# CHAPTER FOUR

# 4.0 RESULTS

## 4.1 Introduction

This chapter presents a comprehensive analysis of the findings of this study. It presents an overview of the sociodemographic and professional characteristics of the healthcare practitioners who participated in the study, and presents findings on their knowledge and practices related to HIV/AIDS management. Finally, it presents a qualitative analysis of the insights shared by healthcare practitioners during an in-depth interview.

## 4.2 Sociodemographic Characteristics

Table 1 presents the sociodemographic characteristics of healthcare professionals involved in this study. The mean age was 30 ± 5.86 years, with majority (42.7%) within the age range of 25-30 years, followed by those aged 31-40 years (34.1%). There were more females (70.5%) than males (29.5%), with more than half (56.3%) being single and most (42.1%) being married. Almost all (99.3%) of the respondents had attained tertiary level of education. Majority (91.7%) were Christians with few (5.3%) Muslims and others (0.7%) being none-religious.

Table 1: Sociodemographic Characteristics of Healthcare Practitioners

|  |  |  |
| --- | --- | --- |
| **Variable** | **Frequency**  **(N = 302)** | **Total**  **(%)** |
| **Age** | **30 ± 5.86** |  |
| 18-24 years | 34 | 11.3 |
| 25-30 years | 129 | 42.7 |
| 31-40 years | 103 | 34.1 |
| 41-50 years | 11 | 3.6 |
| 51-60 years | 1 | 0.3 |
| **Gender** |  |  |
| Female | 213 | 70.5 |
| Male | 89 | 29.5 |
| **Marital Status** |  |  |
| Divorced/Separated | 5 | 1.7 |
| Married | 127 | 42.1 |
| Single | 170 | 56.3 |
| **Level of Education** |  |  |
| Secondary | 1 | 0.3 |
| Tertiary | 300 | 99.3 |
| **Religious Affiliation** |  |  |
| African Traditional Religion | 2 | 0.7 |
| Christianity | 277 | 91.7 |
| Islam | 16 | 5.3 |
| None religious | 2 | 0.7 |

## 4.3 Professional Characteristics

Table 2 presents the professional experience of healthcare professionals involved in this study. The most predominant professional background was nursing officer/midwife officer (22.2%), followed by doctor/nurse/midwife specialist (19.9%) and registered general nurse (19.2%). Most (35.8%) had worked for a period of 1-3 years, followed by those who had worked for more than 6 years (26.2%). Majority (69.2%) of them worked in the ward with few (6.3%) working at the specialist clinic and one (0.3%) working at the antiretroviral clinic. More than half (54.6%) had not received any formal training on HIV/AIDS and same numbers as had had experience with PLHIV (47.7%), had had no such experience.

Table 2: Professional Characteristics of Healthcare Practitioners

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variable** | | **Frequency**  **(N = 302)** | **Total**  **(%)** | |
| **Professional Background** |  | |  |
| Community Health Nurse | 2 | | 0.7 |
| Community Health Nurse | 1 | | 0.3 |
| Doctor/Nurse/Midwife Specialist | 60 | | 19.9 |
| Enrolled Nurse | 29 | | 9.6 |
| House Officer | 12 | | 4.0 |
| Laboratory Scientist | 19 | | 6.3 |
| Medical Officer | 3 | | 1.0 |
| Nursing Officer/Midwife Officer | 67 | | 22.2 |
| Pharmacist | 17 | | 5.6 |
| Physician Assistant | 13 | | 4.3 |
| registered General Nurse | 1 | | 0.3 |
| Registered General Nurse | 58 | | 19.2 |
| Registered General Nurse/Midwife | 16 | | 5.3 |
| **Years of Experience** | |  |  | |
| < 1 year | | 50 | 16.6 | |
| 1 - 3 years | | 108 | 35.8 | |
| 4 - 6 years | | 65 | 21.5 | |
| > 6 years | | 79 | 26.2 | |
| **Department of Work** | |  |  | |
| Out-Patient Department | | 28 | 9.3 | |
| Emergency Unit | | 39 | 12.9 | |
| Specialist Clinic | | 6 | 2.0 | |
| Laboratory | | 19 | 6.3 | |
| Ward | | 209 | 69.2 | |
| Antiretroviral clinic | | 1 | 0.3 | |
| **Formal Training on HIV/AIDS Management** | |  |  | |
| Yes | | 132 | 43.7 | |
| No | | 165 | 54.6 | |
| **Experience with PLHIV** | |  |  | |
| Yes | | 144 | 47.7 | |
| No | | 144 | 47.7 | |

## 4.4 Knowledge on HIV/AIDS Management

As presented in Table 3, the mean knowledge score was 52.63 ± 6.58 with scores ranging from 19 to 71. This suggests a moderate level of knowledge about HIV/AIDS management among healthcare practitioners at the Bono Regional Hospital, with some variation among individuals.

Table 3: Descriptive Statistics for Knowledge Scores among Healthcare Practitioners

|  |  |
| --- | --- |
| **Statistic** | **Value** |
| Valid Responses (N) | 251 |
| Missing Responses | 52 |
| Mean | 52.63 |
| Standard Deviation | 6.58 |
| Minimum Score | 19.00 |
| Maximum Score | 71.00 |

***Knowledge scores were computed based on responses to 15 Likert-scale items related to HIV/AIDS management guidelines.***

## 4.5 Practice of HIV/AIDS Management

Table 4 shows the mean practice score among healthcare practitioners are Bono Regional Hospital being 55.66 ± 6.30, within a range of 31 to 75. This is indicative of a relatively high adherence to HIV/AIDS management practices, with some variability across respondents.

Table 4: Descriptive Statistics for Practice Scores among Healthcare Practitioners

|  |  |
| --- | --- |
| **Statistic** | **Value** |
| Valid Responses (N) | 274 |
| Missing Responses | 29 |
| Mean | 55.66 |
| Standard Deviation | 6.30 |
| Minimum Score | 31.00 |
| Maximum Score | 75.00 |

***Practice scores were computed based on responses to 15 Likert-scale items related to HIV/AIDS management guidelines.***

## 4.6 Factors Associated with Knowledge on HIV/AIDS Management

Respondents’ total knowledge scores were categorized into three levels based on the total possible score: poor knowledge (scores ≤ 25), moderate knowledge (scores 26–50), and good knowledge (scores > 50), for ease of interpretation. Consequently, a Chi-square test of independence was conducted to examine the relationship between healthcare practitioners’ knowledge level on HIV/AIDS management and their sociodemographic characteristics. The results are displayed in Table 5. A statistically significant association was found between gender and knowledge levels, χ² (2, N = 251) = 6.73, p = 0.035, and between religious affiliation and knowledge levels, χ² (6, N = 247) = 18.91, p = 0.004. No significant association was found between knowledge levels and age, χ² (10, N = 251) = 3.56, p = 0.965; marital status, χ² (4, N = 251) = 4.82, p = 0.307; and educational level, χ² (2, N = 251) = 1.68, p = 0.432.

Table 5: Cross-tabulation of Sociodemographic Characteristics and Knowledge Levels

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Characteristic** | **Poor Knowledge** | **Moderate Knowledge** | **Good Knowledge** | **Total** |
| **Age** |  |  |  |  |
| 18-24 years | 0 | 11 | 16 | 27 |
| 25-30 | 1 | 37 | 65 | 103 |
| 31-40 | 0 | 33 | 58 | 91 |
| 41-50 | 0 | 4 | 6 | 10 |
| 51-60 | 0 | 1 | 0 | 1 |
| **Gender** |  |  |  |  |
| Male | 0 | 37 | 38 | 75 |
| Female | 1 | 57 | 118 | 176 |
| **Marital Status** |  |  |  |  |
| Single | 1 | 55 | 76 | 132 |
| Married | 0 | 36 | 78 | 114 |
| Divorced/Separated | 0 | 3 | 2 | 5 |
| **Educational Level** |  |  |  |  |
| Secondary | 0 | 1 | 0 | 1 |
| Tertiary | 1 | 93 | 156 | 250 |
| **Religious Affiliation** |  |  |  |  |
| Christianity | 0 | 88 | 143 | 231 |
| Islam | 1 | 4 | 8 | 13 |
| African Traditional Religion | 0 | 1 | 1 | 2 |
| None Religious | 0 | 0 | 1 | 1 |

