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KNOWLEDGE, ATTITUDE AND PRACTICE REGARDING HIV/AIDS AMONG REGISTERED NURSES AT TERTIARY CARE HOSPITALS IN BANNU, KHYBER PAKHTUNKHWA PAKISTAN

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Abstract

Background: *Infection-related diseases, including HIV/AIDS, tuberculosis, and malaria, are significant contributors to morbidity and mortality in Pakistan. Despite advancements in healthcare, hospital-acquired infections (HAIs) continue to pose substantial challenges, impacting patient safety and increasing healthcare costs. Nurses, as primary caregivers, play a pivotal role in infection prevention and control (IPC). Understanding their knowledge, attitudes, and practices (KAP) is crucial for developing effective interventions.*

Objective: *This study aimed to evaluate the knowledge, attitudes, and practices regarding HIV/AIDS among registered nurses at tertiary care hospitals in Bannu, Khyber Pakhtunkhwa, Pakistan. It sought to identify gaps in IPC-related KAP and propose evidence-based strategies for improvement.*

Methodology: *A cross-sectional study design was employed, utilizing a structured questionnaire to gather data from 152 registered nurses through convenience sampling. Descriptive and inferential statistical analyses were performed using SPSS to assess the levels of KAP and their influencing factors.*

Results: *The findings revealed that while 94.1% of nurses correctly identified HIV as the cause of AIDS, misconceptions persisted regarding transmission, such as through mosquito bites (42.1%). The attitudes of nurses varied, with 31.6% preferring not to treat HIV-positive patients. Practices showed gaps in adherence to standard precautions, with only 49.3% consistently following them. Moreover, 44.1% of nurses reported not receiving training on HIV/AIDS prevention.*

Conclusion: *The study highlights the need for targeted interventions to address misconceptions, enhance positive attitudes, and improve adherence to IPC practices among nurses. Strengthening educational programs and providing regular training on HIV/AIDS prevention can significantly improve patient safety and healthcare outcomes.*

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INTRODUCTION

BACKGROUND

The human immunodeficiency virus, an abbreviation for HIV, is a virus that attacks the immune system. The most advanced stage of infection is referred to as acquired immunodeficiency syndrome. HIV attacks the white blood cells and subsequently weakens the ability to resist infection. This makes people vulnerable to diseases such as infections caused by TB and several cancers. HIV is exchanged among human beings through bodily fluids such as blood, breast milk, semen, and vaginal secretions. It is also passed on to the child by a mother (WHO). Knowledge: The knowledge of the transmission, prevention, treatment, and control of HIV/AIDS by the registered nurses, including awareness of applicable policies and procedures. Attitude: Nurses attitudes, beliefs, and feelings about HIV/AIDS and those infected with it, particularly their willingness to care for HIV-positive patients. Practice; The actual behaviors and actions taken by nurses in managing and caring for HIV/AIDS patients, particularly in adherence to infection control practices and confidentiality protocols.

Immune system cells are infected by the human immunodeficiency virus (HIV), which either destroys or damages them. A viral infection causes the immune system to gradually deteriorate, which leads to "immune deficiency." The most severe form of HIV infection and the result of any of the more than 20 opportunistic infections or HIV-related cancers is known as acquired immunodeficiency syndrome, or AIDS. Acute HIV infection, clinical latency, and AIDS are the three stages of HIV classification. By targeting CD4 cells and causing their numbers to drop quickly, the virus has a negative impact on the immune system. HIV patients either have no symptoms at all or very minor ones during the latency phase. The AIDS phase begins when the patient's immune system is severely compromised, leaving them open to bacterial infections, lymphomas, or Kaposi sarcoma, among other opportunistic illnesses. In 1981, it was discovered that homosexual men in New York City had a clinically evident HIV infection when they showed signs of a severe acquired immune deficiency syndrome (AIDS). Since the infection has spread widely to many nations, HIV/AIDS has long been a worldwide health concern. Regardless of age, sex, or race, the illness affects millions of individuals (Khan, R. S., et al 2021). Pakistan is on the verge of a catastrophic epidemic and is bordered by high-risk nations including China, India, Thailand, and Afghanistan. Numerous factors, such as the usage of injectables more often than oral medication, frequent blood transfusions, the amount of paid blood donors, and having extramarital affairs, have previously been clearly shown and recorded as contributing to the spread of HIV in Pakistan. It is thought that one of the responsibilities of health care workers is to treat people who have HIV. The medical personnel has a close interaction with blood, blood products, and syringes. Nurses are particularly vulnerable to HIV/AIDS because they have direct contact with patients' bodily fluids. In addition, nurses must provide injections, provide patients with care, administer medication as directed, and gather various bodily fluid samples from patients for analysis. Special nursing knowledge and abilities are needed to care for patients with HIV/AIDS (Mrcem, M. I. M., Ghani, M., & Post, S. M.(2020). Globally, the Acquired Immunodeficiency Syndrome (AIDS) is an illness linked to discrimination and stigma. Even medical personnel have a bad attitude about these people. Health education is needed globally to fill the knowledge and attitude gaps of medical professionals while caring for patients with this illness (Manzoor, I., Khan, F., Navied, U., & Abbas, S. M. (2019). HIV-positive people are admitted to hospitals in order to obtain the appropriate care and treatment. When it comes to treating and caring for these HIV patients, hospital nursing staff are crucial. In hospitals, nurses play a number of functions, including manager, caretaker, researcher, educator, counselor, leader, and change agent. Depending on the needs of the subject in a given instance and setting, they may be performed concurrently. In order to help the convalescent achieve the highest level of health and wellness, nurses are expected to support their physical, psychological, developmental, cultural, and spiritual requirements. Nurses are responsible for cleaning and changing beds, giving intravenous, intramuscular, and oral drugs, and collecting bodily fluids such as blood, sputum, urine, stool, and other bodily fluids. The risks of

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contracting HIV are increased by inadequate precautions used when nursing patients, poor cleanliness, improper disposal of used syringes and needles, and ineffective sterilization techniques. HIV contributes to 0.01% of infections worldwide and has a transmission rate of less than 0.5% per exposure. (In 2021, Agrawal, A., and Agrawal, A.) Discrimination and stigmatization of HIV-positive individuals have long been acknowledged as potential obstacles to international efforts to combat the HIV/AIDS pandemic. Negative attitudes and ideas about individuals with HIV are known as HIV stigma. It is the discrimination that results from classifying a person as belonging to a group that is deemed undesirable by society. Stigmatization is a thought or attitude, whereas discrimination is the action that stems from those beliefs or attitudes. The act of treating those with HIV differently than those without HIV is known as HIV discrimination. Healthcare professionals' (HCWs') attitudes and behaviors toward people living with HIV/AIDS (PLWHA) are influenced by cultural norms around sexual risk and HIV beliefs. Numerous studies have attempted to investigate the extent of the issue; some healthcare workers consider people with HIV to be careless and embarrassing. Providers attempt to avoid treating PLWHA because they see them as a threat to society and themselves. Some medical personnel still view HIV infection as a death sentence, despite the fact that many are aware of effective treatments. Because of this, some medical professionals argue that helping AIDS patients is a waste of time and money. Many HIV/AIDS patients experience stigmatization and prejudice because many healthcare workers are worried about HIV transmission through casual contact. One study found that health professionals' reported discomfort when interacting with PLWHA was influenced by their understanding of HIV/AIDS transmission. Discrimination and stigmatization are also exacerbated by ignorance and inadequate training. Additionally, prior interactions with PLWHA and positive work experience were associated with decreased levels of stigmatization.(Alharbi, H. H., Al-Dubai, S. A., Almutairi, R. M., & Alharbi, M. H. (2022).

AIM OF THE STUDY

The aim of the study is to determine the knowledge, attitude and practice regarding HIV/AIDS among registered nurses.

STUDY OBJECTIVES

The study would focus on the following main objectives:

- To assess the level of knowledge regarding HIV/AIDS
- To identify and evaluate the attitudes towards HIV/AIDS
- To examine the current practices related to HIV/AIDS

SIGNIFICANCE OF THE STUDY

A tertiary care hospital in Bannu provides care for a wide range of people, including those who are at high risk of contracting HIV/AIDS. In this area, there is no research on nurses' KAP with reference to HIV/AIDS, despite the vital role they play. The purpose of this study is to evaluate the present level of knowledge, attitudes, and behaviors among Bannu's registered nurses, pinpoint areas in need of development, and offer evidence-based suggestions for focused interventions. Reducing the spread of HIV/AIDS, improving patient outcomes, and ensuring that nurses have the necessary tools to deliver the best possible care all depend on closing these gaps.

Creation of Interventions: This study's evaluation of KAP among registered nurses will yield important information for the creation of educational initiatives, regulations, and procedures meant to enhance HIV/AIDS care in hospital settings. In the end, better patient outcomes and a decrease in HIV transmission within healthcare facilities can result from effective interventions that increase nurses' knowledge, promote positive attitudes, and guarantee the use of best practices. This study intends to fill these gaps and support better HIV/AIDS care in Pakistan by examining registered nurses' knowledge, attitudes, and practices on HIV/AIDS at Tertiary Care Hospital Bannu, Pakistan. First Peshawar had the most cases (n=1272, 22.9%), and 2nd followed by Bannu (n=874, 15.7%), according to sources. In order to improve patient outcomes, stop the transmission of

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HIV/AIDS, and make sure nurses are adequately trained to provide high-quality care, the objective is to pinpoint areas that require improvement and provide evidence-based recommendations.

OPERATIONAL DEFINITIONS

- **Knowledge Regarding HIV/AIDS:** The understanding of HIV/AIDS transmission, prevention, and management protocols among registered nurses.
- **Attitude Towards HIV/AIDS:** The beliefs, feelings, and perceptions about HIV/AIDS and individuals living with HIV/AIDS.
- **Practice Related to HIV/AIDS:** The implementation of procedures and adherence to protocols concerning HIV/AIDS prevention and management in clinical settings.
- **AIDS:** "AIDS is the most advanced stage of HIV infection, characterized by severe impairment of the immune system, leading to opportunistic infections and cancers."

LITERATURE REVIEW

A cross-sectional descriptive study was conducted among medical personnel in public health facilities in the Federal Capital Territory of Nigeria between February and May 2017. Nearly 70% of people living with HIV/AIDS (PLWHA) worldwide reside in Sub-Saharan Africa, the region most impacted by HIV infection. Nigeria is home to an estimated 182 million people, making it the most populated country in Africa. In 2015, the incidence rate in Abuja, the Federal Capital Territory, was 7.5%, while the nationwide prevalence rate was 3.4%. The 2018 National HIV/AIDS Indicator and Impact Survey found that the national and FCT HIV prevalence rates were 1.4% and 1.5%, respectively. The mean age of 348 individuals with a 100% response rate was 37.5 years (SD: ±8.9), and 201 of them were female (57.8%), 222 (63.8) were nurses, and 230 (66.0%) had worked for 10 years or less. 319 (91.7%) of the participants thought that PLWHA needed palliative care, and the majority, 310 (89.1%), agreed that palliative care focuses on preventing and alleviating suffering. "Palliative care is disease-oriented and not person-oriented," according to 252 (72.6%) people; "palliative care is concerned with prolonging life," according to 279 (80.6%); and "use of placebos is appropriate in the treatment of some types of pain," according to 252 (72.6%) people. Only 18 (5.2%) of the participants agreed that "family should be involved in the physical care of the dying PLWHA," while 52% disagreed that "palliative care should be given only for dying PLWHA." The majority of participants, 292 (84.1%), started a conversation regarding palliative care when a patient was diagnosed, and 290 (83.6%) told patients who were near death of their diagnosis. In terms of psychological problems, 196 individuals (56.3%) offered patients emotional support, while 22 participants (6.3%) concealed the reality from the patients. Across all facilities, participants most frequently used morphine 240 (69.0%) and pentazocine 194 (55.7%) to address severe pain (Ajisegiri, W. S., 2019). 247 nurses from five chosen medical facilities in the Kumasi Metropolis participated in a quantitative cross-sectional survey. A systematic self-administered questionnaire was used to gather data, and SPSS version 23.0 was used for analysis. Tables and charts were used to display the results. Participants' knowledge, attitude, and practice scores, together with their frequencies and percentage distribution; Most individuals had high knowledge scores (121, 51.9%), attitude scores (127, 54.7%), and practices scores (128, 56%). There is not much of a difference between those who scored highly and those who performed poorly in terms of knowledge, attitude, and habits. Frequency and proportion of participants' answers to different HIV/AIDS knowledge scale questions; Many participants (162, 71.1% p = <0.0001) were aware that drug resistance cannot develop unless antiretroviral medication is adhered to. Furthermore, most respondents (173, 83.2% p = <0.0001) said that HIV-positive individuals can be asymptomatic yet nonetheless contagious. The majority (199, 83.3% p = <0.0001) said that HIV could not be spread through casual contact, and the majority (204, 86.8% p = <0.0001) did not believe that gloves were not required when handling bodily fluids. Over 25% of the participants were unaware that HIV/AIDS is characterized by a reduction in T-4 cells, which results in a compromised cellular immune response (60, 26.3% p = <0.0001). It was not known by nearly half of the participants (114, 49.6% p = <0.0001) that pulmonary tuberculosis is a WHO Clinical

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Stage 2 illness. how often and what proportion of participants answered different questions on the HIV/AIDS Attitude scale: Most (135, 58.4%, p = <0.0001) strongly disagreed that individuals with HIV/AIDS are solely responsible for their own problems. Most respondents either strongly disagreed (71, 30.7% p = <0.0001) or just disagreed (100, 43.3% p = <0.0001) when being asked if they should be worried about endangering their friends and family by potentially getting HIV/AIDS while taking care of someone with the disease. Many respondents agreed (59, 25.7% p = <0.0001) or strongly agreed (149, 64.8% p = <0.0001) that patients with HIV/AIDS should be given the same quality care as other patients. Of those who answered, half strongly agreed (116, 50.2% p = <0.0001) that all HIV/AIDS patients should have their privacy protected, even if it puts other people in danger of catching the virus. The proportion and frequency of responses to the various questions on the HIV/AIDS practice scale: In the workplace, the majority of participants (194, 86.2%, p = 0.0001) adhered to universal blood and bodily fluid precautions. The majority of participants (212, 92.6% p = <0.0001) state they have worn gloves during their most recent blood draw. Although most participants were aware that PEP services were offered at their place of employment, they would not think about beginning PEP following needle pricks (25, 11.0% P = <0.0001). If they recap needles immediately after their use, participants had a low affirmative response rate (56, 24.6% p = <0.0001) (Boakye, D. S., & Mavhandu-Mudzusi, A. H. (2019). Using semi-structured questions, a recorded in-depth interview was done in 2021 with all five health care professionals employed at Jordan's sole HIV service center. A content analysis was carried out. Many organizational problems were observed. Only one had received education on HIV. With lack of knowledge of international protocols, the principles of vertical transmission, contraception, STIs, NCDs and prophylaxis, the integration process for all was unclear about the latest recommendations. Counseling is from the four HCPs who focus on risk reduction, reducing anxiety and the importance of adhering to treatment. However they have little or no experience on using prophylaxis and do not counsel appropriately on contraception, exposure risk, STIs and NCDs. The majority, especially the longest-standing HCPs, viewed HIV-positive individuals favorably and endorsed marriage and childbearing. An overwhelming majority of respondents condemned mandated testing and violations of patient confidentiality as well. They frequently used the term "immoral behavior" in describing hazardous activity, which indicates strongly entrenched, stigmatized beliefs and greater sympathy for patients who acquired HIV through blood transfusions or birth. (Saad et al. 2024: According to it, stigmatisation from the general public and even from other health care professionals occurs in the case of HIV patients. In the search, three steps were followed. For the systematic review, only the research published in English language between January 1990 and December 2010 was included in the search. Thirty-three studies were included for this systematic review. Every study was descriptive in nature. The findings depicted that actions, attitudes, and knowledge of nurses differ. General studies indicated that the knowledge of nurses about HIV/AIDS was satisfactory though some areas were knowledge gaps; they had a positive attitude but fears still remained in some; they were more prejudiced against the patients of high-risk groups for HIV/AIDS; they applied universal precaution irregularly; and their practice behaviors changed with the information that a patient was HIV-positive. Nurses' knowledge, attitudes, and practices were different across the world. Although there are knowledge gaps, the level of understanding is enough. Despite their optimistic outlook, nurses are impacted by how an individual contracted HIV/AIDS. Stigmatization of high-risk groups is still very common. It is also necessary to discuss the usage of universal precaution. Practices regarding HIV/AIDS patients should be measured using a more reputable questionnaire. (Madeleine, L. R., Chan, M. F., & Thayala, N. V. (2011). In 2019 Knowledge, Attitudes, and Beliefs about HIV/AIDS and HIV-positive Individuals Among Saudi Arabian Medical Students at Qassim University In this cross-sectional study, 204 male Qassim University medical students answered a self-administered questionnaire on HIV KAPs. HIV attitude scores were 37.82 (67.5%) and HIV knowledge (HK) values were 11.62 (64.5%) on average. HK and attitude (r = 0.266) and

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HK and academic year (r = 0.277) were positively correlated. The relationship between attitude and academic year was not statistically significant (r = 0.097). Some forms of transmission, such vertical transmission and deep kissing, were unknown to most of the pupils. A significant number of students, approximately 81% stated that they would not visit the homes of friends with HIV-infected members. Moreover, 73.1% of the respondents stated that they will not care for HIV-positive relatives in their homes. Alawad, M., Alturki, A., Aldoghayyim, A., Alrobaee, A., & Alsoghair, M. (2019). In 2019 Effect of AIDS Education Program on nursing students' Knowledge, Attitude, and Practice in the Port Said University Nursing Faculty. The University of Port Said's College of Nursing conducted the study using a quasi-experimental research approach that included pre-post evaluation. An example. Every one of the 497 students in the nursing faculty was involved in the study. Instruments. A modified Knowledge, Attitude, and Practice (KAP) questionnaire was used to collect the data. outcomes. Prior to program implementation, all nursing students under study had poor levels of knowledge, practice, and attitude. Following the program's execution, a highly statistically significant increase in their knowledge, attitude, and practice was noted. The knowledge and practice of the nursing students under study showed a statistically significant positive link (p=0.004). In conclusion The educational program's goal of enhancing knowledge and attitude was successfully achieved.. Ibrahim, N., Shehab, M., & Ibrahim, A. (2019). In 2023 Knowledge, attitude and clinical practice regarding HIV/AIDS among Ghanaian trainee nurses in the northeast corridor A quantitative technique using a cross-sectional analytical design was used. To choose 373 trainee nurses, a multistage stratified random sampling procedure was employed. At an accuracy level of 0.20, a Pearson's chi-square analysis was conducted. At a 95% confidence level, a multivariate logistic regression was used to determine the relationship between sociodemographic characteristics, knowledge, attitude, and clinical practice. Regarding HIV/AIDS, the majority of participants—88.0%, 87.9%, and 57.6%—showed adequate knowledge, a positive attitude, and appropriate practices, respectively. Compared to first-year students, final-year students were 2.3 times more likely to have positive views regarding HIV/AIDS (aOR: 2.28; CI: 1.10 – 4.72). Those who were knowledgeable about HIV/AIDS had 3.5 times better attitudes toward the prevention of the disease than those with low levels of knowledge (aOR: 3.46; 1.76 – 6.77). Mutaru, A. M., Ibrahim, A., Osuman, A. N. W., Agana, T. A., & Alhassan, A. S. (2023). HIV-Related Knowledge, Attitude and Practice among Malaysian Governmental Healthcare Facilities' Healthcare Workers (HCW), 2021 at Malaysia, a cross-sectional study was carried out at five government clinics and four government hospitals. The KAP of HCW was assessed using a validated self-administered questionnaire that included sociodemographic (6 questions), knowledge (14 items), attitude (13 items), and practice (9 items) about HIV. A web-based platform was used to complete this survey. The summated score for each result based on the Bloom cut-off point was used to assess the overall KAP. Over half of healthcare workers (HCW) were well-versed on HIV. High levels of HIV-related knowledge are insufficient to change the unfavorable attitudes (70.8%) and subpar behaviors (82.8%) displayed by healthcare workers. This might be explained by a sincere fear of contracting HIV. Z. H. M. Yadzir,. (2021). HIV-related knowledge, attitude and practice among healthcare workers (HCW) in governmental healthcare facilities in Malaysia.

