

Original Article

Knowledge, Attitude and Practices of Nurses towards Oral Care of Psychiatric Patients at a Teaching Hospital, Kigali, Rwanda

Donat Uwayezu^{1*}, Mireille Ishimwe Cyeza¹, Betty Mukantwali¹, Jean Claude Nshimiyimana¹, Diane Umuhoza¹, Peace Uwambaye¹, Agnes Gatarayiha¹, Danilo Malines Zambrano²

¹Department of Preventive and Community Dentistry, School of Dentistry, College of Medicine and Health Sciences, University of Rwanda, P.O Box:3286, Kigali, Rwanda.

²Department of Restorative and Prosthodontic Dentistry, School of Dentistry, College of Medicine and Health Sciences, University of Rwanda, P.O Box:3286, Kigali, Rwanda.

***Corresponding author:** Donat Uwayezu, Department of Preventive and Community Dentistry, School of Dentistry, College of Medicine and Health Sciences, University of Rwanda, Remera Campus, KG 11 Ave, 47, Kigali, Rwanda. Email: uwadonatus@gmail.com

Abstract

Background

Psychiatric patients are prone to different oral health problems. This study aimed to assess nurses' knowledge, attitudes, and practices towards oral care of psychiatric patients due to their limited mental abilities of self-control at a Teaching Hospital.

Methods and materials

This was a cross-sectional study conducted at a Teaching Hospital using self-administered questionnaire. Sixty-five nurses were enrolled through census sampling method in December 2021. Data were analyzed using SPSS version 25 by applying descriptive statistics to assess nurse's knowledge attitude and practices towards oral care.

Results

The results showed that 53 (93%) nurses had poor knowledge. Also 44(75%) of nurses had inappropriate practice and among them 33(57.9%) had positive attitude.

Conclusion

This study found that high number of nurses had poor knowledge and inappropriate practices and half of them had positive attitude. Therefore, there is a need training for nurses to increase their level of knowledge and improve their practice regarding oral care of psychiatric patients.

Rwanda J Med Health Sci 2023;6(2):135-142

Keywords: oral care, nurses, Psychiatric Patient, knowledge, attitudes, practices, Rwanda

Introduction

Over 650 million people were estimated to be suffering from mental disorders in the world in 2015.[1] There is evidence that patients suffering from mental illness are more vulnerable to dental and poor oral health compared to the rest of the population.[2] Different studies have shown that oral health problems are more common in psychiatric patients.[3–5]

Oral care is a key for oral diseases prevention and management.[6] In psychiatric patients,

oral care should be provided mainly by nurses and medical care professionals, because psychiatric patients are not able to take care of their oral health status due to their limited mental abilities of self-control. [7]Therefore, it is most important for nurses to have required knowledge and awareness in oral care of admitted psychiatric patients.[3]

Even if it is so important for nurses to take care of psychiatric patients, the study done in Saudi Arabia at Taif Mental Health Hospital showed that a high number of nurses had poor knowledge regarding

oral care of psychiatric patients and among their patients, eighty-eight per cent (88%) had inadequate oral hygiene status due to inappropriate oral health practice.[8] In another study done in United Kingdom it was reported that oral care for psychiatric patients was still neglected and there was a high prevalence of untreated dental diseases among people with mental illnesses. Also, a study done in England among nurses of psychiatric patients demonstrated that there was a gap in knowledge regarding oral care of psychiatric patients. Most nurses were unaware of the most appropriate tools to be used in assessment of oral health problems of psychiatric patients.[9] In addition, another study done in Serbia showed that there was a high prevalence of periodontal diseases with poor oral hygiene among psychiatric patients because nurses didn't take care of oral health of their patients properly due to poor knowledge of oral care in psychiatric patients.[10]

A study conducted in Australia found that a big number (99%) of nurses were aware that oral health of psychiatric patients is very important to be considered daily but they had barriers in oral health practices due to their patient behaviors, lack of time, staffing, and patient physical difficulties. [11] This is similar to another study done in Brazil showed that although more than 70% of nurses had knowledge about dental caries and periodontal diseases but they were unaware that oral hygiene practice should be provided to psychiatric patients at hospital.[12]

Studies conducted in different countries of Sub-Saharan Africa showed a gap in knowledge and practice among nurses towards oral care of psychiatric patients. [13] [14,15] In Rwanda, there is limited published information about knowledge, attitude and practices of nurses toward oral care of psychiatric patients. Reports based on individual accounts suggest that majority of psychiatric patients are affected by different oral health problems; and those patients are followed-up daily by nurses who take care of their health.

However, it was unclear if those nurses are aware of how to provide oral care support to the patients. Therefore, this study aimed to assess the nurses' knowledge, attitudes, and practices towards oral care of psychiatric patients at a Teaching Hospital in Kigali Rwanda, to see if there was a need of special training for the nurses involved.

Methods

Study design

This research was a descriptive cross-sectional study conducted to assess the nurses' knowledge, attitudes, and practices towards oral care of psychiatric patients

Study Area

The study was conducted at a Teaching Hospital located in Kigali, Rwanda.

Participants recruitment

The teaching Hospital had 65 nurses during this research. All these nurses were eligible to participate. It was decided to use census sampling strategy to get all nurses who worked at this hospital given their small number.

Inclusion criteria

All the nurses who worked at the Teaching Hospital and were present during the period of data collection

Exclusion criteria

Nurses who were still doing their internship during the period of data collection

Data Collection Instruments and Procedure Self-administered Structured questionnaire with close ended questions served as main research tool to be used in collecting data. The questionnaire consisted of four main sections; the first section was used to gather demographic information about the nurses, the second to the fourth section were respectively for data on knowledge, attitudes and practices of nurses towards oral care of psychiatric patients. The questionnaire was adapted from the study done in Saudi Arabia to fit the Rwandan setting.[8] and it was pretested for reliability and validity after adaptation. Also, it was translated into Kinyarwanda to make understanding easier by participants.

A brief explanation was presented on the cover page of the questionnaire, mentioning the purpose of the study, confidentiality of information, and the voluntary nature of participation. On average, of 20 minutes were required to complete the questionnaire. With the support and guidance of the Teaching Hospital administration, the researchers introduced the purpose of the study to the nurse participants and provided further clarification as needed. Data collection involved our researchers, each of whom was responsible to distribute the questionnaires, countercheck if they were thoroughly filled and then entering the information in the computer excel sheet. The data was collected within 2 weeks.

Measures

These included sociodemographic characteristics, and to assess knowledge, nurses were asked multiple choice questions with Yes, No and I don't know options about oral care and its benefits, effect of treatment for mental illness on oral health, and about regular oral checkup. Concerning assessment of attitude, the statements were formulated on Likert scale, where nurses indicated if they strongly agree, agree, disagree and strongly disagree. The themes covered in attitude section were need for oral checkup of psychiatric patients on admission to hospital, feelings of nurses in cleaning the oral cavity of the patient, and training on oral care. With regard to practices, various questions were asked about psychiatric patients tooth brushing, its frequency, and if they needed assistance, type of foods provided to the patients, and patients' attendance for oral health checkup. Overall knowledge was categorized as good if the score was from 50% to 100% and as poor if the score was less than 50%; overall attitude was categorized as positive if the score was from 50% to 100% and as negative if the score was less than 50%; the overall practice was categorized as appropriate if the score was from 50% to 100% and as poor if the score was less than 50%. The bloom's cut off point and categorization was performed with reference to the previous study done on Knowledge,

attitude and practice of patients with chronic diseases towards COVID-19 pandemic in Dessie town hospitals, Northeast Ethiopia. [16]

Data Analysis

For data analysis, IBM SPSS Statistics for Windows version 25.0 (IBM Corp, Armonk, NY, USA), was used. Descriptive statistics were used to summarize and determine frequencies and percentages of participants sociodemographic characteristics, knowledge, attitude, and practices.

Ethical Considerations

This study was conducted after getting ethical clearance from Institutional Review Board of the University of Rwanda, College of Medicine and Health Sciences, (IRB/UR-CMHS). All information regarding this study was offered to the participants who consented to participate voluntarily, and no incentives were given to the participants. Participants were assured of confidentiality by explaining to them that the information they gave would be safely kept in the computer with password accessed only by authorized researchers, and that their identities would not be revealed on the study questionnaire or in the reports.

Results

Sociodemographic characteristics of participants

The Table 1 presents sociodemographic characteristics of participants. Fifty-seven (57) out of 63 nurses giving psychiatric care at the hospital agreed to participate in this survey. Based on gender, 36 (63.2%) were females and 21(36.8) were male. Regarding their qualification, 52 (91.2%) had advanced diploma in nursing, 4 (7%) had a bachelor's degree, and 1(1.8%) had secondary certificate in nursing. Among all the nurses, 35 (61.4%) were more than 5 years working experience. Based on the training received, 53 (93%) had not received training about oral care.

Table 1. Sociodemographic characteristics of participants and their knowledge of oral care for psychiatric patients (N = 57)

Variables	Responses	
	n	%
Social demographic characteristics		
Gender		
Male	21	36.8
Female	36	63.2
Qualification in nursing degree		
A2	1	1.8
A1	52	91.2
Bachelor	4	7.0
Masters	0	0
Clinical experience (years)		
<5	22	38.6
>5	35	61.4
Training regarding oral care		
Received	4	7.0
Not received	53	93.0

Knowledge of the participants towards oral care of psychiatric patients

It has been observed that 50 (87.7%) nurses were not aware that proper tooth brushing prevents tooth decay and gum diseases. About the frequency of tooth brushing, 37 (65.0%) nurses responded that brushing once a day is enough. Among all nurses, only 28(49.1%) knew that medicine used in the management of mental disorders influence oral health. Regarding knowledge on checkup period, 35(61.4%) nurses knew that visiting a dentist for checkup twice a year is necessary. Generally, the results showed that 53 (93%) nurses had poor knowledge towards oral care of psychiatric patients (Table 2).

Table 2. Knowledge of participants for oral care of psychiatric patients (N = 57)

Variables	Responses	
	n	%
Do you know that proper tooth brushing prevent disease affects gum and teeth		
Yes	7	12.2
No	50	87.8
How many times your psychiatric patients should brush her/his teeth		
Twice a day	20	35.0
Once a day	37	65.0
Do you know the ideal materials that should be used to clean mouth of psychiatric patients?		
Toothbrush only	1	1.8
Toothbrush and toothpaste	56	98.2
Do you know drugs used in treatment of mental illness affect oral health?		
Yes	28	49.1
No	29	50.9
What are adverse effects of antipsychotics on oral health		
Dryness of the mouth, gum enlargement	23	40.3
Increase saliva flow, oral ulcer	34	59.7
How many times should your psychiatric patients should go to the dentist for regular checkup?		
After 2 months	22	38.6
After 6 months	35	61.4
Overall knowledge of the nurses towards oral care of psychiatric patients		
Poor	53	93.0
Good	4	7.0

Attitude of the participants towards oral care of psychiatric patients
 Regarding attitude, 40 (70.2%) participants agreed that all patients should have an oral checkup on admission to hospital. Among all the nurses, 52 (91.2%) nurses agreed that oral care should be done as often as possible during their hospital stay. With respect to their training, 53 (93.0%) nurses stated that they had not been given adequate training in providing oral care.

In addition, 55 (96.5%) nurses agreed that appropriate oral care is necessary for the general health of patients. Generally, the results showed that among all nurses, 33 (57.9%) had positive attitude towards oral care of psychiatric patients. (Table3)

Table 3. Attitude of the participant towards oral care of psychiatric patients

Variables	Responses	
	n	%
Should all patients have an oral check up on admission to hospital?		
Strongly agree, Agree	40	70.2
Disagree, Strongly disagree	17	29.8
Should oral care of patients be provided as often as possible during their hospital stay?		
Strongly agree, Agree	52	91.2
Disagree, Strongly disagree	5	8.8
Is Cleaning the oral cavity unpleasant task?		
Strongly agree, Agree	18	31.6
Disagree, Strongly disagree	39	68.4
You have been given adequate training in providing oral care?		
Strongly agree, agree	4	7
Disagree, Strongly disagree	53	93
Is a proper oral care needed for the general health of patient?		
Strongly agree, Agree	55	96.5
Disagree, Strongly disagree	2	3.5
Is it nurses' responsibility to check the oral cavity of patients?		
Strongly agree, Agree	50	87.7
Disagree, Strongly disagree	7	12.3
Does oral problem need to be given more attention?		
Strong agree, Agree	55	96.5
Disagree, Strong disagree	2	3.5
Are you willing to accompany a patient for their oral treatment?		
Strong agree, Agree	42	73.7
Disagree, Strong disagree	15	26.3
Overall attitude of the nurses towards oral care of psychiatric patients		
Positive	33	57.9
Negative	24	42.1

Practice towards oral care

Among all nurses, 49 (85.9%) nurses used toothbrush and fluoridated toothpaste while brushing their patients. Regarding patient's assistance 41 (72%) nurses had never assisted their patients while brushing their teeth. Among them only 8 (14%) nurses used dental floss and majority (52, 91.2%) of nurses experienced problems while cleaning their patients mouth. Generally, majority of nurses (75%) had inappropriate practice towards oral care of psychiatric patients. (Table4)

Table 4. Practice of the participant towards oral care of psychiatric patients

Variables	Responses	
	n	%
Does your Psychiatric patient brush regular his/her teeth?		
Yes	31	54.4
No	26	45.6
How often do your psychiatric patients brush her/his teeth?		
Once a day	43	75.4
Twice a day or more	14	24.6
Do you use toothbrush and toothpaste to brush teeth of your psychiatric patients?		
Yes	49	85.9
No	7	14.1
How long do your psychiatric patients brush his/her teeth?		
Less than two minutes	35	61.4
Two to three minutes	22	38.6
More than three minutes		
Do you assist your psychiatric patients to brush his/her teeth?		
Yes	41	72.0
No	16	28.0
How long do your psychiatric patients change his/her toothbrush?		
Three months or less	33	57.9
More than three months	24	42.1
Do you use dental floss while cleaning teeth of your psychiatric patient?		
Yes	8	14.0
No	49	86.0

Table 4.

Variables	Responses	
	n	%
Do you provide sugary foods like sweets, chocolate or biscuits to your psychiatric patients?		
Once a day and More than once a day	9	15.8
Never	48	84.2
Do your psychiatric patients attend regular dental check-up?		
Once year	57	100
Never		
Twice year	0	0.0
What problems do you experience while cleaning a patient mouth?		
Restrict mouth opening, Tongue cleaning is unpleasant task and Tongue coating	52	91.2
Reduced patient consciousness	5	8.8
Overall practice of the nurses towards oral care of psychiatric patients		
Inappropriate	43	75
Appropriate	14	25

Discussion

This study aimed to assess the knowledge, attitudes, and practices of nurses towards oral care of psychiatric patients at a teaching hospital, in Kigali Rwanda. Regarding knowledge on oral care of psychiatric patients, the findings showed that a little more than half (50.9%) of nurses had poor knowledge, whereby 49.1% of nurses knew that medicine used in treating mental disorders has influence oral health. This is consistent with the study done in Saudi Arabia where only 40.5% of nurses knew about It but contrary to what was found in Nigeria where the majority had good knowledge.[8,13] In addition, concerning knowledge on the role of tooth brushing for oral diseases prevention, only 12.2% of all nurses knew that proper tooth brushing can prevent diseases that affect gum and teeth and this frequency is too low compared to the study done in Netherlands where

most of the nurses (77.8%) knew that proper tooth brushing is important before being educated by oral hygienists.[17]

Regarding their attitude towards oral care of psychiatric patients, most nurses had positive attitude towards oral care of psychiatric patients, whereby 70.2% agreed that all patients should have an oral checkup upon admission. This is in line to the studies done in Saudi Arabia and Nigeria where the majority had positive attitude and more than half of them agreed that oral care should be done as often as possible during hospital stay and they were willing to accompany patients for their oral treatment.[8,13]

Regarding practice towards oral care of psychiatric patients, majority of nurses had inappropriate practice of brushing their patients, with only 24.6% helping patients to brush at least twice a day. This frequency is low compared to other findings from another study done in Sudan where brushing twice a day was done by 61% of the nurses who take care of psychiatric patients.[18] In addition, this frequency is too low compared to 85.9% of nurses who used tooth brush and fluoridated tooth paste to brush teeth of psychiatric patients in Saudi Arabia and Netherlands.[8,17]

Different guidelines have been elaborated to guide nurses and other health professionals who work at the hospitals and other health facilities on how psychiatric patients should be treated and how they should be assisted in taking care of their oral health. It is recommended that nurses should get required information to support psychiatric patients.[19–21] Nevertheless, Although there are different guidelines established especially in developed countries, there is little information in the guidelines and policies made in our region and specifically in Rwanda to help people who take care of the oral health of psychiatric patients. [22,23]

Based on these findings we recommend that provision of guideline to oral care of psychiatric patients to be used by all the nurses who take care of psychiatric patients. There need for continuous training on oral health care for psychiatric nurses. Further research should do be conducted in different hospitals to capture the details on how psychiatric patients are given oral health care and how prevention of oral diseases is practiced, and associated factors.

Limitations

During this study, we used a self-administered questionnaire and some nurses did not fill the whole questionnaire with impact of missing some information. The sample size was also small and does not allow comparing findings across participants' characteristics. In Addition, these findings cannot be generalized to the whole country as it is limited to one setting.

Conclusion

This study found that a high number of nurses had poor knowledge and inappropriate practices, and half of them had positive attitude. Therefore, there is a need of training for nurses to increase their level of knowledge and improve their practice regarding oral care of psychiatric patients.

Acknowledgement

We do acknowledge the contributions of the Teaching Hospital administration for their guidance and support to accomplish this research.

Conflict of interest

The authors have no conflict of interest regarding this study work.

Authors' contribution

All authors contributed to the design and implementation of the study. They all participated in the development of first draft and approved together the final draft of the manuscript.

This article is published open access under the Creative Commons Attribution-NonCommercial NoDerivatives (CC BYNC-ND4.0). People can copy and redistribute the article only for noncommercial purposes and as long as they give appropriate credit to the authors. They cannot distribute any modified material obtained by remixing, transforming or building upon this article. See <https://creativecommons.org/licenses/by-nc-nd/4.0/>

References

1. Chisholm D. Investing in mental health. *East Mediterr Heal J*. 2015;21:531–4.
2. Kebede B, Kemal T, Abera S. Oral health status of patients with mental disorders in Southwest Ethiopia. *PLoS One*. 2012;7.
3. Tang WK, Sun FCS, Ungvari GS, O'Donnell D. Oral health of psychiatric in-patients in Hong Kong. *Int J Soc Psychiatry*. 2004;50:186–91.
4. Cormac I, Jenkins P. Understanding the importance of oral health in psychiatric patients. *Adv Psychiatr Treat*. 1999;5:53–60.
5. Ezeja EB, Omoaregba JO. Oral health of psychiatric patients: the nurse's perspective. *Comparative Study*. 2012;245–9.
6. Gambhir RS, Brar P, Singh G, Sofat A, Kakar H. Utilization of dental care: An Indian outlook. *J Nat Sci Biol Med*. 2013;4:292–7.
7. Azodo CC, Ezeja EB, Omoaregba JO, James BO. Oral health of psychiatric patients: The nurse's perspective. *Int J Dent Hyg*. 2012;10:245–9.
8. Ashour AA. Knowledge, Attitudes and Practices Regarding Oral Health and Oral Care Among Nursing Staff at a Mental Health Hospital in Taif, Saudi Arabia: A Questionnaire-based Study. *J Adv Oral Res*. 2020;11:34–44.
9. Griffiths J, Jones V, Leeman I, Lewis D, Blankenstein R. Oral Health Care for People with Mental Health Problems. *Oral Health*. 2000;1–20.
10. Jovanović S, Milovanović SD, Gajić I, Mandić J, Latas M, Janković L. Oral health status of psychiatric in-patients in Serbia and implications for their dental care. *Croat Med J*. 2010;51:443–50.

11. Gibney J, Wright C, Sharma A, Naganathan V. Nurses' knowledge, attitudes, and current practice of daily oral hygiene care to patients on acute aged care wards in two Australian hospitals. *Spec Care Dent.* 2015;35:285–93.
12. Rodrigues S da S, Caminha M de FC, Ferraz MGG, de Arruda MA, Kozmhinsky VM da R, Guerra CAR de M, et al. Knowledge, attitude and practice of the nursing team regarding oral health care in intensive care units in a reference hospital of Recife, Brazil. *Pesqui Bras Odontopediatria Clin Integr.* 2016;16:129–39.
13. Gureje O, Lasebikan VO, Ephraim-Oluwanuga O, Olley BO, Kola L. Community study of knowledge of and attitude to mental illness in Nigeria. *Br J Psychiatry.* 2005;186:436–41.
14. Hugo CJ, Boshoff DEL, Traut A, Zungu-Dirwayi N, Stein DJ. Community attitudes toward and knowledge of mental illness in South Africa. *Soc Psychiatry Psychiatr Epidemiol.* 2003;38:715–9.
15. Quinn N. Beliefs and community responses to mental illness in Ghana: The experiences of family carers. *Int J Soc Psychiatry.* 2007;53:175–88.
16. Gedamu S, Dires A, Goshiye D. Knowledge, attitude and practice of patients with chronic diseases towards COVID-19 pandemic in Dessie town hospitals, Northeast Ethiopia. *Diabetes Metab Syndr Clin Res Rev. Elsevier Ltd;* 2021;15:847–56. Available from: <https://doi.org/10.1016/j.dsx.2021.03.033>
17. Mey L De, Çömlekçi C, Reuver F De, Waard I Van. Oral Hygiene in Patients With Severe Mental Illness: A Pilot Study on the Collaboration Between Oral Hygienists and Mental Health Nurses. *Perspect Psychiatr Care;*2016;52:194–200.
18. Ibrahim SM, Mudawi AM, Omer O. Nurses' Knowledge, Attitude and Practice of Oral Care for Intensive Care Unit Patients. *Open J Stomatol.* 2015;05:179–86.
19. H MD, C D, B J, C M, L S, N DM. Physical illness in patients with severe mental disorders . II . Barriers to care, monitoring and treatment guidelines, plus recommendations at the system and individual level. *World Psychiatry* ;2011.
20. Kuipers S, Boonstra N, Kronenberg L, Keuning-plantinga A, Castelein S. Oral Health Interventions in Patients with a Mental Health Disorder : A Scoping Review with Critical Appraisal of the Literature. *Int J Environ Res Public Health;* 2021.
21. Geddis-Regan AR, Gray D, Buckingham S, Misra U, Boyle C. The use of general anaesthesia in special care dentistry: A clinical guideline from the British Society for Disability and Oral Health. *Spec Care Dent.* 2022;42:3–32.
22. Cornejo-Ovalle M, Costa-de-Lima K, Pérez G, Borrell C, Casals-Pedro E. Oral health care activities performed by caregivers for institutionalized elderly in Barcelona-Spain. *Med Oral Patol Oral Cir Bucal.* 2013;18.
23. Dzedzic A, Tanasiewicz M, Tysiąc-Miśta M. Dental care provision during coronavirus disease 2019 (COVID-19) pandemic: The importance of continuous support for vulnerable patients. *Med.* 2020;56:1–10.