Again, a Chi-square test of independence was conducted to examine the relationship between healthcare practitioners’ knowledge level on HIV/AIDS management and their professional characteristics. The results are displayed in Table 6. . A statistically significant association was found between knowledge levels and department of work, χ² (8, N = 251) = 22.26, p = 0.004. No significant association was found between knowledge levels and professional background, χ² (18, N = 251) = 17.84, p = 0.466; years of experience, χ² (6, N = 251) = 5.88, p = 0.437; having received formal training on HIV/AIDS management, χ² (2, N = 251) = 1.33, p = 0.514; and experience with PLHIV, χ² (2, N = 251) = 1.42, p = 0.493.

Table 6: Cross-tabulation of Professional Characteristics and Knowledge Levels

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Characteristic** | **Poor Knowledge** | **Medium Knowledge** | **Good Knowledge** | **Total** |
| **Professional Background** |  |  |  |  |
| Doctor/Nurse/Midwife Specialist | 0 | 13 | 33 | 46 |
| Medical Officer | 0 | 0 | 1 | 1 |
| House Officer | 0 | 2 | 7 | 9 |
| Physician Assistant | 0 | 7 | 5 | 12 |
| Nursing Officer/Midwife Officer | 0 | 17 | 37 | 54 |
| Registered General Nurse/Midwife | 1 | 25 | 39 | 65 |
| Community Health Nurse | 0 | 1 | 1 | 2 |
| Enrolled Nurse | 0 | 8 | 18 | 26 |
| Laboratory Scientist | 0 | 12 | 5 | 17 |
| Pharmacist | 0 | 6 | 9 | 15 |
| **Years of Experience** |  |  |  |  |
| < 1 year | 0 | 16 | 23 | 39 |
| 1 - 3 years | 0 | 32 | 60 | 92 |
| 4 - 6 years | 1 | 16 | 33 | 50 |
| > 6 years | 0 | 30 | 40 | 70 |
| **Department of Work** |  |  |  |  |
| Out-Patient Department | 1 | 6 | 13 | 20 |
| Emergency Unit | 0 | 15 | 19 | 34 |
| Specialist Clinic | 0 | 1 | 5 | 6 |
| Laboratory | 0 | 12 | 5 | 17 |
| Ward | 0 | 60 | 114 | 174 |
| **Formal Training** |  |  |  |  |
| Yes | 1 | 42 | 66 | 109 |
| No | 0 | 51 | 86 | 137 |
| **Experience with PLHIV** |  |  |  |  |
| Yes | 1 | 48 | 70 | 119 |
| No | 0 | 44 | 76 | 120 |

Table 7 displays a Chi-square tests summary for knowledge levels and sociodemographic and professional characteristics of respondents.

Table 7: Chi-Square Tests Summary for Knowledge Levels and Respondents' Characteristics

| **Variable** | **χ²** | **df** | ***p*** |
| --- | --- | --- | --- |
| Age | 3.56 | 10 | 0.965 |
| Gender | 6.73 | 2 | 0.035\* |
| Marital Status | 4.82 | 4 | 0.307 |
| Educational Level | 1.68 | 2 | 0.432 |
| Religious Affiliation | 18.91 | 6 | 0.004\*\* |
| Professional Background | 17.84 | 18 | 0.466 |
| Years of Experience | 5.88 | 6 | 0.437 |
| Department of Work | 22.26 | 8 | 0.004\* |
| Formal Training on HIV/AIDS Management | 1.33 | 2 | 0.514 |
| Experience with PLHIV | 1.42 | 2 | 0.493 |

**p *< .05 is statistically significant, denoted by \* and \*\*.***

## 4.7 Factors Associated with Practice of HIV/AIDS Management

Respondents’ total practice scores were categorized into three levels based on the total possible score: poor practice (scores ≤ 25), moderate practice (scores 26–50), and good practice (scores > 50), for ease of interpretation. Consequently, a Chi-square test of independence was conducted to examine the relationship between healthcare practitioners’ practice level on HIV/AIDS management and their sociodemographic characteristics. The results are displayed in Table 8. There was no statistically significant association was found between knowledge levels and age, χ² (5, N = 251) = 2.63, p = 0.756; gender, χ² (1, N = 251) = 0.92, p = 0.756; marital status, χ² (2, N = 251) = 0.88, p = 0.645; educational level, χ² (1, N = 251) = 0.19, p = 0.661; and religious affiliation having a marginally non-significant association, χ² (3, N = 251) = 6.97, p = 0.073.

Table 8: Cross-tabulation of Sociodemographic Characteristics and Practice Levels

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Characteristic** | **Poor Practice** | **Moderate Practice** | **Good Practice** | **Total** |
| **Age** |  |  |  |  |
| 18-24 years | 0 | 4 | 28 | 32 |
| 25-30 | 0 | 21 | 97 | 118 |
| 31-40 | 0 | 12 | 80 | 92 |
| 41-50 | 0 | 3 | 8 | 11 |
| 51-60 | 0 | 0 | 1 | 1 |
| **Gender** |  |  |  |  |
| Male | 0 | 0 | 16 | 67 |
| Female | 0 | 0 | 28 | 163 |
| **Marital Status** |  |  |  |  |
| Single | 0 | 27 | 125 | 152 |
| Married | 0 | 16 | 101 | 117 |
| Divorced/Separated | 0 | 1 | 4 | 5 |
| **Educational Level** |  |  |  |  |
| Secondary | 0 | 0 | 1 | 1 |
| Tertiary | 0 | 44 | 229 | 273 |
| **Religious Affiliation** |  |  |  |  |
| Christianity | 0 | 37 | 214 | 251 |
| Islam | 0 | 5 | 10 | 15 |
| African Traditional Religion | 0 | 1 | 1 | 2 |
| None Religious | 0 | 1 | 1 | 2 |

Again, a Chi-square test of independence was conducted to examine the relationship between healthcare practitioners’ practice level on HIV/AIDS management and their professional characteristics. The results are displayed in Table 9. There was no statistically significant association was found between practice levels and professional background, χ² (9, N = 251) = 8.02, p = 0.532; years of experience, χ² (3, N = 251) = 0.02, p = 0.999; department of work, χ² (5, N = 251) = 5.63, p = 0.344; having received formal training on HIV/AIDS management, χ² (1, N = 251) = 0.308, p = 0.579; and experience with PLHIV, χ² (1, N = 251) = 1.09, p = 0.296.

Table 9: Cross-tabulation of Professional Characteristics and Practice Levels

|  |  |  |  |
| --- | --- | --- | --- |
| **Characteristic** | **Medium Practice** | **Good Practice** | **Total** |
| Professional Background |  |  |  |
| Doctor/Nurse/Midwife Specialist | 9 | 45 | 54 |
| Medical Officer | 0 | 3 | 3 |
| House Officer | 0 | 11 | 11 |
| Physician Assistant | 1 | 12 | 13 |
| Nursing Officer/Midwife Officer | 8 | 50 | 58 |
| Registered General Nurse/Midwife | 12 | 57 | 69 |
| Community Health Nurse | 1 | 2 | 3 |
| Enrolled Nurse | 4 | 24 | 28 |
| Laboratory Scientist | 5 | 11 | 16 |
| Pharmacist | 4 | 12 | 16 |
| **Years of Experience** |  |  |  |
| < 1 year | 7 | 37 | 44 |
| 1 - 3 years | 16 | 83 | 99 |
| 4 - 6 years | 9 | 49 | 58 |
| > 6 years | 12 | 61 | 73 |
| **Department of Work** |  |  |  |
| Out-Patient Department | 4 | 22 | 26 |
| Antiretroviral Clinic | 0 | 1 | 1 |
| Emergency Unit | 3 | 32 | 35 |
| Specialist Clinic | 0 | 6 | 6 |
| Laboratory | 5 | 11 | 16 |
| Ward | 32 | 158 | 190 |
| **Formal Training** |  |  |  |
| Yes | 18 | 105 | 123 |
| No | 25 | 121 | 146 |
| **Experience with PLHIV** |  |  |  |
| Yes | 19 | 114 | 133 |
| No | 25 | 106 | 131 |

Table 10 displays a Chi-square tests summary for practice levels and sociodemographic and professional characteristics of respondents.