1-6. 2022; Prim Health Care, 11(3) 182 healthcare workers from basic healthcare facilities in Medina, Saudi Arabia participated in this cross-sectional survey. The validated short versions of the AIDS Attitude Scale and the Healthcare Provider HIV/AIDS Stigma Scale were utilized in this investigation. Analysis of variance (ANOVA) and the student's t-test were used to look at how the mean KAP scores varied across the different sociodemographic variables. Multiple linear regression analysis was used to identify the factors linked to KAP scores. Males made up the bulk of participants (58.2%), and 60.4% were older than thirty. Between 24.2% and 68.17% of the individuals had a predisposition toward stigmatizing conduct, whereas 11.5% to 50% engaged in discriminating practices. Male gender (P = 0.002), getting in-service training for PLWHA (P < 0.001), and being a doctor as opposed to a nurse (P < 0.001)

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were factors that independently predicted the knowledge score. Being a doctor (P = 0.005) and female (P = 0.008) were predictors of attitude. The knowledge score (P < 0.001) and marital status (P = 0.035) were predictive of practice. In 2022, Alharbi, H. H., Almutairi, R. M., Al-Dubai, S. A., and Alharbi, M. H. 45 randomly chosen PHCs in the Ekurhuleni District participated in a cross-sectional interviewer-administered questionnaire study in 2023. Information about participant characteristics and KAPs for HIV PrEP program delivery was gathered. Participants were divided into two binary levels based on cut-off points used to calculate a priori KAP ratings. In accordance with the goals of the study, we performed both descriptive and multivariable logistic regression analysis. 160 trial participants were enrolled between May 1 and June 30, 2022. Approximately 64.4% of the participants reported having a high level of understanding about HIV PrEP, and 58.1% self-reported engaging in good behaviors. Interestingly, 73.1% of interviewees thought that HIV PrEP delivery was bad. Those over 50 years old knew less about HIV PrEP than those under 30 (aOR 0.1; 95% CI 0.0 - 0.4; p=0.01). Participants between the ages of 30 and 40 knew very little about HIV, and there was no discernible link between the two. Health promoters had a lower aOR for HIV PrEP awareness than nurses (aOR 11.1; 95% CI 3.8 - 32.4, p<0.001). While HIV testing service counselors (aOR 0.3; 95% CI 0.1 - 0.9; p=0.02) and nurses (aOR=0.2, 95% CI 0.1 - 0.6; p<0.001) showed negative views about HIV PrEP, health promoters reported the reverse. When providing HIV PrEP services, nurses were shown to have better practices than health promoters (aOR 2.5; 95% CI 1.0 - 5.9; p=0.04). Ramutshila, E., Mahlare, E., Kuonza, L., Musekiwa, A., & Mabuto, T. (2023). From March to April 2019, structured questionnaires were used in a retrospective cross-sectional investigation. SPSS version 20 was used to analyze the data, and the results were shown as tables and figures. Of the 217 participants, 75.2% were between the ages of 20 and 30, and 51.6% were men.Nearly half (45.2%) of the participants held a diploma, and 130 (59.9%) of the respondents had served for fewer than five years. According to the survey, 35.02% of participants didn't know enough about PEP. 32.26% of respondents felt negatively about PEP. Of the 124 (57.1%) exposed individuals, 49 (90.7%) began using PEP, and 54 (68.4%) attempted to get PEP services. Within 6 to 24 hours of exposure, 26 (48.1%) of the responders started using PEP. Knowledge of PEP was substantially correlated with sex, qualification, and attitude status. Legese, N., Shamil, M., and Tadiwos, Y. (2021). Using a standard questionnaire, a cross-sectional research of KAP on HIV/AIDS was conducted among nursing college students at a tertiary care hospital between January and February of 2022. Using Microsoft Excel 2013 and Epi Info 7.2.5, the gathered data was input, examined, and displayed as tables. The nursing students have high general knowledge. There weren't many problems with perceived knowledge because the majority of students (59.0%) believed that gloves and gowns should be worn before any interaction with HIV/AIDS patients. The majority of students said that individuals with HIV/AIDS should get the same standard of treatment as everyone else. 53.9%. Approximately 95.0% of the pupils engaged in hand washing. washing hands before examining patients. (Allenki, V., Pokkuluri, A., & Chajhlana, S. P. S. (2022).

METHODOLOGY

Study Design

Descriptive cross sectional design was used for conducting this project

Study Setting

In order to gather data from register nursing personnel in Bannu, this study was carried out at tertiary care institutions KGN, DHQ, and WOMEN AND CHILDREN institutions. Male and female registered nurses from Bannu's tertiary care facilities made up the study's population.

Sample Size

The sample size was established by counting the number of registered nurses working in Bannu's tertiary care facilities. A sample size of 152 was calculated using the WHO sample size calculator, taking into consideration a 95% confidence level, a 50% response distribution, and a 5% margin of error.

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Sampling Technique

Non probability Convenience sampling method was utilized.

Study Duration

Data was collected from first of July 2024 to October 2024.

Inclusion criteria

- Registered nurses employed at the tertiary care hospital in Bannu both Male and Female.
- Nurses who have been employed at the hospital for at least 6 months to ensure familiarity with hospital protocols.

Exclusion Criteria

- Nurses on maternity and medical leave.
- Nurses who refused to participate or do not provide informed consent.
- Nursing managers and supervisors

Data Collection Procedure

The data was gathered using the Google form self-structured questionnaire in both Urdu and English. All participants gave their informed permission after being fully told about the study's objectives, risks, and benefits and given a 100% privacy assurance. The GCON Bannu ethics committee granted permission for the data collection. Supervisors will also be called to alert nurses. The volunteers were contacted throughout the course of many shifts and given information about the research. Consent was obtained from those who chose to participate, and the adopted questionnaire was filled out. It inquired about demographics and the knowledge, attitudes, and behaviors of registered nurses on HIV/AIDS.

Data Analysis Procedure

Microsoft Excel was then used to evaluate the gathered data using both descriptive and inferential statistical techniques. For each variable, the responses were compiled and categorized using descriptive statistics, such as frequencies and percentages. Based on the sample, judgments and inferences about the larger population were made using inferential statistics. The distribution of replies was depicted graphically to facilitate the interpretation and effective presentation of the results.

RESULTS

99.3% of the 152 respondents willingly consented to participate in the study, showing a high degree of understanding and consent on the goals, purpose, and confidentiality measures of the research. Only one respondent declined

SOCIODEMOGRAPHIC PATTERNS

The respondents' ages are distributed as follows: The majority of participants are relatively young, with the majority falling between the ages of 20 and 40. Of these, 50% are between the ages of 20 and 30; 34.2% are between the ages of 30 and 40; 14.5% are between the ages of 40 and 50; and only 1.3% are between the ages of 50 and 60. There are more women in the sample than males, as indicated by the gender distribution of the respondents, which is 60.5% female and 39.5% male. The participants of the study are primarily married, with 62.5% of respondents being married, 37.5% being single, and none being divorced. Regarding education, 38.8% have a Bachelor of Science in Nursing (BSN), 1.3% have a Master of Science in Nursing (MSN), 57.9% have a Diploma in Nursing, and 1.3% have additional credentials. 7.9% have less than a year's experience, 57.9% have one to five years, 15.8% have six to ten years, 7.2% have eleven to fifteen years, and 11.2% have more than fifteen years. Of those surveyed, 34.9% did not receive HIV vaccines or preventative measures before to beginning employment, whereas 65.1% did.

Table 1: Demographic details of the participants

Profile	Category	Frequency	Percentage
	20-30	76	50%
	30-40	52	34.2%

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Age (years)	40-50	22	14.5%
	50-60	02	1.3%
Gender of respondent	Male	60	39.5%
	Female	92	60.5%
Education	General nursing diploma	88	57.9%
	Post RN	02	1.3%
	BSN	59	38.8%
	MSN	03	1.3%
WORK EXPERIENCE	Less than 1 year	12	7.9%
	1 to 5 years	88	57.9%
	6 to 10 years	24	15.8%
	More than 10 years	28	18.4%
Marital Status	Single	57	37.5%
	Married	95	62.5%
	Divorced	0	0

Figure 1: Age of the Participants

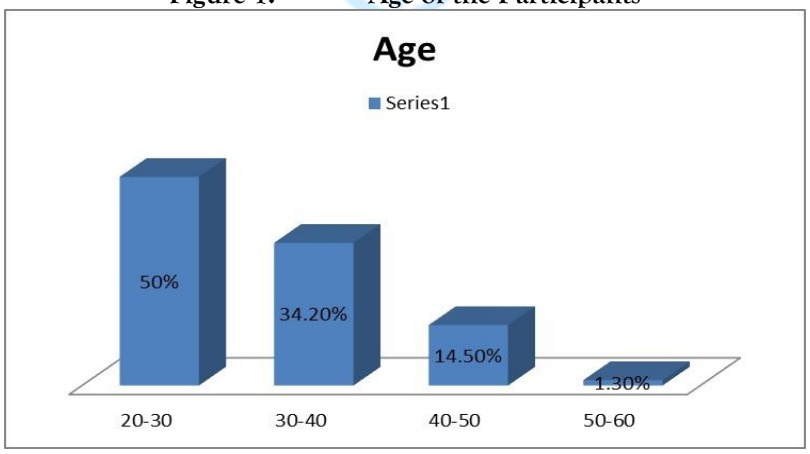

Figure 2: Gendr of the Participants

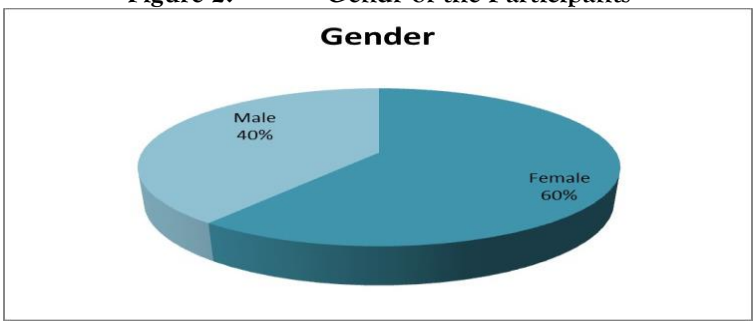

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Figure 3: Qualification of the participants

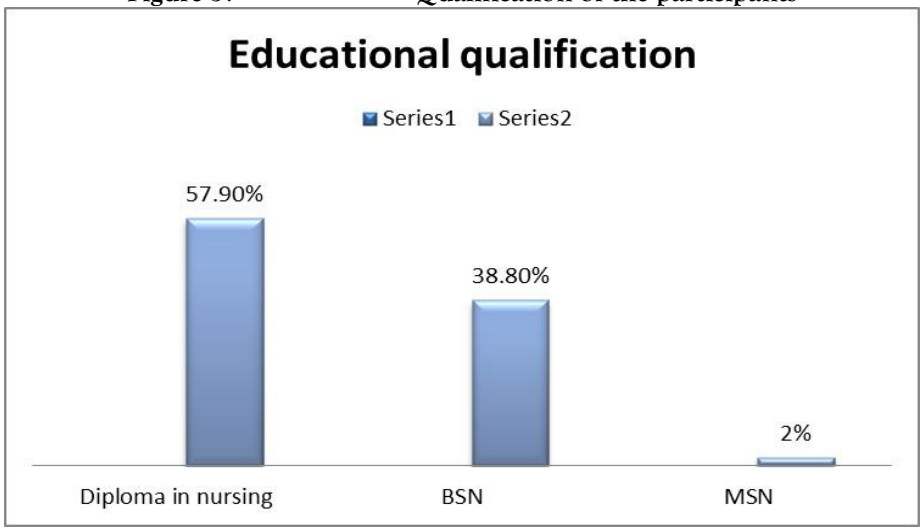

Figure 4: Year of experience

NURSES KNOWLEDGE OF HIV/AIDS AMONG REGISTERED NURSES

Although 94.1% of people correctly identified HIV as the virus that causes AIDS, 3.3% were unaware of it, 0.7% assumed it was influenza, and 3% thought it was hepatitis B. About 45.4% of people think there is a cure for HIV/AIDS, 5.9% are undecided, and 48.7% think there isn't. Misconceptions about how HIV is spread include the following: 42.1% think it can be shared by mosquito bites, and 28.9% think it may be carried by casual contact, such as shaking hands, whereas 67.8% are correct. Unprotected sexual contact (88.2%), sharing needles (73.7%), receiving blood transfusions (75.7%), and mother-to-child transmission (53.3%) are the main known mechanisms of transmission. Most people support prevention; 75% of people think condoms work. HIV infection window period is properly identified by 49.3% as 3-6 months, 23.7% as 1-3 weeks, 5.9% as 1-2 days, and 21.1% as unclear. Graph 1 displays specifics of nurses' scores on their understanding of HIV/AIDS.

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Figure 5: Nurses Kowledge towards HIV/ AIDS

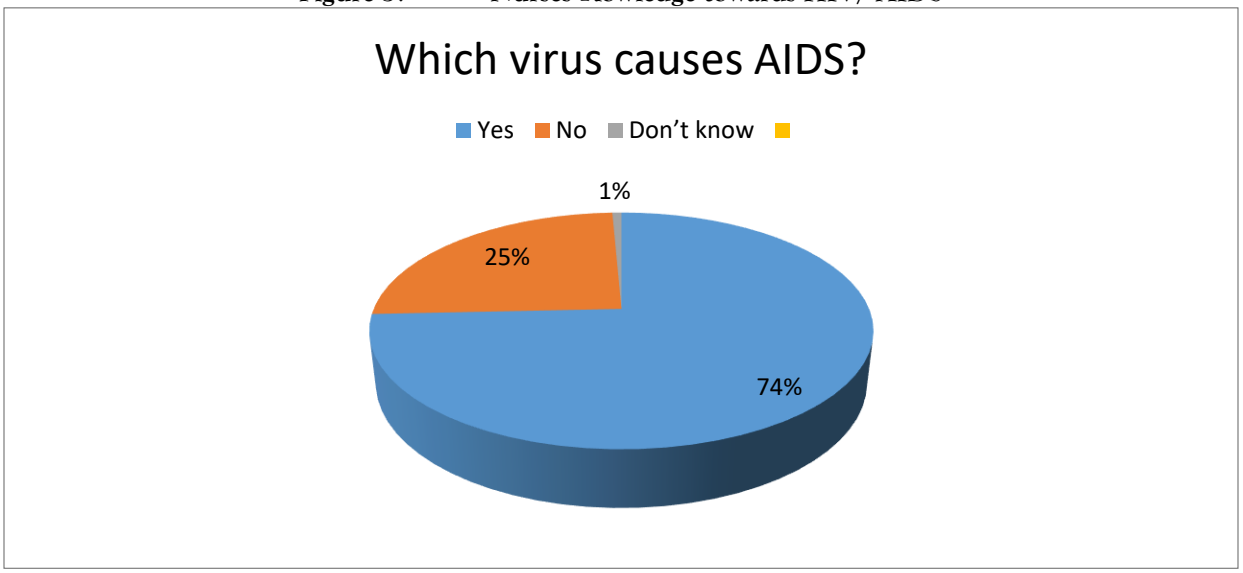


Figure 6: Cure of HIV/AIDS

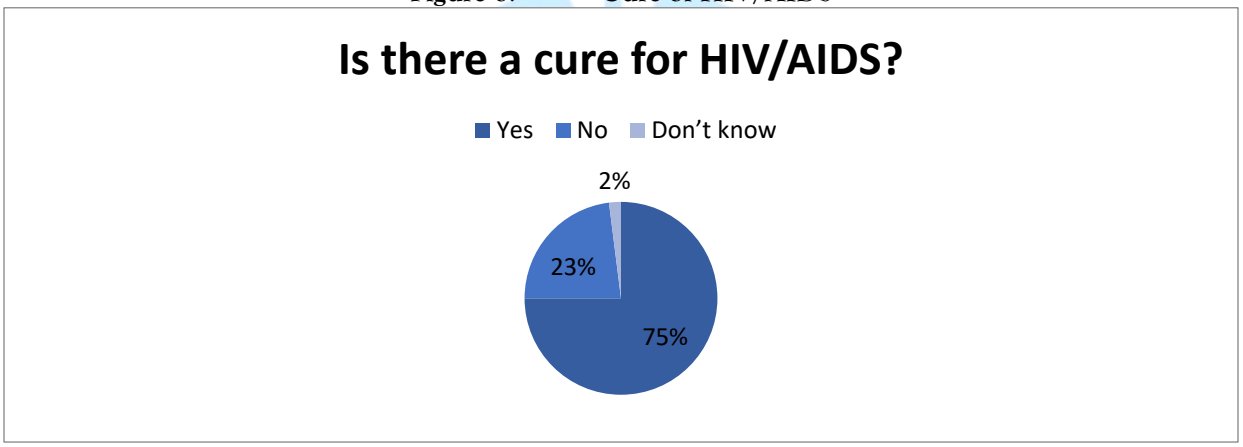
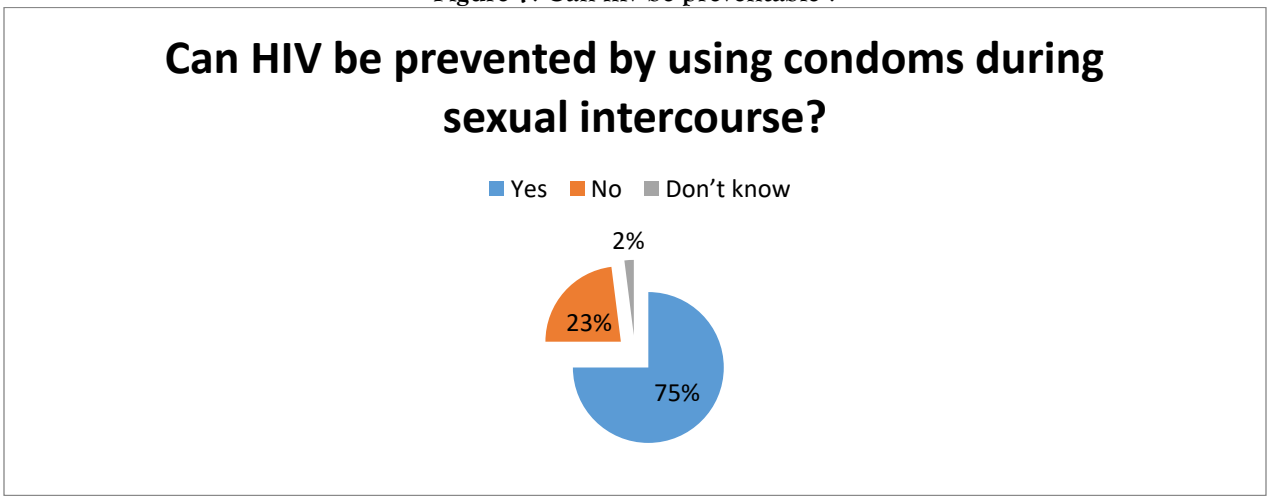


Figure 7: Can hiv be preventable ?



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Graph 4.2.4

Figure 8: Can HIV Transmit Through Shaking Hands?

