Clinical Paper

Open Access

Knowledge and attitudes towards the management of chronic pain among healthcare providers in outpatient departments at the University Teaching Hospital of Butare (CHUB)

Abstract

Introduction: Chronic pain is a major source of suffering and is a leading reason for many patients to consult health care personnel. It interferes with, and disrupts, activities of daily living and may be accompanied by distress. Irrespective of its etiology or classification, health care professionals require a good understanding of chronic pain in order to provide appropriate treatment and care.

Methods: A cross-sectional study was conducted involving a sample of 80 participants obtained by using a convenience sampling method. Data were obtained by completing a questionnaire entitled "Knowledge and attitude survey towards pain" and analyzed by using descriptive statistics, chi-square, Pearson correlation coefficient and cross tabulation using SPSS.

Results: Overall knowledge was inadequate. More than two thirds of participants obtained a score below 50%. There was also negative attitude, almost 51% of the participants have negative attitude to pain management. Higher level of knowledge was associated with medical profession, highest of qualification and training on pain management.

Conclusion: The knowledge and attitudes of this sample of health care professionals regarding the management of chronic pain was inadequate to provide appropriate quality care for patients presenting with chronic pain conditions. This study identified the need for appropriate training for all health care professionals in order to assure adequate knowledge and skills to manage chronic pain using a multidisciplinary approach.

Keywords: Chronic pain, knowledge and attitude, healthcare providers, outpatients

Volume 13 Issue 3 - 2021

Nyirigira Gaston,[1] Mahoro Jean de Dieu,[1] Rwamugema Elias,[1] Bukuru John,[2] Buteera M. Alex,[4] Tuyishime Eugene[3]

[1]Department of Anesthesia, Critical care and Pain, University Teaching Hospital of Butare, Rwanda
[2]Department of ENT, Rwanda Military Hospital, Rwanda
[3]Department of Anesthesia, Critical care and Emergency Medicine, University of Rwanda, Rwanda
[4]Department of Orthopedics at Rwanda Military Hospital, Rwanda

Correspondence: Gaston NYIRIGIRA, Consultant Anesthesiologist and Pain Specialist, SH5, 22, Huye, Southern Province, Rwanda, +250788774710, Email gastony120@gmail.com

Received: May 04, 2021 | **Published:** May 14, 2021

Abbreviations: CHUB, Centre Hospitalier Universitaire de Butare; OPD, Outpatient Department; IASP, International Association for the study of Pain

Introduction

Chronic pain is defined by the International Association for the study of Pain (IASP) as pain which persists more than three months.[1] There are numerous types of chronic pain including cancer pain, postsurgical and posttraumatic pain, neuropathic pain, headache and or facial pain, visceral pain and musculoskeletal pain.[2] Numerous mechanisms are involved at several stages from transduction and transmission through to modulation and perception.[3]

Chronic pain is a major source of suffering and one of the most common reasons to consult health care personnel. It interferes with daily living and is often accompanied by significant distress.[1] Irrespective of etiology or classification, chronic pain requires good understanding of interdisciplinary management approaches by health care providers in order to provide appropriate care.[2] Studies conducted in high- or low-resource countries among different health provider disciplines showed inadequate knowledge and negative attitudes toward management of chronic pain which may affect the quality of care provided to the patient.[4-9]

Pain medicine in Rwanda is still inadequate and needs to develop. There is a paucity of data on knowledge and attitudes regarding chronic pain management in Rwandan health care professionals. A study conducted in Rwanda to evaluate knowledge and attitudes regarding acute pain management among nurses found adequate knowledge.[10,11]

The current study was done in order to assess knowledge and attitudes among physicians and non-physician health professionals regarding chronic pain as it has been found that a multidisciplinary pain approach is the most effective.[12]

Objectives

The primary objective was to evaluate the level of knowledge and attitude of physicians and non-physician health professionals to chronic pain management. The second end point was to identify factors associated to the level of knowledge.

Material and methods

Before starting the study, it was approved by CHUB ethics committee with the following reference number: RC/UTHB/053/2018. All participants signed informed consent prior to participation and they were granted to withdraw from the study at any time. Confidentiality of the data and the responses was ensured by anonymity and keeping the questionnaire safely in a closed cupboard.

Study design

A cross sectional study was conducted among healthcare providers

which included nurses, physicians and allied health professionals (Physiotherapists, non-physician Psychologists, social workers, mental health professionals that works in outpatient departments at CHUB in Rwanda. Data were collected during one month from January to February, 2020.

Recruitment of participants

A convenience sampling method was used among healthcare providers working at outpatient departments (OPD) at CHUB to get a sample size of 80 participants. This sampling method was used because of the small number of staffs who work in these departments.

Instrument and its validity and reliability

The instrument for this survey is the combination of two different instruments and it has three sections. Section one included demographic characteristics. Section two focused on knowledge which include sixteen questions regarding the pharmacology of pain, pain physiology and pain management developed by Betty Ferrell and Margo McCaffery.[13] Its validity was determined by an expert group in pain. Internal consistency reliability was established (alpha r>.70). Section three was composed of the Nurses' Attitude Survey tool of twenty-four items which included items on misconceptions regarding pharmacological and non-pharmacological management of pain, the use of opioids and goals of pain assessment developed by M. Elisabetta Zanolin,et al.[14] This tool used Likert scales to assess attitudes regarding pain management. Responses went from strongly disagree to strongly agree and it was analyzed psychometrically in three phases. Its reliability was established by calculating Cronbach's alpha (r=0.72). The validity also was ensured by confirmatory factor analysis which proved a very good construct validity.

The total tool validity and reliability was ensured. The content validity based on high level of evidence literature review, current pain management standard and through the review of Expert in Pain management. Reliability was ensured through test retest method which showed high reliability coefficient of (r=0.89,p=0.00) and internal consistence reliability (Cronbach's Alpha =0.86).[15]

Data collection

The primary investigator approached the healthcare providers in their respective departments during their free time and explained the purpose of the study to them. After getting informed consent to participate in the study and sign it for those who accepted to participate, instructions and other relevant information regarding how to complete the questionnaire were provided. As the primary end point of this study was to determine the level of knowledge about chronic pain, the primary investigator supervised the participants while they were completing the survey in order to avoid discussion between them or searching on the internet or other sources of information. Following completion, all distributed questionnaires were collected and kept by the primary investigator in a locked drawer in order to protect the participants' privacy. Anonymity was ensured by avoiding their names to questionnaire.

Data analysis

Data were coded and entered in SPSS version 23 IBM for analysis. Descriptive statistics were used to describe frequency distribution of demographic characteristics. Inferential statistics (One-way ANOVA with Post Hoc Test were used to determine the associations between outcome variables and selected independent variables and the P value less than 0.05 was considered to be significant.

Results

A total of 80 participants which included nursing staff, physicians and allied health professionals participated in the study. The majority of participants were nurses 47(58.75%). There were 21 physicians (26.25%) and 12 allied health professionals (15%). Forty-eight participants (57.5%) were advanced diploma holders, 11 (13.75%) had master's degrees and 23(28.75%) had bachelor's degrees. Forty-three (53.75%) of participants had worked in the health care field for six to fifteen (6-15) years. One quarter 20(25%) were trained in pain management (Table 1).

Table 1 Social demographics characteristics of the participants

Characteristics	Frequency	percentage
Male	34	42.5
Female	46	57.5
20-35	22	27.5
36-50	52	65
>50	6	7.5
Nursing	47	58.75
Medical	21	26.25
Allied	12	15
Diploma	48	57.5
Bachelors	23	28.75
Masters	11	13.75
Medical	33	41.25
Surgical	17	21.25
Dental	6	7.5
Ophthalmology	6	7.5
Gynecology	6	7.5
Others	11	13.75
1-5 years	24	30
6-15 years	43	53.75
>15 years	13	16.25
Participated in training of Pain management	20	25
Not participated in training of Pain management	60	75
Novice to Expert perception:		
Novice	14	17.5
Advanced beginner	36	45
Competent	27	33.75
Proficient	2	2.5
Expert	1	1.25

Citation: Nyirigira G, Mahoro JD, Rwamugema E, et al. Knowledge and attitudes towards the management of chronic pain among healthcare providers in outpatient departments at the University Teaching Hospital of Butare (CHUB). *J Anesth Crit Care Open Access.* 2021;13(3):110–115.
DOI: 10.15406/jaccoa.2021.13.00479

Knowledge regarding chronic pain among the participants

More than fifty percent 48(60%) of participants answered correctly that the most accurate and reliable judge of the intensity of the cancer patient's pain is patient self-report. Around three quarters 59(73.75%) answered incorrectly that when a post-op patient request additional medication should not due to decreased levels of analgesic in the blood (Table 2).

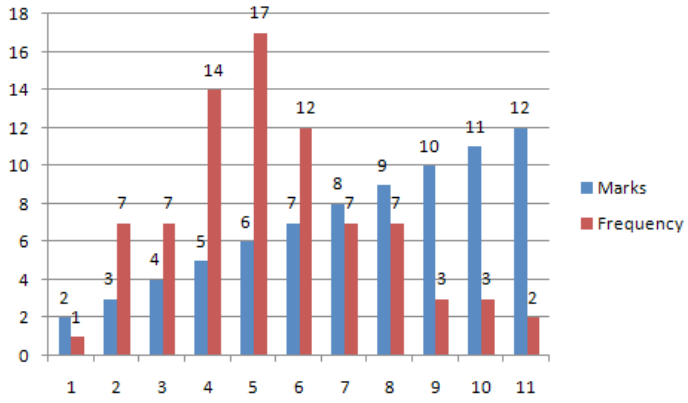
Table 2 Description of knowledge items among participants about pain management

Questions	categories	Frequency (%)
The preferred route of administration of narcotic analgesics for cancer patients	correct	40(50)
	Incorrect	40(50)
At what level is it appropriate for the patient to request pain medication	correct	13(16.25)
	Incorrect	67(83.75)
The most accurate and reliable judge of the intensity of the cancer patient's pain	correct	48(60)
	Incorrect	32(40)
The percentage of patients receiving opiate analgesics become addicted	correct	35(43.75)
	Incorrect	45(56.25)
The mechanism of action ofanalgesics	correct	43(53.75)
	Incorrect	37(46.25)
Principles underlyinganalgesic administration for persons with pain due to advanced cancer	correct	23(28.75)
	Incorrect	57(71.25)
Group of symptoms are more related to chronic pain?	correct	39(48.75)
	Incorrect	41(51.25)
Drugs which has the longest duration of action	correct	46(57.5)
	Incorrect	34(42.5)
Modulated receptors for pain	correct	39(48.75)
	Incorrect	41(51.25)
When a post-op patient should request additional	correct	21(26.25)
Medication due to decreased blood levels of analgesic	Incorrect	59(73.75)
Thevariables which may affect the expression of pain:	correct	18(22.5)
	Incorrect	62(77.5)
The action of naloxone	correct	26(32.5)
	Incorrect	54(67.5)
Research suggests physicians under prescribe	correct	13(16.25)
and nurses under medicate for pain	Incorrect	67(83.75)
significant disadvantage of	correct	27(33.75)
	Incorrect	53(66.25)
Nurses decision to administer pain medication should be	correct	40(50)
based on objective assessment of the intensity of the pain	Incorrect	40(50)
The patient has the most control over the patient's pain management regimen	correct	46(57.5)
	Incorrect	34(42.5)

Graph 1. Frequency distribution of overall knowledge marks over sixteen

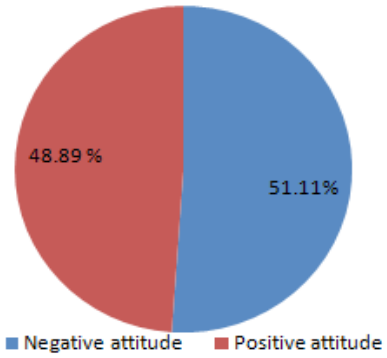
This graph indicates that the majority of participants had below 8/16. The minimum mark obtained is 2/16 and the maximum obtained is 12/16 while the mode is 6/16.

Citation: Nyirigira G, Mahoro JD, Rwamugema E, et al. Knowledge and attitudes towards the management of chronic pain among healthcare providers in outpatient departments at the University Teaching Hospital of Butare (CHUB). *J Anesth Crit Care Open Access.* 2021;13(3):110–115.
DOI: 10.15406/jaccoa.2021.13.00479



Attitude distribution towards chronic pain among the participants

Almost 51% of the participants have negative attitude to pain management while almost 49 have positive attitude to pain management.



Although the majority of participants have negative attitude some positive attitude also was observed at higher level.90% of participants agreed that continuous assessment of pain and medication effectiveness is necessary for good pain management. 76.25% of participants agreed that the patient should be maintained in a pain free state. Higher negative attitudes compared to the mean were observed where 77.5% of participants disagreed that PRN schedule is not preferred for continuous pain and 80% who agreed that cutaneous stimulation or other none pharmacological management are effective for mild pain only (Table 3).

Association of knowledge and social demographic characteristics

One-way ANOVA with Post Hoc Tests between level of knowledge and demographic characteristics found statistically significant relationship between the level of knowledge and medical profession, highest qualification level and training on pain management with respective P values {(0.031), (0.001), and (0.000)}.

Discussion

The results of this study demonstrated that there is no adequate knowledge about pain management in all participants and no positive attitudes only among health care professionals. The results showed that more than two third of participants, 58 of 80 had below 50% on general knowledge about pain management. This is consistent with the knowledge gaps identified in a previous systematic review of 36 articles from high income countries and low-income countries like Rwanda. In addition to this review the medical professional showed higher level of knowledge compared to the nurses which similar also to the presented study.[7] This similarity may be justified by the majority of nurses with limited qualification to advanced diploma .The present findings are also consistent with a previous study conducted in five countries namely Australia, Canada, Japan, Spain and the United States to assess nurses' knowledge about chronic pain from cancer which was also found to be inadequate.[8] As the present study showed low knowledge among nurses when compared to medical professional, it may justify the similarly of inadequacy for that study conducted among nurses of five countries. The finding of this study are contrary to other studies done in Rwanda, Ethiopia and Zimbabwe to assess the knowledge and attitudes regarding acute pain which demonstrated adequate knowledge.[10,11,16,17] This difference may due to the fact that in nursing school ,the acute pain is much taught as sign and symptom which should managed while chronic pain is less taught nor taught.

Table 3 Attitude distribution towards chronic pain among the participants

Attitudes	Strong Disagree N(%)	Disagree N(%)	Neutral N(%)	Strong Agree N(%)	Agree (%)
1. Giving opioids on a regular schedule is preferred over a prn schedule for continuous pain.	7(8.75)	11(13.75)	26(32.5)	12(15.00)	24(30)
2.A patient should experience discomfort prior to getting the next dose of pain medication	17(21.25)	22(27.5)	8(10)	9(11.25)	24(30)
3. Continuous assessment of pain and medication effectiveness is necessary for good pain management.	3(3.75)	3(3.75)	2(2.5)	46(57.5)	26(32.5)
4.Patients (and/or family members) have a right to expect total pain relief as a goal of treatment	3(3.75)	11(13.75)	11(13.75)	23(28.75)	32(40)
5. Patients (and/or family members) may be hesitant to ask for pain medications due to their fears about the use of opioids.	13(16.25)	24(30)	11(13.75)	7(8.75)	25(31.25)
6.Patients receiving opioids on a prn basis are more likely to develop clock-watching behaviors	9(11.25)	24(30)	23(28.75)	8(10)	16(20)

Citation: Nyirigira G, Mahoro JD, Rwamugema E, et al. Knowledge and attitudes towards the management of chronic pain among healthcare providers in outpatient departments at the University Teaching Hospital of Butare (CHUB). *J Anesth Crit Care Open Access.* 2021;13(3):110–115.
DOI: 10.15406/jaccoa.2021.13.00479

Table Continued

Attitudes	Strong Disagree N(%)	Disagree N(%)	Neutral N(%)	Strong Agree N(%)	Agree (%)
7. Estimation of pain by a MD or RN is a more valid measure of pain than patient self report.	11(13.75)	32(40)	11(13.75)	10(12.5)	16(20)
8.Patients in pain can tolerate high doses of opioids without sedation or respiratory depression	11(13.75)	13(16.25)	23(28.75)	7(8.75)	26(32.5
9. Patients can be maintained in a pain free state	9(11.25)	14(17.5)	4(5.)	19(23.75)	34(42.5)
10. If a patient (and/or family member) reports pain relief and euphoria, the patient should be given a lower dose of the analgesic	8(10)	30(37.5)	11(13.75)	7(8.75)	24(30)
11. Patients with chronic pain should receive pain meds at regular intervals with or without the presence of discomfort	7(8.75)	19(23.75)	12(15)	14(17.5)	28(35)
12. Patients receiving around the clock opioids are at risk for sedation and respiratory depression	6(7.5)	19(23.75)	21(26.25)	8(10)	26(32.5)
13. Patients having severe chronic pain need higher dosages of pain meds compared to acute pain.	9(11.25)	32(40)	6(7.5)	9(11.25)	24(30)
14. Patients should be maintained in a pain-free state	3(3.75)	10(12.5)	6(7.5)	22(27.5)	39(48.75)
15. Lack of pain expression does not necessarily mean lack of pain	7(8.75)	14(17.5)	10(12.5)	16(20)	33(41.25)
16. Cancer pain can be relieved with appropriate treatment with anti-cancer drugs, radiation therapy and/or pain-relieving drugs	17(21.25)	19(23.75)	10(12.5)	11(13.75)	23(28.75)
17. If a patient continues to have pain after receiving pain relieving medication(s), the nurse should contact the physician.	3(3.75)	3(3.75)	6(7.5)	30(37.5)	38(47.5)
18. Patients receiving opioids around the clock for cancer pain are likely to become addicted.	8(10)	16(20)	12(15)	10(12.5)	34(42.5)
19. Distraction and diversion of patient's attention (use of music, relaxation) can decrease the perception of pain.	3(3.75)	12(15)	15(18.75)	13(16.25)	37(46.25)
20.A constant level of analgesic should be maintained in the blood to control pain effectively	5(6.25)	9(11.25)	19(23.75)	9(11.25)	38(47.5)
21. Increasing analgesic requirements and physical symptoms are signs that the patient is becoming addicted to the narcotic.	7(8.75)	15(18.75)	16(20)	10(12.5)	32(40)
22.The cancer patient and family should have more control over the schedule for analgesics than the health professional.	16(20)	24(30)	7(8.75)	5(6.25)	28(35)
23.The nurse can make a more accurate assessment of the patient's pain than the patient/family can.	7(8.75)	14(17.5	7(8.75)	19(23.75)	33(41.25)
24. Cutaneous stimulation (e.g. heat, massage, ice) are only effective for mild pain.	5(6.25)	11(13.75)	12(15)	12(15)	40(50)

The study conducted in Taiwan and another done in Sudan among to assess pediatric residents and physicians' knowledge and attitudes toward the management of chronic cancer pain showed inadequate knowledge and negative attitudes.[5,18] This is inadequacy like presented study but it is unexpected because those studies were done among medical profession who showed the higher level in the presented study. These surprising results may due to different tool used for surveys. It is contrary to the study done in Ethiopian nursing staff which found adequate knowledge and negative attitude.[20] This differences may be due to difference in training and cultural. The results also included a statistically significant relationship between the level of knowledge and medical profession, highest level of qualification and training in pain management with respective P-values {(0.031),(0.001),(0.000)}. This is in contrast to the study conducted in Zimbabwe which showed that the level of knowledge is associated to the experience and age of the professional.[17] This discrepancies may be due to exposure on the patients with chronic pain which is different. The present findings are similar to the study conducted in Ethiopia which revealed that education level, training and reading articles were statistically significantly associated with the level of knowledge.[20] This may be

justified by the fact of getting the opportunity to be taught chronic pain management. The presented study did not find a significant association between knowledge and the area of practice but the studies done in Greece and Jordan found a significant association between the knowledge and the area of practice.[21] This may due to the staff nurses rotation in different area which hinder them to master one area of practice.

Conclusion

This study demonstrated inadequate knowledge regarding the management of chronic pain in a group of health care professionals at CHUB in Rwanda. Greater knowledge was associated with medical profession, highest level of qualification and training on pain management. Therefore, further training and upgrading to highest level are needed for all health care professionals since an interdisciplinary approach is needed for the best management of chronic pain. In spite of poor knowledge this study found generally positive attitudes towards patients with chronic pain**.**

Conflicts of interest

No conflict of interest for this article.

References

1. Treede R, Rief W, Barke A, et al. Chronic pain as a symptom or a disease : the IASP Classification of Chronic Pain for the International Classification of Diseases (ICD-11). *pain J.* 2019;160(1).
2. Treede R, Rief W, Barke A, et al. A classification of chronic pain for ICD-11. *pain J.* 2015;156(6):1003–1007.
3. Christiansen S, Cohen SP. Chronic Pain: Pathophysiology and Mechanisms in Essentials of Interventional Techniques in Managing Chronic Pain. *Springer Int Publ.* 2018;15–25.
4. Kheshti R, Namazi S, Mehrabi M, et al. Health Care Workers' Knowledge, Attitude, and Practice About Chronic Pain Management , Shiraz , Iran. *Anesth Pain Med.* 2016;6(4).
5. Ger L, Ho S, Wang J. Physicians' Knowledge and Attitudes Toward the Use of Analgesics for Cancer Pain Management : A Survey of Two Medical Centers in Taiwan. *J pain syptoms Manag.* 2000;20(5):335–344.
6. Salanterä S, Lauri S, Salmi TT. Nurses' Knowledge About Pharmacological and Nonpharmacological Pain Management in Children. *J Pain Syptoms Manag.* 1999;18(4):289–299.
7. Makhlouf SM, Pini S, Ahmed S, et al. Managing Pain in People with Cancer — a Systematic Review of the Attitudes and Knowledge of Professionals , Patients , Caregivers and Public. *J cancer Educ.* 2020;214–240.
8. McCaffery M, Ferrell BR. Nurse's knowledge about cancer pain: A survey of five countries. *J Pain Symptom Manage.* 1995;10(5):356–369.
9. Kiekkas P, Gardeli P, Bakalis N, et al. Original Article Predictors of Nurses ' Knowledge and Attitudes Toward Postoperative Pain in Greece. *Pain Manag Nurs [Internet].* 2015;16(1):2–10.
10. Umuhoza O, Chironda G, Katende G, et al. International Journal of Africa Nursing Sciences Perceived knowledge and practices of nurses regarding immediate post- operative pain management in surgical wards in Rwanda . A descriptive cross-sectional study. *Int J Africa Nurs Sci.* 2019;10(June 2018):145–151.
11. Ufashingabire CM, Nsereko E, Njunwa KJ, et al. Knowledge and Attitudes of Nurses Regarding Pain in the Intensive Care Unit Pa - tients in Rwanda. *Rwanda J Ser F Med Heal Sci.* 2016;3(1):21–6.
12. Maeng DD, Baylor K, Bulger JB, et al. Impact of a multidisciplinary pain management program on patient care utilization and cost of care. *J Pain Res.* 2018;11:2375–2383.
13. Ferrell BRMM. Knowledge and Attitudes Survey Regarding Pain. J Palliat Med. 2014;10(SUPPL. 1).
14. Zanolin ME, Visentin M, Trentin L, et al. A Questionnaire to Evaluate the Knowledge and Attitudes of Health Care Providers on Pain. *J Pain Symptom Manage.* 2007;33(6):727–36.
15. Sherrill RJ. Assessment of Nurses' Knowledge and Attitudes toward Pain Management : Novice to Expert [Internet]. Gardner-Webb University School of Nursing; 2013.
16. Liyew B, Tilahun AD, Bayu NH. Knowledge and Attitude towards Pain Management among Nurses Working at University of Gondar Comprehensive Specialized Hospital , Northwest Ethiopia. *Pain Res Manag.* 2020;2020.
17. Manwere A, Chipfuwa T, Mukwamba MM. iMedPub Journals Knowledge and Attitudes of Registered Nurses towards Pain Management of Adult Medical Patients : A Case of Bindura Hospital. *Heal Sci J.* 2015;1–6.
18. Alhassan MAA, Ahmed FE, Bannaga AA. Original Article from Thesis Pain assessment and management : The knowledge, attitude and practice of Sudanese Paediatric Residents. *Sudan J Paediatr.* 2017;17(1):25–29.
19. Subhashini L, Vatsa M, Lodha R. Knowledge, Attitude and Practices Among Health Care Professionals Regarding Pain. *Indian J Pediatr.* 2009;76:913–916.
20. Dessie M, Asichale A, Belayneh T, et al. Knowledge and Attitudes of Ethiopian Nursing Staff Regarding Post-Operative Pain Management : A Cross-Sectional Multicenter Study. *Dove Press J Patient Relat Outcome Meas.* 2019;395–403.
21. El-rahman MA, Taher M, Kalaldeh A, et al. Knowledge and attitude towards pain management . A comparison between oncology and non-oncology nurses in Jordan. *Int J Adv Nurs Stud.* 2013;2(2):95–100.

Citation: Nyirigira G, Mahoro JD, Rwamugema E, et al. Knowledge and attitudes towards the management of chronic pain among healthcare providers in outpatient departments at the University Teaching Hospital of Butare (CHUB). *J Anesth Crit Care Open Access.* 2021;13(3):110–115.
DOI: 10.15406/jaccoa.2021.13.00479