV-specific training, and few had direct experience with PLHIV. Their routine responsibilities also provide limited opportunities to develop competence in HIV counseling, ethical decision-making, or stigma-sensitive practice. This context does not excuse discriminatory behavior, but it indicates that individual blame is unlikely to produce sustained improvement. The more appropriate response is to establish clear standards of conduct, competency-based training, supportive supervision, and accountability mechanisms that enable BHWs to identify and correct stigmatizing practices.

The observed coexistence of strong service orientation and residual discrimination therefore represents both an opportunity and a warning. The health system can build on BHWs' commitment to community service, but it should not assume that benevolent intentions alone guarantee equitable

care. Compassion must be supported by accurate knowledge, ethical competence, practical skills, and institutional safeguards. Without these supports, well-intentioned BHWs may still communicate misinformation or act in ways that discourage engagement with services.

Perceptions of BHWs toward HIV Training

The high level of agreement regarding the need for HIV training is among the most actionable findings of this study. Participants recognized that additional preparation would improve their ability to provide HIV-related assistance and expressed willingness to expand their competencies. This readiness is particularly important because successful workforce interventions require not only an identified service gap but also acceptance among those expected to implement the intervention.

The participants' positive orientation toward training challenges assumptions that community health volunteers are passive recipients of centrally designed programs. Rather, the findings suggest that BHWs understand the evolving health needs of their communities and are willing to assume a more active role when appropriate preparation and support are provided. Their motivation should not be interpreted as readiness to undertake specialized clinical functions without safeguards. Instead, it indicates openness to clearly defined and appropriately supervised responsibilities in health education, stigma reduction, referral, treatment support, and community mobilization.

Conventional one-time seminars are unlikely to be sufficient to address the multidimensional gaps identified in this study. Future interventions should be competency-based and longitudinal, combining foundational HIV knowledge with practical communication, ethical decision-making, rights-based care, ART literacy, standard precautions, referral procedures, and stigma reduction. Training materials should be adapted to participants' educational backgrounds and should use clear language, visual resources, local scenarios, role-play, and repeated skills assessment. The goal should not be to transform BHWs into HIV specialists, but to ensure that they can perform a defined set of community-level functions safely, confidently, and consistently.

Integration into routine BHW development systems would be more sustainable than stand-alone project-based training. HIV competencies could be included in orientation programs, periodic refresher courses, local health planning, performance monitoring, and continuing education. However, any expansion of responsibilities should be accompanied by appropriate resources, recognition, and protection from unreasonable workload expectations. Task-sharing should strengthen rather than exploit the community workforce.

The convergence of high willingness, perceived need, and belief in the value of training provides a favorable implementation environment.[27] It suggests that the key challenge is not persuading BHWs that HIV matters but translating their motivation into structured competence and ensuring that local health systems enable them to apply what they learn. The Department of Health, local government units, HIV treatment facilities, academic institutions, and civil society organizations may therefore consider developing standardized but locally adaptable BHW HIV competency programs. Partnerships with PLHIV networks would be particularly valuable in ensuring that training reflects lived experiences and directly addresses stigma, dignity, and trust.

Limitations

This study is not without limitations. First, the use of self-reported survey data may be subject to social desirability bias, particularly in responses related to stigma and care preparedness. Participants may have underreported negative attitudes or overreported favorable behaviors due to the sensitive nature of HIV-related topics. Second, the cross-sectional design limits the ability to draw causal inferences between knowledge, attitudes, and stigma-related behaviors. Findings regarding HIV knowledge, stigma, and care preparedness mirror those of the BHWs in the municipalities in Leyte; however, these results should not be generalized to other regions due to potential variations in local health policies, budgets, and socio-cultural factors. Lastly, the absence of qualitative data may have limited a deeper exploration of the nuanced factors influencing stigma and care preparedness, such as cultural beliefs or institutional practices. Specifically, qualitative inquiry could explore (1) the contextual factors influencing BHWs' attitudes and stigma-related behaviors, (2) their lived experiences in delivering HIV-related services in rural communities, and (3) the institutional and cultural dynamics that shape their confidence and decision-making in providing stigma-free care. These qualitative perspectives would complement the present quantitative findings by uncovering the underlying meanings, motivations, and systemic challenges that cannot be fully captured through survey data. While this study provided a comprehensive descriptive profile of BHWs' HIV-related knowledge, attitudes, and behaviors, it did not include comparative or inferential analyses across sociodemographic groups such as age, gender, years of service, or training exposure. Future studies may adopt analytical or mixed-method designs to examine these variations and identify predictors of HIV care preparedness and stigma-related attitudes among BHWs.

Study Implications

The findings of this study have significant implications for community health, policy development, and health program prioritization in the Philippines. The high levels of interest and perceived need for HIV-related training among BHWs underscore a critical opportunity to strengthen grassroots healthcare systems by building capacity where it matters most. BHWs are often the first point of contact for individuals seeking care in rural and underserved communities, and their preparedness may directly influence health-seeking behavior,

early diagnosis, treatment adherence, and stigma reduction.

The results highlight the importance of enhancing the readiness of BHWs to provide stigma-free, competent, and compassionate care to people living with HIV. With over 80% of respondents recognizing the necessity of being prepared to care for HIV-positive clients, and more than 95% expressing interest in training, there is a clear mandate to implement structured, evidence-informed, and context-specific training programs. Such interventions can bridge knowledge gaps, correct misconceptions, and empower BHWs to serve as proactive advocates for HIV awareness, testing, and treatment in their localities. Likewise, the findings reinforce the need to institutionalize HIV education within the continuing professional development programs of community health workers. Policymakers must consider integrating HIV stigma-reduction modules into national and local training frameworks. Moreover, aligning BHW capacity-building initiatives with the mandates of the Philippine HIV and AIDS Policy Act will ensure consistency with broader public health goals. Local government units should also be incentivized to invest in grassroots-level HIV education and services.

Ultimately, this study recommends allocating resources toward training and monitoring programs that enhance the capacity of BHWs in HIV care. Prioritizing community-level interventions will yield high-impact results, especially in high-burden areas where stigma and misinformation persist. National health authorities and donor agencies should view community-based HIV preparedness as a key strategy in achieving Universal Health Care and improving overall population health outcomes.

CONCLUSION

This study revealed that while Barangay Health Workers in Leyte possess moderate to high levels of knowledge about HIV transmission and self-protection, there are significant gaps in their awareness of antiretroviral therapy, human rights of people living with HIV, and overall preparedness to provide HIV-related care. A substantial proportion also demonstrated varying degrees of stigma, particularly in attitudes and perceived behaviors toward HIV-positive individuals. Despite these challenges, the strong interest expressed by BHWs in receiving further training reflects their openness to capacity-building and improved service delivery.

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Data Availability Statement

The data utilized in the analysis are available from the corresponding author on reasonable request.

Use of Generative AI

Portions of this manuscript were refined for language and structure only with the use of generative AI. The authors verified all AI-assisted edits and are fully responsible for the integrity, accuracy, and originality of the content.

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All authors certified fulfillment of ICMJE authorship criteria.

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