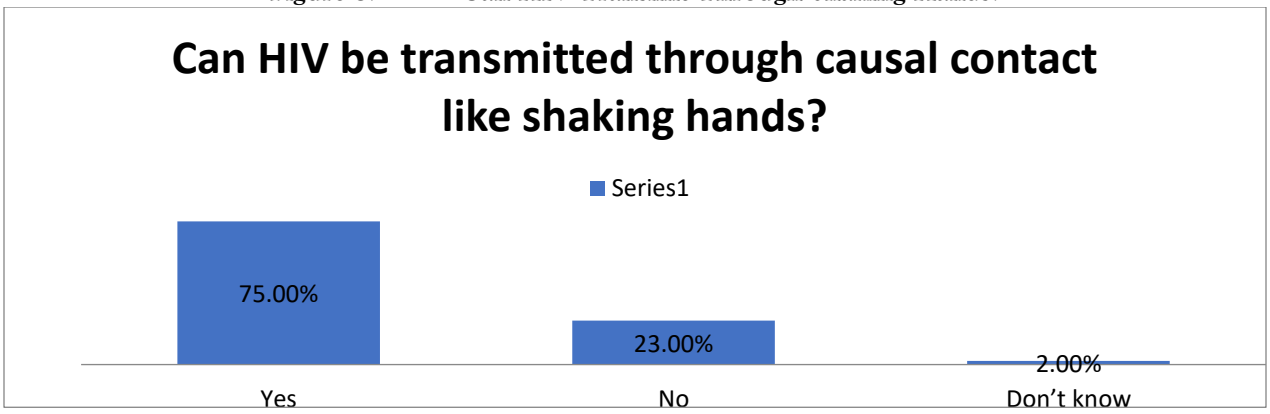


Figure 9: Main Modes of HIV Transmission

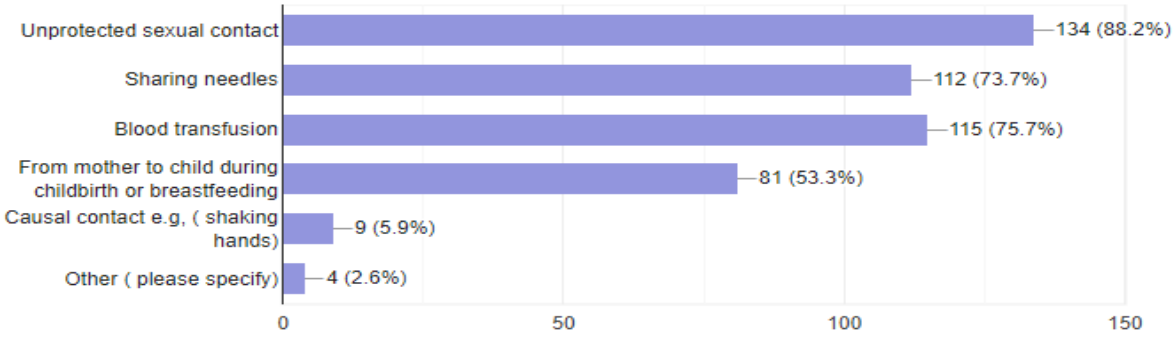
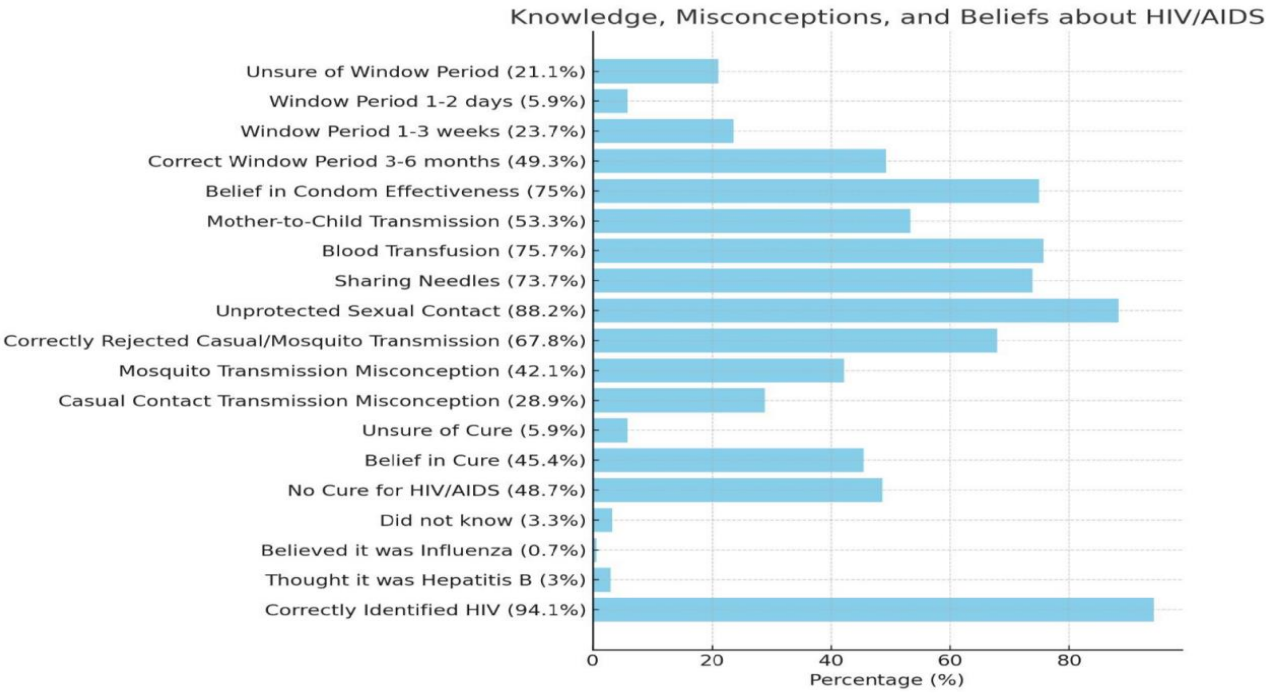


Figure 10: Sourcees of HIV Transmission



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Nurses Attitude regarding HIV/AIDS

Working with people who have HIV causes varying degrees of comfort: 42.8% are uncomfortable, 10.5% are very unpleasant, 22.4% are comfortable, and 22.4% are somewhat comfortable. The vast majority (74.3%) think that people with HIV should be kept apart in medical facilities and that they should get the same standard of treatment as other patients (74.3%). Nonetheless, 31.6% of respondents said they would rather not treat patients if they knew they had HIV. While 71.7% of respondents think HIV-positive people should tell healthcare workers they are HIV-positive, the majority of respondents (89.5%) agree that healthcare personnel should undergo special training on HIV/AIDS. Graph 2 displays specifics of the nurses' attitudes toward HIV/AIDS.

Figure 11: Nurses Attitude towards HIV AIDS

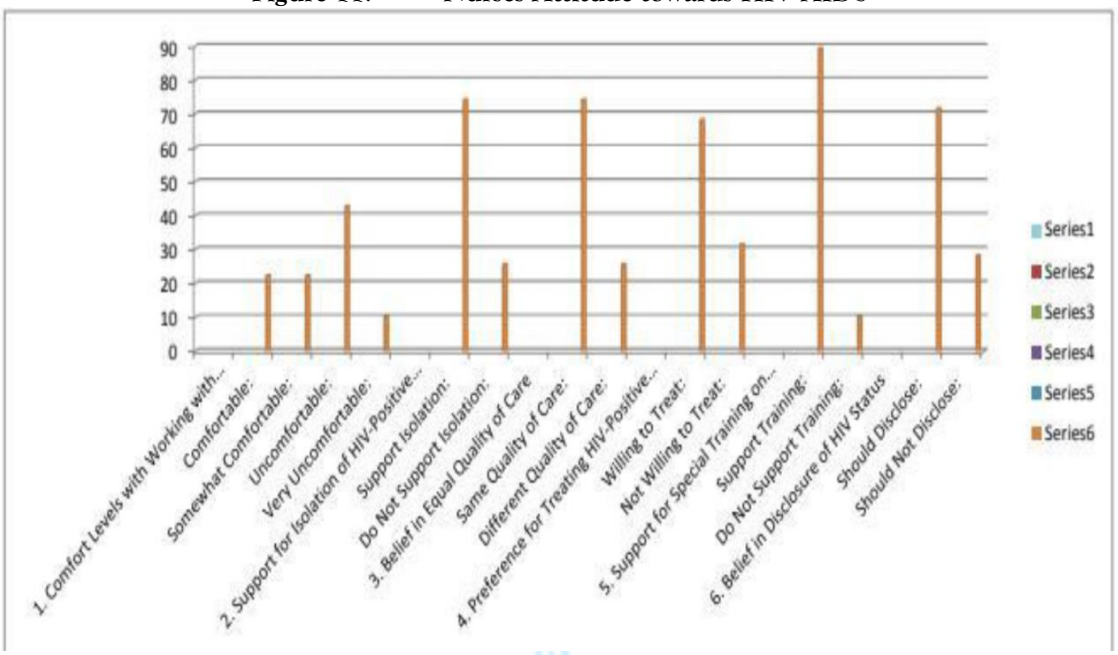

Figure: Feeling about working with HIV Patient 12

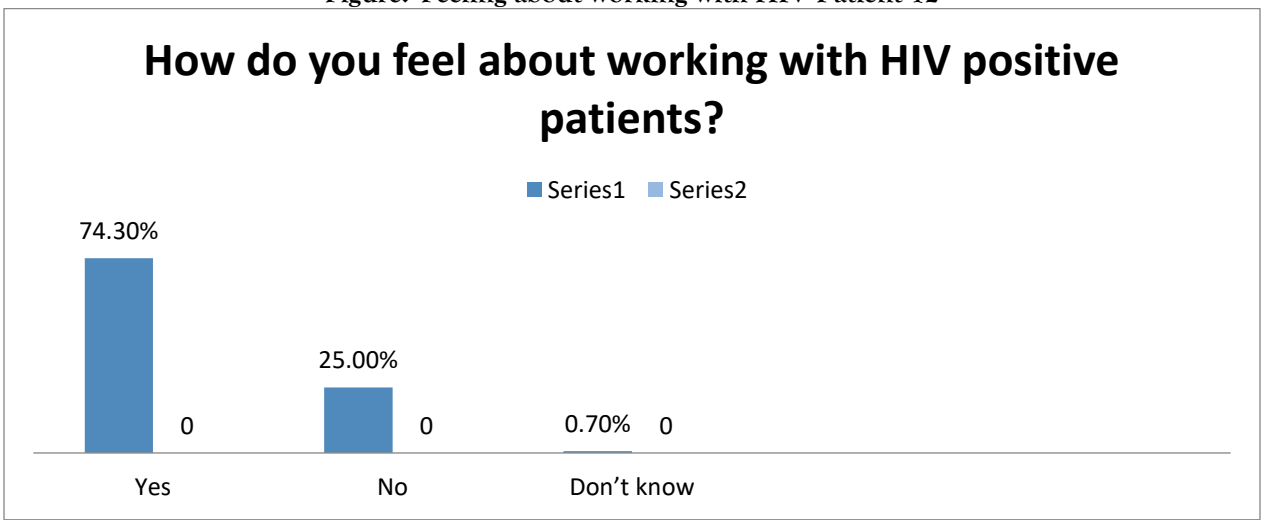

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Figure 13: Should HIV Patient be isolated in Health care setup ?

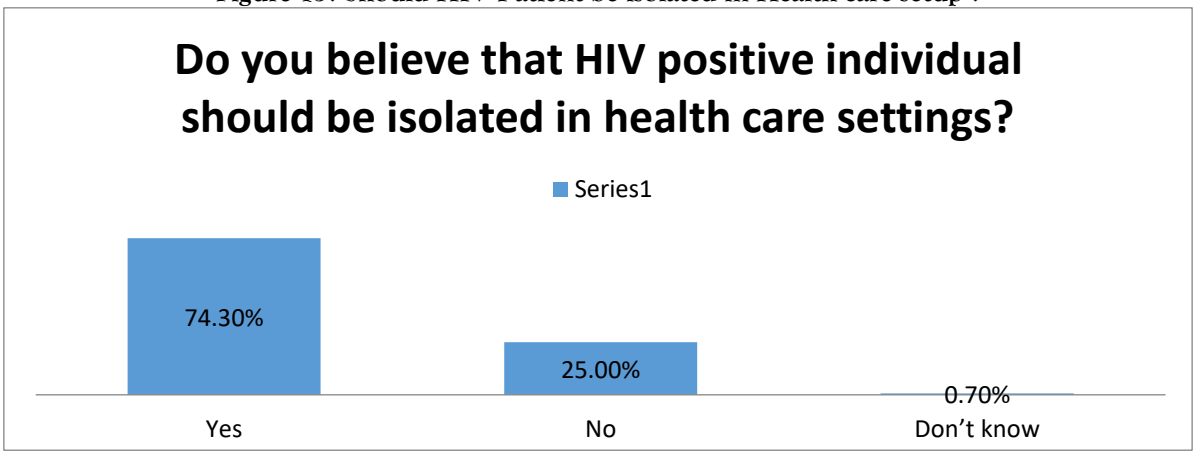
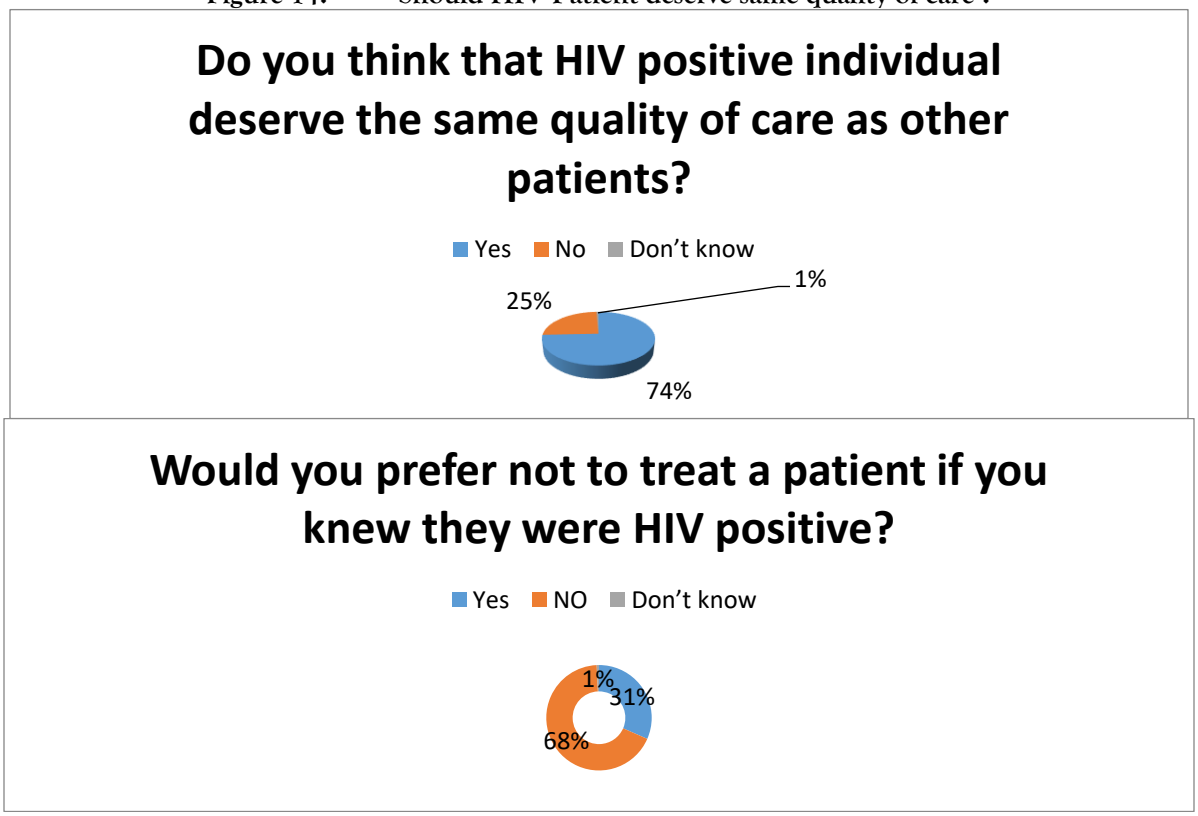


Figure 14: Should HIV Patient deserve same quality of care ?



Nursing Practice regarding HIV/AIDS

Additionally, 71.1% of respondents always use gloves when handling blood or body fluids, and 75.7% have provided care for a patient who has HIV. 49.3% constantly, 25% most of the time, 21.7% occasionally, and 3.3% infrequently observe standard precautions. 54.6% have received training on HIV/AIDS prevention and management, compared to 44.1% who have not. HIV-positive individuals are encouraged to tell others about their status by the majority (60.5%), whereas 24.3% do not and 15.1% think it depends on the circumstances. Last but not least, 73.7% have given advice on stopping the spread of HIV, compared to 20.4% who haven't, and 5.9% thought the subject wasn't relevant.

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Figure 15: Nurses practice towards HIV Care

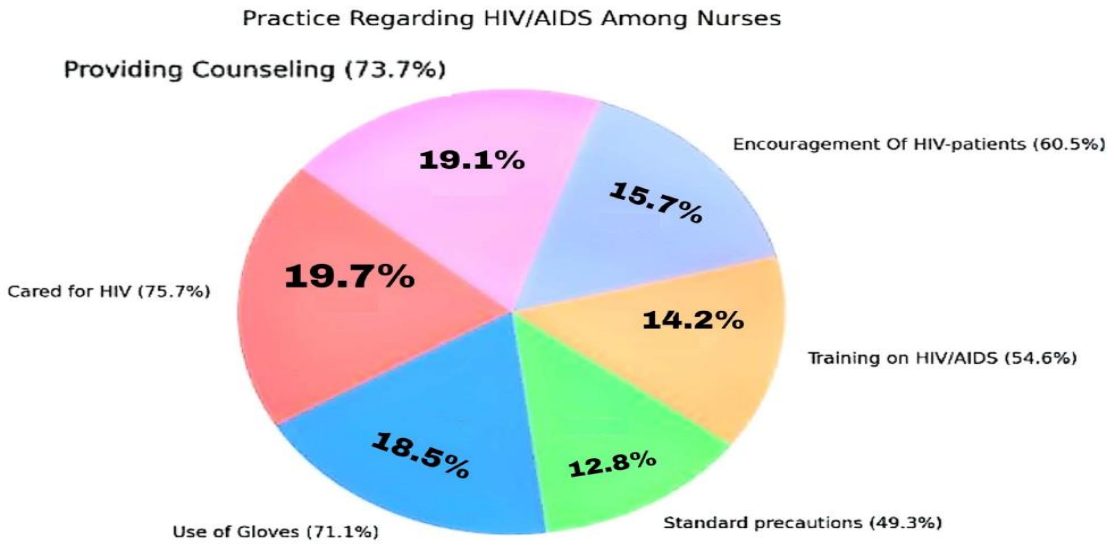


Figure 16

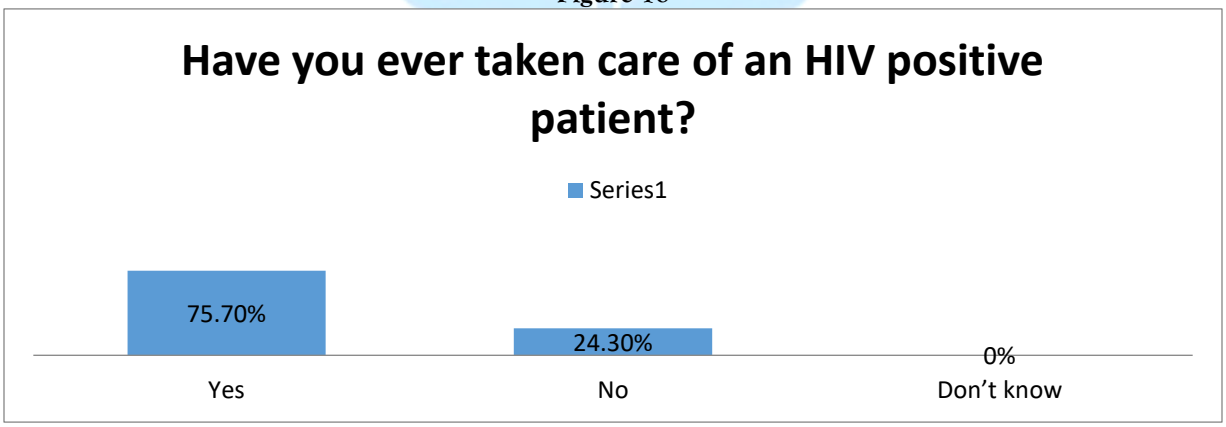
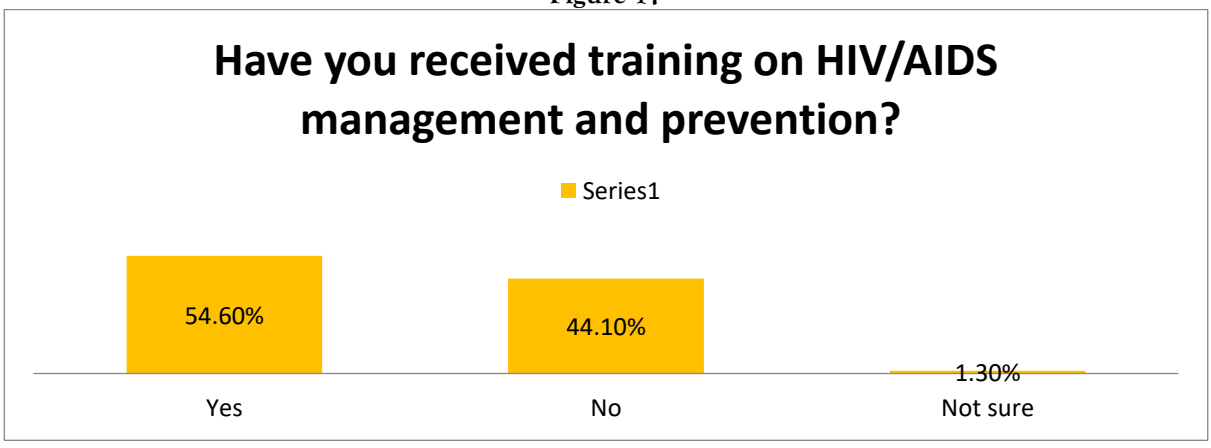