Table 10: Chi-Square Tests Summary for Practice Levels and Respondents' Characteristics

| **Variable** | **χ²** | **df** | ***p*** |
| --- | --- | --- | --- |
| Age | 2.63 | 5 | 0.756 |
| Gender | 0.92 | 1 | 0.339 |
| Marital Status | 0.88 | 2 | 0.645 |
| Educational Level | 0.19 | 1 | 0.661 |
| Religious Affiliation | 6.97 | 3 | 0.073 |
| Professional Background | 8.02 | 9 | 0.532 |
| Years of Experience | 0.02 | 3 | 0.999 |
| Department of Work | 5.63 | 5 | 0.344 |
| Formal Training on HIV/AIDS Management | 0.31 | 1 | 0.579 |
| Experience with PLHIV | 1.09 | 1 | 0.296 |

**p *< .05 is statistically significant***

# CHAPTER FIVE

# 5.0 DISCUSSION, RECOMMENDATIONS AND CONCLUSION

## 5.1 Introduction

This chapter is sub-divided into three sections, with the first presenting the discussion of the key findings of the study, relating them to existing literature and the study objectives. The next section provides practical recommendations based on the findings, with the aim to improve compliance to the GHS HIV/AIDS management guidelines. The last section provides an overall conclusion to the study.

## 5.2 Discussion

According to the findings of this study, majority of the healthcare practitioners, being nurses and midwifery officers, had not received any form of formal training on the management of HIV/AIDS. This finding is similar to the findings of a study conducted among nurses in the Kumasi metropolis, Ghana, which reported that majority of them had not been formally trained in HIV/AIDS-related management (Boakye & Mavhandu-Mudzusi, 2019). Similarly, a study conducted in Austria reported that less than half the number of nurses and doctors in a healthcare facility had been trained in any issues pertaining to HIV/AIDS (Vorasane et al., 2017). The lack of training in these studies could be attributed to the unavailability of adequate resources to effectively carry out the training. Consequently, studies have shown that healthcare practitioners who have received some form of training on HIV/AIDS-related issues were more likely to display excellent services towards PLHIV (Pal et al, 2016).

Although most of the healthcare practitioners had not been trained in the management of HIV/AIDS according to the GHS guidelines, and had not had much interaction with PLHIV, they demonstrated a moderate level of knowledge in the management of the disease. This can be confirmed by a study which reported that doctors and nurses were more likely to possess knowledge of HIV/AIDS treatment and management protocols compared to those of other healthcare disciplines (Eticha & Gemeda, 2019). This finding is further confirmed by another study conducted in Nigeria where it was reported that doctors, nurses and laboratory scientists, because of their roles in diagnosing, caring, and investigating cases of HIV/AIDS respectively, increase their level of knowledge about the infection (Owolabi et al., 2012). These findings notwithstanding, formal training workshops for healthcare practitioners on management guidelines for HIV/AIDS should not be overlooked, as it is imperative in providing effective treatment regimen, especially in instances when PLHIV have co-morbid health conditions (Oladele et al., 2023).

Some factors that were found to be statistically significant in determining knowledge levels among healthcare practitioners in relation to HIV/AIDS management guidelines included gender and religious affiliation. Most respondents in this study were females and Christians respectively. To corroborate the findings of this study, Magdi et al. (2013) reported that Muslims are taught on sicknesses as part of their religion, and hold a firm belief that they cannot contract HIV. Consequently, high knowledge levels were reported among these Muslim nurses in Egypt (Magdi et al., 2013). The finding of gender being a determinant of knowledge levels can be attributed to the fact that most of the respondents of this study were nurses, who are predominantly females.

Although years of experience in their professional background was not found to be statistically significant to determining knowledge levels among healthcare professionals in this study, there have been studies that have established a significant relationship. According to Mathewos et al. (2013), healthcare practitioners who had been on the job for less than six months were more likely to possess lower levels of knowledge compared to those who had been working for longer. Further, Owolabi et al. (2012) reported from the findings of their study that healthcare practitioners with longer years of experience were more likely to provide efficient and efficacious care for PLHIV compared to those who had been working for lesser number of years.

