INOSR Experimental Sciences 15(3):105-114, 2025. **ISSN: 2705-1692**
©INOSR PUBLICATIONS **INOSRES1530000**
International Network Organization for Scientific Research
https://doi.org/10.59298/INOSRES/2025/153105114

Factors Influencing Dental Hygiene Practices among Patients Aged 18 Years and Above Attending Out-Patient Department at Mitooma Health Center IV

Abura Geoffrey, Musimenta Allen and Rukundo Annitar

Faculty of Nursing Sciences Kampala International University Uganda

ABSTRACT

Dental hygiene is a state of being free from mouth and facial pain, oral and throat cancer, oral infection and sores, periodontal (gum) disease, tooth decay, and tooth loss. Dental hygiene is perceived as an essential component and these includes; brushing "two minutes, two times a day, every day", rinsing using mouth wash and chewing sugar free gums. A cross-sectional descriptive design employing quantitative method of data collection was conducted among 50 adult's patient attending out-patient department at Mitooma H/C IV chosen by a convenient sampling technique and examined using a pretested questionnaire. