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Assessment of Knowledge and Attitude Towards Patient-Centered Care among Undergraduate Healthcare Students in Kampala International University-Western Campus

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ABSTRACT

Patient-centred care refers to the prevention, treatment of illness and the preservation of the physical and mental well-being of a patient through services offered by the health professional. The concept of patient-centred care has received increased attention in medical practice. Knowledge about what patient-centred care is among undergraduate health practitioners and their attitudes towards caring for patients is important for patient outcomes in the future. This study is therefore aiming at assessing the knowledge and attitudes towards patient-centred care among undergraduate health care students in KIU-WC. This study employed a prospective cross-sectional design. A properly constructed and validated questionnaire was used to collect the information. The questionnaire has into three sections; Section A captured the demographic data of the undergraduate students, Section B captured the knowledge of these undergraduate students about patient-centered care and Section C captured the attitudes that these undergraduate students have towards providing patient-centered Care. Based on the results of the study, the majority 251(50.2%) of the respondents had good knowledge about patient care. Half 250 (50.0%) of the respondents had a good attitude and half 250(50.0%). Studies showed a having good knowledge is significantly ($P=0.000$) associated with students' having a good attitude towards patient care. There was no significant relationship between students' level of knowledge and gender ($P=0.938$), marital status ($P=0.100$), nationality ($P=0.512$) and course of study ($P=0.256$), while age ($P=0.019$), religion ($P=0.008$), year of study ($P=0.000$) and medical experience/ industrial training ($P=0.049$) significantly affected students' level of knowledge. From the study, males had poor attitudes towards patient care ($P=0.002$). Respondents between the age of 16-25 years ($P=0.404$) had poor attitudes. Respondents who were single ($P=0.207$) had a good attitude. Pharmacy students had the highest knowledge 75(54.3%) compared to medicine 99(51.6%) and nursing 77(45.3%), but this did not translate to the best attitude as medical students had the highest attitude grade of 109(56.8%) and it was a significant difference ($P=0.256$). Conclusion Our study has shown that as high as half of the students have both poor knowledge and attitude towards patient care services. This calls for a clarification review of their curriculum to enhance theory and practice towards patient care practices.

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Keywords: Patient-centred care, Health professional, Health practitioners, Medical practice, Undergraduate health care students.

INTRODUCTION

Patient-centred care refers to the prevention, treatment of illness and the preservation of the physical and mental well-being of a patient through services offered by the health professional. Patient-centred care can as well be defined as services rendered by members of the health profession for the benefit of the patient-professional [1]. Patient-centred care is considered the foundation of healthcare quality and the core competency of a doctor-patient relationship [2]. World Health Organization defines patient-centred care as the degree of orientation of healthcare services toward the health needs and expectations of individuals rather than just managing the disease [2]. The holistic view of patient-centred care embraces the perspectives of individuals, families, and communities, and envisions them as not only beneficiaries but also partners of the healthcare system [2]. Patient-centred care occurs when healthcare providers are respectful of and responsive to patient preferences, needs and values, and ensures patient values guide all clinical decisions [3]. Patient care is multidimensional [2]. For example, Mead and Bower [4], describe patient-centred care as having five dimensions including a biopsychosocial perspective, the patient as a person, sharing power and responsibility, the therapeutic alliance and the doctor as a person. Patient-centred care includes discussions of plans and goals, providing patient education, addressing patients' spiritual needs, maintaining their own professional knowledge through continuing education and being supportive of patients and their families [2]. Providing healthcare services that respect and meet patients' and their caregivers' needs are essential in promoting positive care outcomes and perceptions of quality of care, thus constituting patient-centred care [2]. The Institution of Medicine (IOM) noted that to provide patient-centred care means respecting and responding to individual patients' care needs, preferences, and values in all clinical decisions. The IOM, in its 2003 report on Health Professions Education, recognized the values of patient care and emphasized that providing patient-centred care is the first core competency that health professionals' education must focus on. Patient-centred care is commonly recommended in clinical practice guidelines to improve patient outcomes and reduce healthcare costs [5, 6]. Knowledge about what patient-centred care is among undergraduate health practitioners and their attitudes towards caring for patients is important for patient outcomes in the future.

Statement of the problem

The concept of patient-centred care has received increased attention in medical practice [7, 8]. In Uganda, the pharmacy profession is considering a transition from B. Pharm to Pharm D of which patient care is the hallmark. Experts have shown that students need to have the right knowledge and attitudes in order to administer patient care eg; intent, reflection, curiosity, tolerance for ambiguity, self-confidence and professional motivation. The problem is that "How well-established students are with respect to this essential prerequisite knowledge and attitudes towards patient care are not known" Therefore, there is a need to assess the knowledge and attitude towards patient-centred care among undergraduate healthcare students at Kampala International University-Western Campus.

Aim

To assess the knowledge and attitudes towards patient-centred care among undergraduate healthcare practitioners in Kampala International University Western Campus.

Specific objectives

To assess the knowledge of patient-centred care among undergraduate health care practitioners in KIC-WC.

To assess the attitude towards patient-centred care among the undergraduate medical, pharmacy and nursing students in KU-WC.

To compare the knowledge and attitude of patient-centred care among the undergraduate medical, pharmacy and nursing students in KIU-WC.

To assess the association between the student's demographic characteristics and their level of knowledge and attitude towards patient-centred care in KIU-WC.

Research questions

Do undergraduate Health care practitioners in KIU-WC have knowledge about patient-centred Care?

Do Undergraduate health care practitioners in KIU-WC have a good attitude towards practising patient-centred Care?

Do undergraduate medical students have better knowledge and attitude towards Patient Centered Care than pharmacy and nursing students?

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Is there an association between the students' demographic characteristics and their knowledge and attitude towards patient-centred care?

METHODOLOGY

Study design

This study employed a prospective and cross-sectional study design to collect data from the undergraduate health care practitioners (medical, pharmacy and nursing students) in KIU-WC.

Area of Study

This study was conducted /carried out in KIU-WC using two schools within the university that is the School of Allied which comprises medical and nursing students and the School of Pharmacy which consists of pharmacy students. Both of these schools are located within the same university and the university is located in Ishaka Municipality, Bushenyi District in the Western region of Uganda.

Study population

A proportionate sampling method was used to determine the sample size of the respondents. In this study, the total number of participants was 500 students; 192 were medical students, 138 were pharmacy students and 120 were nursing students.

Inclusion and Exclusion Criteria

Only the undergraduate health care students that is medical, pharmacy and nursing students were included in this study and were assessed for all the information required on the knowledge and attitude towards patient-centered care. New entrants in their year one and the post-graduate students (master students) were excluded from this study and hence not assessed.

Ethical considerations

Ethical approval for this study was sought from the dean of the two schools that is School of Allied and Pharmacy School, KIU-WC Ishaka Municipality, Bushenyi District, Western Uganda. A permission letter to be used to collect the required information from the undergraduate students from these two schools was also obtained. This study procedure was not invasive in any form and the information obtained from each student was kept confidential.

Data collection

Sampling instrument

A properly constructed and validated cross-sectional questionnaire for medical students, nursing students and pharmacy students were used to collect the information in this study to assess the knowledge and attitudes towards providing patient-centred care among these undergraduate health care practitioners in KIU-WC. The questionnaire was divided into three sections; Section A captured the demographic data of the Undergraduate students, Section B captured the knowledge of these undergraduate students about patient-centered care and Section C captured the attitudes that these undergraduate students have towards providing patient-centered Care. This questionnaire was made for each group of undergraduate students (medical, pharmacy and nursing students) making a total of five questionnaires.

Questionnaire Development and Validation

Content Development and Validation

Sets of questions on patient-centred care were selected for the development of the questionnaires. The developed questionnaires were sent to 3 professionals/experts in the area of patient-centred care for content validity. They assessed whether the questions tally with the objective and title of the research. The corrections and inputs of the professionals were used to develop the final version of the questionnaire.

Face validity

Questionnaires were given to 30 respondents that fall within the category of our study's inclusion criteria but will not be part of the study. Time to fill, presence of ambiguity in question and other comments by the respondents were noted. All concerns were attended to and the final version of the questionnaire was developed.

Questionnaire reliability testing

The final version of the questionnaire was administered to another different set of 20 respondents and their responses were noted. 2 weeks after, the same questionnaire was administered to the same 20 respondents and their answers were noted. The Cronbach Alpha value was calculated using the variance for each respondent compared to the variance for all individual item scores to determine the reliability or consistency of the questions. A Cronbach Alpha test of <70% was to be rejected and questions reframed.

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Study procedure

After the ethical approval was obtained from relevant bodies, consent was sought from participants. Students from different courses (medicine, pharmacy and nursing) were reached out, especially in their classrooms and a sample of students in each group was selected out. Administration of the questionnaires. In each group, questionnaires were personally administered and collected at the end of lectures. After the collection of these questionnaires, the results were analyzed.

Data analysis

The data obtained were subsequently analyzed. Descriptive statistics (frequencies, percentages, mean and median) were used to determine the frequencies of the students' demographic responses to questions. The knowledge and attitudes were assessed by assigning a score to each question and the mean/median of the score was used to classify responses into good or bad knowledge or attitudes. Chi-square was used to test for the association between the differences in knowledge and attitude among the medical, pharmacy and nursing students. Significant values were at $P < 0.05$.

RESULTS

Demographic characteristics of respondents

From Table 1 below, the majority 284 (56.8%) of the respondents were males. The majority 410 (82.0%) of the respondents were aged between 18-25 years. The majority 392(78.4%) were Christians. The majority of 487(97.4%) of the respondents were Ugandans. The majority 169(33.8%) of the respondents were year four students. The majority 275(55.0%) of the respondents had ever had previous medical experience/ industrial training. 192(38.4%) of the respondents are Medicine students.

Table 1: Demographic characteristics of the respondents
Frequency (%)

Variables	
Gender	
Male	284(56.8)
Female	216(43.2)
Age	
18-25	410(82.0)
26-30	77(15.4)
31-35	11(2.2)
36-40	2(0.4)
>40	0(0.0)
Marital status	
Married	33(37.8)
Single	467(62.1)
Divorced	0(0.0)
Religion	
Christianity	392(78.4)
Islam	93(18.6)
Traditional worshipper	6(1.2)
Others	9(1.8)
Nationality	
Ugandan	487(97.4)
Congolese	2(0.4)
Somali	1(0.2)
Rwandese	5(1.0)
Kenyan	1(0.2)
Ethiopian	1(0.2)
Nigerian	1(0.2)
Year of Study	
Year two	127(25.4)
Year three	162(32.4)
Year four	169(33.8)

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Year five	42(8.4)
Previous medical experience	
Yes	225(45.0)
No	275(55.0)
Course of study	
Medicine	192(38.4)
Pharmacy	138(27.6)
Nursing	120(34.0)
Total	500(100.0)

Awareness question about the term patient care

The majority 476(95.2) of the respondents had heard of the term patient care while very few 14(2.8%) had never had about it.

Table 2: Awareness of Patient-Centered Care among the Respondents

Have you heard of the term 'patient care'?	Frequency	Percentage (%)
YES	476	95.2
NO	14	2.8
Total	500	100.0

Knowledge of patient care

From Table 2, the majority of 404(80.8%) of the respondents got the best description of patient care and only 96(19.2%) got it wrong. The highest number 415(83.0%) of respondents had knowledge about patient care being a human right. 464(92.2%) had knowledge about the need for healthcare professionals to obtain informed consent before rendering care to the patient. 351(70.2%) of the respondents didn't have knowledge about amenities provided by the hospital is one of the factors that can affect patient care. 370(74.0%) of the respondents didn't have knowledge about religion was one of the factors that can affect the attitude towards healthcare. 367(73.4%) of the respondents had knowledge about customized care being one of the types of patient care. 375(75.0%) of the respondents thought that patient care can only be done directly to patients' health needs. 390(78.0%) of the respondents had knowledge about respect for patients' values, preferences and needs being one of the principles of patient care. 364(72.8%) of the respondents had knowledge about the patients being given preference in their therapeutic drug decision-making.

Table 3: Knowledge of the respondents on patient care

Variables	Correct (%)	Wrong (%)
The best description of Patient care:		
It's the prevention, treatment and management of patients and preservation of physical and mental well-being through services of:		
Nurse	422(84.4)	78(15.6)
Medical doctor	444(88.8)	56(11.2)
Patients' relatives	463(92.6)	37(7.4)
Health professionals	404(80.8)	96(19.2)
Is patient care a human right?	415(83.0)	85(17.0)
Does a health care professional need to obtain informed consent before rendering care to a patient?	464(92.2)	36(7.2)
Factors affecting patient care include:		
Clinical competence	348(69.6)	152(30.4)
Amenities provided by the hospital	149(29.8)	351(70.2)
Expertise of the health professional	353(70.6)	147(29.4)
Behavior of staff	285(57.0)	215(43.0)
Factors affecting the attitude toward healthcare		

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professionals towards patient care include:

Social factor	329(65.8)	171(34.2)
Belief	313(62.6)	187(37.4)
Media	135(27.0)	365(73.0)
Religion	130(26.0)	370(74.0)

Types of patient care include:

Customized care	367(73.4)	133(26.6)
Continuous relationship	298(59.6)	201(40.2)
Social relationship	240(48.0)	259(51.8)
Supportive environment	314(62.8)	186(37.2)
Internal information sharing	186(37.2)	314(62.8)

Patient care can only be done directly on patient health needs 125(25.0) 375(75.0)

Principles of patient care include:

Respect for patient's value, preference and needs.	390(78.0)	110(22.0)
Emotional support to relieve fear and anxiety	338(67.6)	110(22.0)
physical support.	168(33.6)	332(66.4)
Coordination of care	206(41.2)	294(55.8)

Should patients be given preference in their therapeutic drug decision-making? 364(72.8) 136(27.2)

Table 4: Students' knowledge level of patient care

Variables	Frequency	Percentage (%)
Poor knowledge	249	49.8
Good knowledge	251	50.2
Total	500	100.0

Attitude towards patient care

From Table 3, 340(68.0%) of the respondents agree that the act of patient care is intentional. 427(85.4%) agree that making patients happy is part of the responsibilities of the healthcare provider. 362(72.4%) agree that the patient is the most important person in the hospital. 417(83.4%) agree that healthcare professionals should have a clearly defined outcome for each patient they care for. 421(84.2%) agree that consistently holding yourself to the highest standards of ethical conduct and having the desire to be the best will improve patient care service. Regarding respondents' levels of comportment (their reactions), the majority 185(37.0%) were calm and 123(24.6%) were accommodating.

Table 5: Students' attitude towards patient care

Variables	Agree (%)	Disagree (%)	Undecided (%)
The act of patient care must be intentional.	340(68.0)	106(21.2)	53(10.6)
It is not necessary that healthcare professionals should understand the rationale and reason for patient care priority for each patient they care for.	79(15.8)	363(72.6)	58(11.6)
Information about a patient can only be gotten by having conversation with the patient.	202(40.4)	219(43.8)	79(15.8)
Making patient happy and comfortable is part of the responsibilities of a healthcare	427(85.4)	32(6.4)	41(8.2)

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provider.

The patient is the most important person in the hospital. 362(72.4) 80(16.0) 57(11.4)

Healthcare professionals should have a clearly defined outcome for each patient they care for. 417(83.4) 27(5.4) 56(11.2)

The volume of communication between patient and the healthcare professionals do not affect patient health outcome. 57(11.4) 388(77.6) 55(11.0)

Healthcare professionals do not gain intellectually while offering patient care services. 58(11.6) 424(84.8) 71(14.2)

Healthcare professionals should have an aspect of their patient that they do not understand. 29(5.8) 424(84.8) 47(9.4)

Healthcare professionals' mindset and personal attitudes do not affect their, patient care services. 74(14.8) 373(74.6) 53(10.6)

Consistently holding yourself to the highest standards of ethical conduct and having the desire to be the best will improve patient care services. 421(84.2) 23(4.6) 55(11.0)

Table 6: Students' levels of comporment (their reactions) towards uncertainty

Level of comporment (reaction)	Frequency	Percentage (%)
Anxious	44	8.8
Aggressive	31	6.2
Uncomfortable	117	23.4
Calm	185	37.0
Accommodating	123	24.6
Total	500	100.0

Table 7: students' attitude towards patient care

Variables	Frequency	Percentage (%)
Poor attitude	250	50.0
Good attitude	250	50.0
Total	500	100

Comparison between students' knowledge and attitude towards patient care

The majority 144(57.6%) of the respondents with poor knowledge about patient care had a poor attitude towards patient care. 106(42.4%) respondents with good knowledge about patient care had poor attitudes towards patient care. The majority 145(58.0%) of the respondents with good knowledge about patient care had a good attitude towards patient care. 105(42.0%) of the respondents with poor knowledge about patient care had a good attitude towards patient care.

Table 8: Comparison between students' knowledge and attitude towards patient care

Knowledge		Attitude		P Value
		Poor attitude N (%)	Good attitude N (%)	
	Poor knowledge	144(57.6)	105(42.0%)	.000
	Good knowledge	106(42.4%)	145(58.0%)	
Total		250(50.0%)	250(50.0%)	

Association between the students' demographic data and their level of knowledge and attitude towards patient care.

Association between Students' Level of Knowledge and demographic data

The majority (284) of the respondents were males, out of which 143(50.4%, $P=0.938$) had good knowledge about patient care. (410) of the respondents were between the age of 16-25 years out of which 217(52.9%, $P=0.019$) had good knowledge about patient care. (467) of the respondents were single out of 239(51.2%, $P=0.100$) had good knowledge about patient care. (392) of the respondents were Christians out of which 212(54.1%, $P=0.008$) had good knowledge about patient care. (484) of the respondents were Ugandans out of which 246(50.5%, $P=0.512$) had good knowledge about patient care. (169) of the respondents were in year four out of which 112(66.3%, $P=0.000$) had good knowledge about patient care. (275) of the respondents had had medical experience/ industrial training out of which 149(54.2%, $P=0.049$) had good knowledge about patient care. (192) of the respondents were Medicine students out of which 99(51.6%, $P=0.256$) had good knowledge about patient care.

Association between Students' Attitude and demographic data

The majority (284) of the respondents were males out of which 159(56.0%, $P=0.002$) had a poor attitude towards patient care. (410) of the respondents were between the age of 18-25 years out of which 206(50.2%, $P=0.404$) had poor attitudes towards patient care. (467) of the respondents were single out of 237(50.7%, $P=0.207$) had a good attitude towards patient care. (392) of the respondents were Christians out of which 200(51.0%, $P=0.690$) had a good attitude towards patient care. (484) of the respondents were Ugandans out of which 245(50.3%, $P=0.514$) had a good attitude towards patient care. (169) of the respondents were in year four out of which 104(61.5%, $P=0.000$) had a good attitude towards patient care. (275) of the respondents had had medical experience/ industrial training out of which 147(53.5%, $P=0.088$) had a good attitude towards patient care. (192) of the respondents were Medicine students out of which 109(56.8%, $P=0.256$) had good knowledge about patient care.

Table 9: Association between Students' Knowledge and Demographic data

Valuable	N (%)	N (%)	P value
Gender			.938
Male	141(49.6)	143(50.4)	
Female	108(50.0)	108(50.0)	
Age			.019
18-25	193(47.1)	217(52.9)	
26-30	49(63.6)	28(36.4)	

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31-35	7(63.6)	4(36.4)	
36-40	0(0.0)	2(100.0)	
Marital status			.100
Married	21(63.6)	12(36.4)	
Single	228(48.8)	239(51.2)	
Religion			.008
Christianity	180(45.9)	212(54.1)	
Islam	58(62.4)	35(37.6)	
Traditional worshipper	5(83.3)	1(16.7)	
Other	6(66.7)	3(33.3)	
Nationality			.512
Ugandan	241(49.5)	246(50.5)	
Congolese	1(50.0)	1(50.0)	
Somali	0(0.0)	1(100.0)	
Rwandese	3(60.0)	2(40.0)	
Kenyan	1(100.0)	0(0.0)	
Tanzanian	2(100.0)	0(0.0)	
Ethiopian	1(100.0)	0(100.0)	
Nigerian	0(0.0)	1(100.0)	
Year of study			.000
Year two	82(64.6)	45(35.4)	
Year three	96(59.3)	66(40.7)	
Year four	57(33.7)	112(66.3)	
Year five	14(33.3)	28(66.7)	
Previous medical experience			.049
Yes	126(45.8)	149(54.2)	
No	123(54.7)	102(45.3)	
The course of study			.256
Medicine	93(43.4)	99(51.6)	
Pharmacy	63(45.7)	75(54.3)	
Nursing	93(54.7)	77(45.3)	

Table 10: Association between students' attitude and demographic data

Valuable	N (%)	N (%)	P value
Gender			
Male	159(56.0)	125(44.0)	.002
Female	91(42.1)	125(57.9)	
Age			
18-25	206(50.2)	204(49.8)	.404
26-30	35(45.5)	42(54.5)	
31-35	8(72.7)	3(27.3)	
36-40	1(50.0)	1(50.0)	
Marital status			
Married	20(60.6)	13(39.4)	.207
Single	230(49.3)	237(50.7)	
Religion			
Christianity	192(49.)	200(51.0)	.690
Islam	50(53.8)	43(46.2)	
Traditional worshipper	4(66.7)	2(33.3)	

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Other	4(66.7)	5(55.6)	
Nationality			.514
Ugandan	242(49.7)	245(50.3)	
Congolese	1(50.0)	1(50.0)	
Somali	1(100.0)	0(0.0)	
Rwandese	2(40.0)	3(60.0)	
Kenyan	1(100.0)	0(0.0)	
Tanzanian	2(100.0)	0(0.0)	
Ethiopian	1(100.0)	0(100.0)	
Nigerian	0(0.0)	1(100.0)	
Year of study			.000
Year two	77(60.6)	50(39.4)	
Year three	81(50.0)	81(50.0)	
Year four	65(38.5)	104(61.5)	
Year five	27(64.3)	15(35.7)	
Previous medical experience			.088
Yes	128(46.5)	147(53.5)	
No	122(54.2)	103(45.8)	
The course of study			.024
Medicine	83(43.2)	109(56.8)	
Pharmacy	69(50.0)	69(50.0)	
Nursing	98(57.6)	72(45.3)	

DISCUSSION

Social demographic data

From the study, about half of the respondents were males. Most of the respondents were aged between 18-25 years, A few were between 26-30years, 31-35 years and 36-40 years and none was >40 years. Almost all of the respondents were single and one-third were married. Almost all of the respondents were Christians and Ugandans. One-third of the respondents were in year four. Half of the respondents had ever had previous medical experience/ industrial training. One-third of the respondents are Medicine students.

Knowledge of undergraduate healthcare students about patient care

From the study, most of the respondents got the best description of patient care and only a few failed it. This proves that they have knowledge about patient care and can be in a position to provide it to any patient that they care for. Most of them knew that patient care is a human right. This implies that they can consider patient care as a priority for it's a need that has to be given to all patients. Almost all of them had the knowledge that healthcare professionals need to obtain informed consent before rendering care to the patient. This implies that the respondents have the knowledge about the major medical ethics required of a health care practitioner and hence render the health services out of the patient's will. More than two-thirds of the respondents thought that patient care can only be done directly to patients' health needs. This implies that they would not be in a position to provide other non-healthcare services to the patients they care for [9-13]. More than two-thirds of the respondents had knowledge about respect for patients' values, preferences and needs being one of the principles of patient care. This creates a good relationship and trust between healthcare professionals and the patient hence positive patient outcomes. More than two-thirds of the respondents had knowledge about the patients being given preference in their therapeutic drug decision-making, implying that the patient being cared for has the right to be given the drug of choice by these healthcare practitioners.

The attitude of undergraduate healthcare students towards patient care

From the study, Two-thirds of the respondents agree that the act of patient care is intentional. This indicates that the attitude towards providing care is that the patient can be in a position to receive the care need for him or her to get better. More than two-thirds of the respondents disagree that it's not necessary for healthcare professionals to understand the rationale and reason for patient care priority for each patient they care for. Implying that the attitude is poor and Less than half of respondents disagree that information about a patient can only be gotten by having a conversation with the patient. This implies that inadequate information about a patient can be obtained. Most of the

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respondents agree that making patients happy is part of the responsibilities of the healthcare provider. More than two-thirds of respondents agree that the patient is the most important person in the hospital. Most of the respondents agree that healthcare professionals should have a clearly defined outcome for each patient they care for. More than two-thirds of the respondents disagree that the volume of communication between patient and healthcare professionals do not affect patient health outcome. More than two-thirds of the respondents disagree that healthcare professionals do not gain intellectually while offering patient care services. More than two-thirds of the respondents disagree that healthcare professionals should have personal attitudes that do not affect their patient care services. Most of the respondents agree that consistently holding yourself to the highest standards of ethical conduct and having the desire to be the best will improve patient care services. Regarding respondents' levels of comportment (their reactions), one-third were calm, few were accommodating, uncomfortable, anxious and aggressive. However, half of the respondents had a good attitude towards patient care and half had a bad attitude towards patient care. This implies that respondents had a desire or willingness to provide care to the patient but to some extent.

Comparison between students' knowledge and attitude towards patient care

Half of the respondents with poor knowledge about patient care had a poor attitude towards patient care. Less than half of the respondents with good knowledge about patient care had poor attitudes towards patient care. Half of the respondents with good knowledge about patient care had a good attitude towards patient care. Less than half of the respondents with poor knowledge about patient care had a good attitude towards patient care.

However, there was a significance ($P=0.000$) between students' knowledge and attitude towards patient care. This implies knowledge about patient care can highly affect the attitude that one has towards providing care. Based on studies, it is shown that when the knowledge about patient care is good, even the attitude towards providing care to the patient is also good.

Association between the students' demographic data and their level of knowledge and attitude towards patient care

Association between Students' Level of Knowledge and demographic data

Half of the respondents were males and had good knowledge about patient care. However, there was no relationship between students' level of knowledge and gender ($P=0.938$). Half of the respondents were between the ages of 18-25 years and had good knowledge about patient care. There was a significant relationship between knowledge and age ($P=0.019$). Half of the respondents were single and had good knowledge about patient care. However, no correlation ($P=0.100$). Half were Christians and had good knowledge about patient care and there was a high relationship ($P=0.008$). Half were Ugandans with good knowledge about patient care but with no significance ($P=0.512$). Two-thirds were in year four with good knowledge about patient care and a very high relationship between knowledge and year of study ($P=0.000$). Half of the respondents had previous medical experience/ industrial training, and good knowledge about patient care. There was a significant relationship ($P=0.049$). This implies that the more students are exposed to the patient, the more they acquire knowledge and skills of handling and caring for the patients. Half were Medicine students who had good knowledge about patient care however with no correlation ($P=0.256$).

Association between Students' Attitude and demographic data

Half of the respondents were males who had a poor attitude towards patient care. This was highly significant ($P=0.002$). This implies that males may not willingly provide care to the patient hence poor patient outcomes. Half were between the age of 18-25 years with poor attitudes towards patient care and no correlation ($P=0.404$). Half were single with had a good attitude towards patient care but no relationship between marital status and attitude ($P=0.207$). However, this may imply that singles are always willing to provide services to patients as they may not have a lot on the table to deal with. Half were Christians and had a good attitude towards patient care. This was not significant. However, it may imply that Christians have kind, loving heart that is compassionate when it comes to caring for patients. Half were Ugandans with a good attitude towards patient care but no significance ($P=0.514$). This may imply that Ugandans may have a loving and caring heart towards fellow citizens hence rendering the care out of the will. Two-thirds were in year four and had a good attitude towards patient care with a very high relationship between year of study and attitude ($P=0.000$). Half had previous medical experience/ industrial training and had a good attitude towards patient care but with no relationship ($P=0.088$). Half were Medicine students with good knowledge of patient care. This implies that Medicine students, from year three and above who are always exposed to patients both on Hospital ward rounds and in communities are highly exposed to patients with different conditions and develop the heart of helping these patients by providing the best care. However, there was a relationship between the course of study and attitude towards patient care.

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CONCLUSION

Based on the results of the study, half of the respondents had good knowledge about patient care, and less than half had poor knowledge. Half of them had a good attitude and half had a bad attitude towards patient care. There was a very high relationship ($P=0.000$) between students' knowledge and attitude. There was no significant relationship between students' level of knowledge and gender ($P=0.938$), marital status ($P=0.100$), nationality ($P=0.512$) and course of study ($P=0.256$). However, there was a significant relationship between students' level of knowledge and age ($P=0.019$), religion ($P=0.008$), year of study ($P=0.000$) and previous medical experience/ industrial training ($P=0.049$). The results revealed that males had poor attitudes towards patient care ($P=0.002$) and which was significant. Those between the age of 18-25 years ($P=0.404$) had poor attitudes but were not significantly correlated. Singles ($P=0.207$) had a good attitude with no relationship. Christians ($P=0.690$) had a good attitude but with no relationship. Ugandans ($P=0.514$) had a good attitude but not significant. Fourth-year students ($P=0.000$) had a good attitude and were highly significant. Those that had had previous medical experience/ industrial training ($P=0.088$) had a good attitude but were not correlated. Medicine students ($P=0.256$) had good knowledge about patient care but it was not significant.

RECOMMENDATIONS

Based on the study findings, the following were the areas for recommendation;

The undergraduate healthcare students still need to be equipped with more knowledge about patient care as the results revealed a big number that still had poor knowledge. Pharmacy students specifically need to be much more equipped since the pharmacy profession is in a transition from BPharm to Pharm D and patient care is the hallmark of Pharm D. This can be achieved through improving on the syllabi that contain patient care. The attitude of the respondents towards patient care is still low as half is good and half is bad based on the results obtained. Students, therefore, need to be oriented about attitude since a bad attitude affects patient care outcomes. This can be achieved through engaging them in verbal question-answer sessions while in class and also asking them what they feel about the patients they are actively caring for while in the hospital wards. This will help improve the students' attitudes towards patient care.

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