Figure 17



Graph 4.4.4
Figure 18

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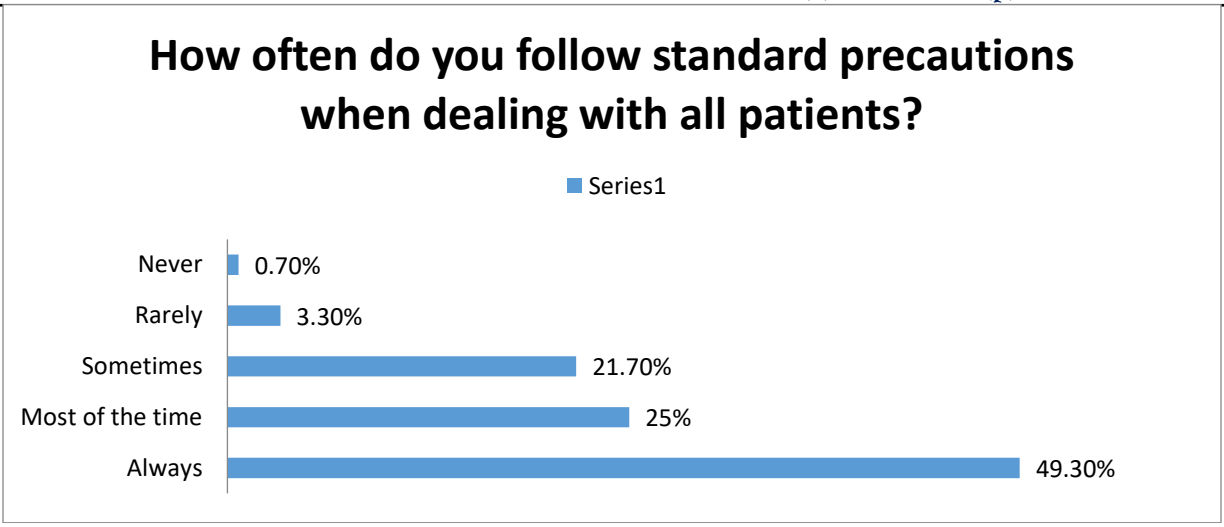
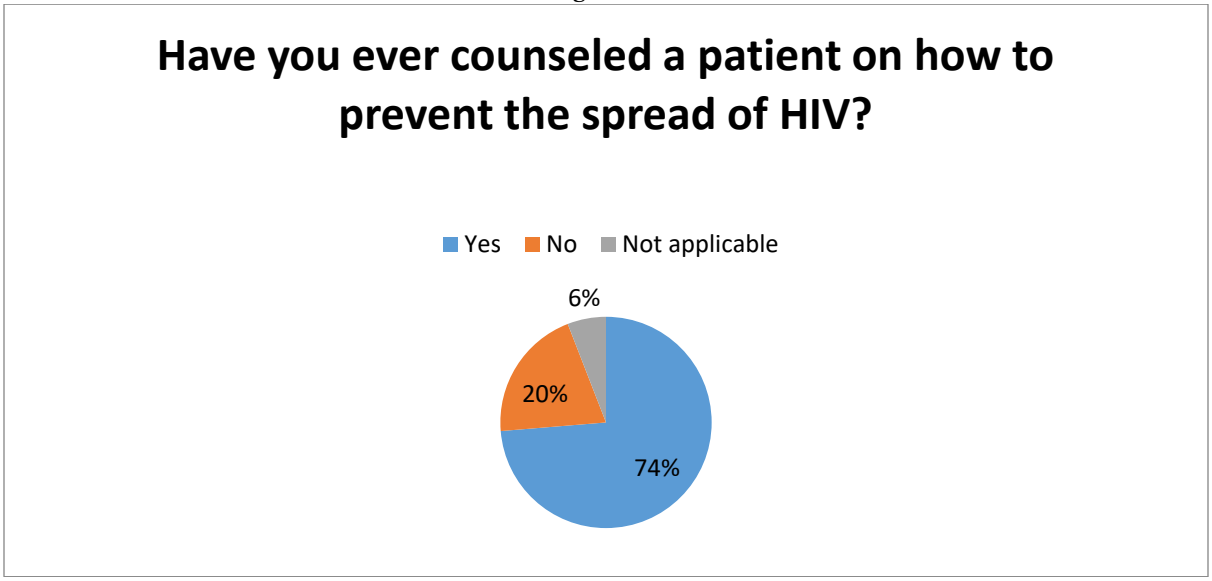


Figure 19



DISCUSSION

The study's conclusions offer a thorough grasp of nursing practitioners' HIV/AIDS-related knowledge, attitudes, and practices. Most of the respondents in the sample were young (84.2% between the ages of 20 and 40), female (60.5%), and married (62.5%). Of them, 57.9% had a diploma in nursing, and 38.8% had a bachelor's degree. A willing and knowledgeable participant group is shown by the high degree of consent (99.3%) and comprehension of the study's goal. With 94.1% of respondents correctly recognizing HIV as the virus that causes AIDS, knowledge of the infection is strong. Misconceptions still exist, though, with 42.1% of respondents thinking that mosquito bites can transmit HIV and 28.9% thinking that casual contact does. Major mechanisms of transmission (unprotected intercourse, sharing needles, blood transfusion, mother-to-child) and preventative methods (condoms, 75%) were identified by the respondents. 32.6% of respondents said they would rather not treat HIV-positive patients, and 22.4% said they were comfortable working with them, while 42.8% said they were uncomfortable. Remarkably, 89.5% supported specialized training, 71.7% supported informing healthcare professionals, and 73.7% offered HIV prevention counseling. There are still gaps in standard precaution adherence (49.3% always, 25% most of the time) and training (54.6% received, 44.1% not received).

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The HIV outbreak in Pakistan has significantly escalated, with cases increasing by 75% between 2013 and 2023. As of December 2023, approximately 0.2 million people are living with HIV, with 63,202 aware of their status and 40,652 receiving treatment. The National AIDS Control Program (NACP) reports the highest number of new cases in Punjab, followed by Sindh and Khyber Pakhtunkhwa (KPK). In KPK, Peshawar has the highest number of registered HIV-positive cases and 2 nd number followed by Bannu and Mardan. (Abdullah,et al 2023).

CONCLUSION

To sum up, this study emphasizes how critical it is for nursing professionals to get continual education, training, and support in order to improve their understanding, perspectives, and practices around HIV/AIDS. Even with high levels of knowledge, there is a need for focused interventions because of misconceptions and differences in comfort levels. Regular training updates, interdisciplinary cooperation, the creation of policies that support people with HIV, and the tracking and assessment of education and training initiatives are among the study's suggestions. Healthcare professionals may give HIV-positive patients with compassionate and efficient treatment by clearing up persistent myths, enhancing comfort levels, and advocating for evidence-based procedures. This will ultimately improve patient outcomes and lower the risk of HIV transmission. The results highlight the importance of disclosure (71.7%), counseling (73.7%), and specific training (89.5%) in fostering a welcoming and inclusive healthcare environment.

LIMITATIONS

There are various restrictions on this study. First, there is a chance that the sample size (152 responders) is not representative of all nurses. Second, social desirability bias can be introduced by the study's dependence on self-reported data. Third, generalizability to other healthcare settings may be limited by the study's concentration on nursing practitioners in a particular environment. Fourth, the study did not investigate how respondents' knowledge, attitudes, and practices were influenced by cultural and socioeconomic characteristics.

RECOMMENDATIONS

Based on the study's findings, the following recommendations are made:

1. Regular training updates on HIV/AIDS management and prevention should be provided to nursing professionals.
2. Healthcare organizations should develop policies supporting HIV-positive individuals and promoting a non-discriminatory environment.
3. Interdisciplinary collaboration and communication should be encouraged to improve patient care.
4. Standard precaution adherence should be monitored and evaluated.
5. Future studies should explore the impact of cultural and socioeconomic factors on nursing professionals' knowledge, attitudes, and practices.
6. Educational programs should address misconceptions about HIV transmission and emphasize evidence-based practices.
7. Healthcare organizations should provide resources and support for nursing professionals caring for HIV-positive patients.
8. Policy makers should consider the development of guidelines for HIV/AIDS care and management in healthcare settings.

Future studies can build upon this research by:

- Exploring the effectiveness of training programs on HIV/AIDS management and prevention.
- Investigating the impact of cultural and socioeconomic factors on nursing professionals' knowledge, attitudes, and practices.
- Examining the relationship between nursing professionals' knowledge and attitudes and patient outcomes.
- Developing and evaluating interventions to improve standard precaution adherence.
- Investigating the experiences of HIV-positive patients in healthcare settings.

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ANNEXURE 1

INFORM CONSESNT

Dear Participant:

I would like to invite you to be a participant in this research study. Please answer all the questions properly. Your responses will be used for the purpose of this study only and will not be disclosed to any third party without your prior consent. The survey will take 10 to 15 minutes to complete.

Investigators: Nafis Un Nisa, Aysha Ihsan, Saira Bibi, Saira

Supervisor: Sir Attiq Ur Rehman

Introduction of the Study:

I am the student of BSN Year IV, Semester XIII at the Institute of GCON Bannu Affiliated KMU Peshawar and currently doing research on the " The Knowledge, Attitude and Practice regarding HIV/AIDS among registered nurses at tertiary care hospitals Bannu. "

Purpose of the Study:

The purpose of this study is to determine the knowledge attitude, and practice regarding HIV/AIDS among registered nurses.

Data collection procedure:

In this study the data will be collected through an adopted and validated structured tool.

Possible Risks/ Benefits:

There is no risk or harm involved in this study, only your valuable time is needed. Also, there is no direct benefit to the participants; however, this study will provide an opportunity for you to share your experiences which will be used for academic purposes only.

Ethical rights and confidentiality:

We assure you that the data gathered shall be kept confidential. Your personal identity will remain anonymous.

Withdrawal from the Study (right to refusal):

Your participation in this study is entirely voluntary and you may refuse to participate or withdraw at any time without any harm.

Looking forward for your cooperation.

Thanks for your valuable time

Approval:

I have read and understood the information provided above. I agree to participate in this study and understand that the results of the data collected for this study may be published or provided to other researchers in a form that does not identify me in any way.

Name of Participant (Optional): _____Signature_____ _____ Date_____

Name and Signature of Person Obtaining Consent: _____

Date: _____

ANNEXURE 2

Tool for data collection

Section 1: Sociodemographic Patterns

Gender:

☐ Male

☐ Female

☐ Other

Marital Status:

☐ Single

☐ Married

☐ Widowed

☐ Divorced

Educational Qualification:

☐ Diploma in Nursing

☐ Bachelor's in Nursing (BSN)

☐ Master's in Nursing (MSN)

Years of Experience:

☐ Less than 1 year

☐ 1-5 years

☐ 6-10 years

☐ 11-15 years

☐ More than 15 years

Department:

☐ Medical

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☐ Surgical
☐ Pediatrics
☐ Obstetrics/Gynecology
☐ Emergency

Section 2: Knowledge Regarding HIV/AIDS

Which virus causes AIDS?
☐ HIV
☐ Hepatitis B
☐ Influenza
☐ Don't know

Is there a cure for HIV/AIDS?
☐ Yes
☐ No
☐ Don't know

Can HIV be transmitted through casual contact like shaking hands?
☐ Yes
☐ No
☐ Don't know

Can a person get HIV from a mosquito bite?
☐ Yes
☐ No
☐ Don't know

What are the main modes of HIV transmission?
☐ Unprotected sexual contact
☐ Sharing needles
☐ Blood transfusions
☐ From mother to child during childbirth or breastfeeding
☐ Casual contact (e.g., shaking hands)

Can HIV be prevented by using condoms during sexual intercourse?
☐ Yes
☐ No
☐ Don't know

What is the window period for HIV infection (the time from exposure to detection)?
☐ 1-2 days
☐ 1-3 weeks
☐ 3-6 months
☐ Don't know

Section 3: Attitudes Regarding HIV/AIDS

How do you feel about working with HIV-positive patients?
☐ Comfortable
☐ Somewhat comfortable
☐ Uncomfortable
☐ Very uncomfortable

Do you believe that HIV-positive individuals should be isolated in healthcare settings?
☐ Yes
☐ No
☐ Don't know

Do you think that HIV-positive individuals deserve the same quality of care as other patients?
☐ Yes
☐ No
☐ Don't know

Would you prefer not to treat a patient if you knew they were HIV-positive?
☐ Yes
☐ No
☐ Don't know

Do you think healthcare workers should receive special training on HIV/AIDS?
☐ Yes
☐ No
☐ Don't know

Do you think HIV-positive individuals should disclose their status to healthcare workers?
☐ Yes
☐ No
☐ Don't know

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Section 4: Practices Regarding HIV/AIDS

Have you ever taken care of an HIV-positive patient?
☐ Yes
☐ No
☐ Don't know

Do you always use gloves when dealing with blood or bodily fluids?
☐ Always
☐ Sometimes
☐ Never

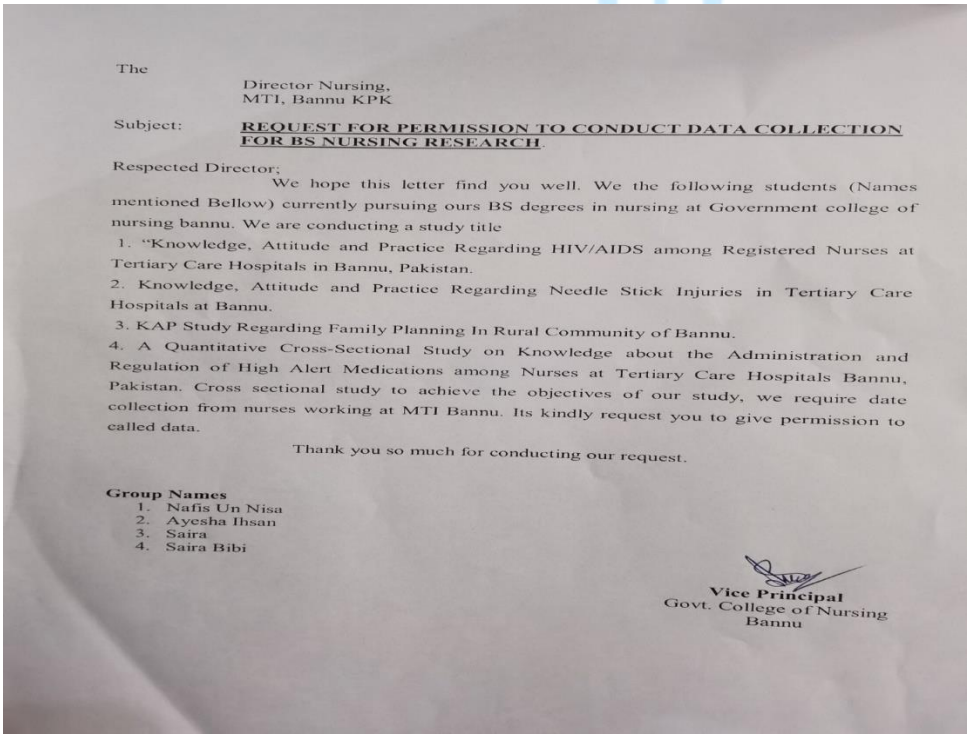
How often do you follow standard precautions when dealing with all patients?
☐ Always
☐ Most of the time
☐ Sometimes
☐ Rarely
☐ Never

Have you received training on HIV/AIDS management and prevention?
☐ Yes
☐ No
☐ Not sure

Do you encourage HIV-positive patients to disclose their status to others?
☐ Yes
☐ No
☐ Depends on the situation

Have you ever counseled a patient on how to prevent the spread of HIV?
☐ Yes
☐ No
☐ Not applicable

ANNEXURE 3
PERMISSION LETTER OF GCON BANNU



The

Director Nursing,
MTI, Bannu KPK

Subject: **REQUEST FOR PERMISSION TO CONDUCT DATA COLLECTION FOR BS NURSING RESEARCH.**

Respected Director;

We hope this letter find you well. We the following students (Names mentioned Bellow) currently pursuing ours BS degrees in nursing at Government college of nursing bannu. We are conducting a study title

1. "Knowledge, Attitude and Practice Regarding HIV/AIDS among Registered Nurses at Tertiary Care Hospitals in Bannu, Pakistan.
2. Knowledge, Attitude and Practice Regarding Needle Stick Injuries in Tertiary Care Hospitals at Bannu.
3. KAP Study Regarding Family Planning In Rural Community of Bannu.
4. A Quantitative Cross-Sectional Study on Knowledge about the Administration and Regulation of High Alert Medications among Nurses at Tertiary Care Hospitals Bannu, Pakistan. Cross sectional study to achieve the objectives of our study, we require date collection from nurses working at MTI Bannu. Its kindly request you to give permission to called data.

Thank you so much for conducting our request.

Group Names
1. Nafis Un Nisa
2. Ayesha Ihsan
3. Saira
4. Saira Bibi

Vice Principal
Govt. College of Nursing
Bannu

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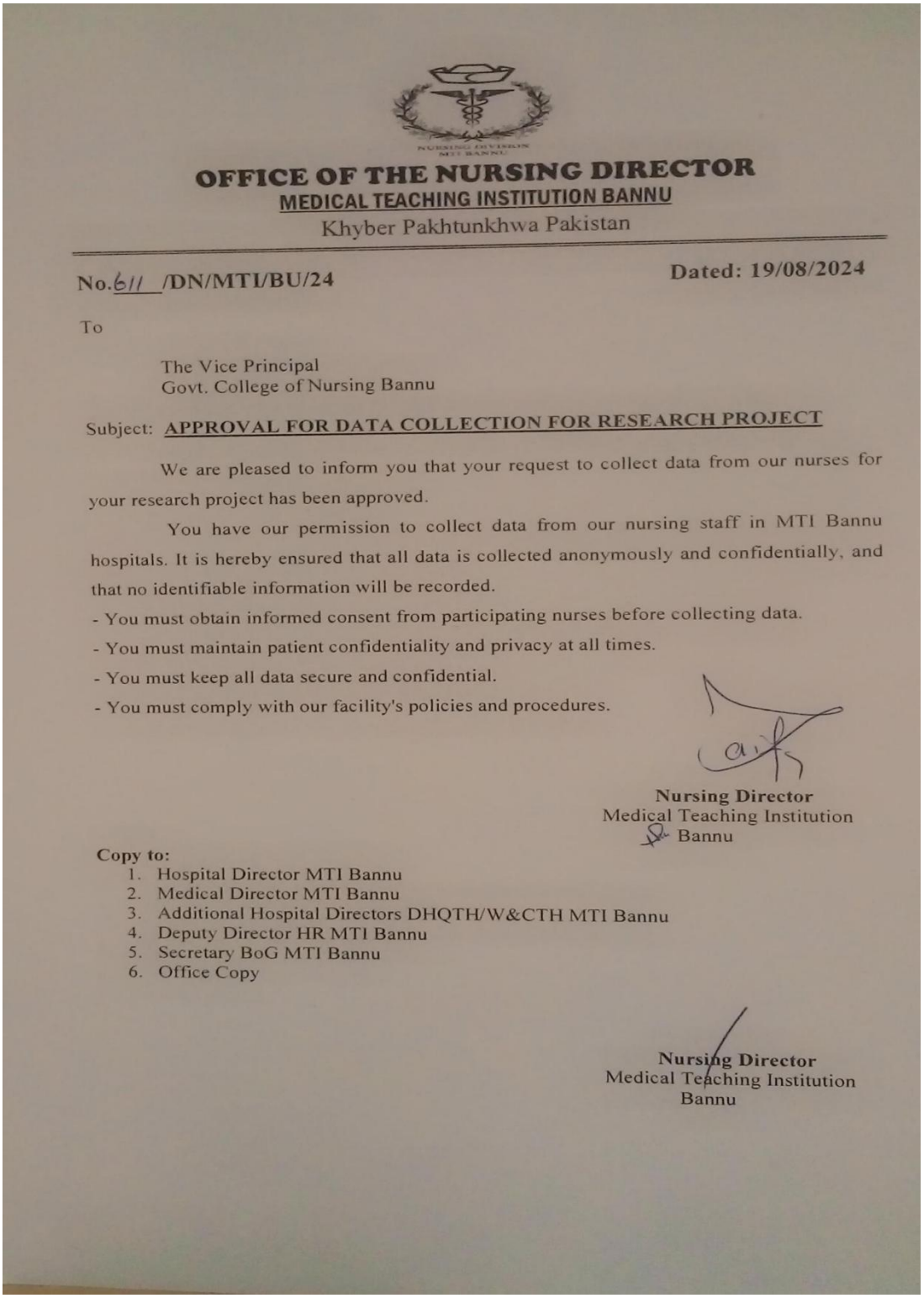
PERMISSION LETTER OF TERTIARY CARE HOSPITAL



OFFICE OF THE NURSING DIRECTOR
MEDICAL TEACHING INSTITUTION BANNU
Khyber Pakhtunkhwa Pakistan

No.611 /DN/MTI/BU/24 **Dated: 19/08/2024**

To

The Vice Principal
Govt. College of Nursing Bannu

Subject: **APPROVAL FOR DATA COLLECTION FOR RESEARCH PROJECT**

We are pleased to inform you that your request to collect data from our nurses for your research project has been approved.

You have our permission to collect data from our nursing staff in MTI Bannu hospitals. It is hereby ensured that all data is collected anonymously and confidentially, and that no identifiable information will be recorded.

- You must obtain informed consent from participating nurses before collecting data.
- You must maintain patient confidentiality and privacy at all times.
- You must keep all data secure and confidential.
- You must comply with our facility's policies and procedures.

Nursing Director
Medical Teaching Institution
Bannu

Copy to:
1. Hospital Director MTI Bannu
2. Medical Director MTI Bannu
3. Additional Hospital Directors DHQTH/W&CTH MTI Bannu
4. Deputy Director HR MTI Bannu
5. Secretary BoG MTI Bannu
6. Office Copy

Nursing Director
Medical Teaching Institution
Bannu