Healthcare practitioners involved in the present study were found to have a high adherence to HIV/AIDS management guidelines despite the fact that they had not received any formal training in relation to the management. According to Owolabi et al. (2012), even in the absence of any formal training on HIV/AIDS management, the frequency of attending to the same cases time and again equips healthcare practitioners with the skills to provide prompt and effective management.

No sociodemographic characteristic was found to be statistically significant in determining the practice levels among healthcare practitioners in relation to HIV/AIDS management guidelines. This is contrary to findings from a studies conducted among religious individuals (**Ebrahimi et al., 2020; Scott et al., 2021**). According to Ebrahimi et al. (2020), because Islam frowns of extramarital affairs and homosexuality, Muslim healthcare practitioners refrain from attending to individuals who present to healthcare facilities with HIV/AIDS. Also, because Jews and Christians both frown on similar practices, healthcare practitioners who belong to these religions exhibit similar behavior towards PLHIV as the Muslims (Scott et al., 2021). On the contrary, a study carried out among nurses in Puerto Rico reported that nurses’ religious beliefs was the main contributing factor to they providing care for PLHIV (Reyes-Estrada et al., 2018).

## 5.3 Recommendations

From the findings of this study, majority of the healthcare practitioners had not received any formal training on the GHS HIV/AIDS management guidelines. Hence, it is recommended that standardized and comprehensive training sessions should be organized for healthcare practitioners in the Bono Regional Hospital, in order to enhance their competence and confidence in providing care to PLHIV. Further, given the fact that all healthcare practitioners are required to engage in continuing professional development (CPD), it is a viable recommendation for HIV/AIDS management according to the GHS guidelines to be integrated into these CPD programs. In addition to ensuring that healthcare practitioners who have limited contact with PLHIV are updated with current management practices, it will maintain and improve the knowledge and skills of practitioners who have interactions with PLHIV.

From the findings of this study, healthcare practitioners demonstrated a moderate level of knowledge on HIV/AIDS management guidelines, despite a lack of formal training, which has been attributed to the fact that such knowledge they possess was theoretically acquired in school (Eticha & Gemeda, 2019), or practically acquired with long years of practice (Owolabi et al., 2012). Hence, targeted education interventions should be organized with the aim to bridge the existing knowledge gaps, especially since there are constant updates to management protocols in healthcare delivery. Further, this will bridge the gap between practical exposure and theoretical knowledge.

Again, although years of experience was not statistically significant to knowledge and practice of HIV/AIDS management guidelines in this study, other studies have discovered otherwise, giving rise to the recommendation for peer learning and mentorship programs to be established in the Bono Regional Hospital. Consequently, more experienced healthcare practitioners can share their best practices and insight with less-experienced practitioners. In addition, the high level of adherence to HIV/AIDS management guidelines despite the absence of formal training should be commended by the healthcare facility. This will encourage practitioners to stick to present practices, and seek to update their knowledge and practices with recent protocols.

Finally, after the implementation of formal training programs and integration of HIV/AIDS management guidelines into CPD programs, it is recommended that a robust monitoring and evaluation framework is established to assess healthcare practitioners’ knowledge and practices periodically. This will help to measure practitioners’ strengths and weaknesses, and necessary adjustments and improvements made as required.

## 5.4 Conclusion

This study assessed the knowledge and practice of healthcare practitioners in Bono Regional Hospital regarding their compliance to the Ghana Health Service guidelines for HIV/AIDS management, and the factors that influence them. The findings of the study revealed that despite limited to no formal training on the management guidelines, healthcare practitioners demonstrated a moderate level of knowledge and high compliance to the guidelines. Gender and religious affiliation were identified to be significantly associated with knowledge levels, while no sociodemographic or professional characteristics were found to influence practice levels. These results demonstrate the need for well-structured formal training and CPD programs to strengthen practitioners’ knowledge, while implementing strategies to sustain the commendable practice standards already being exhibited.

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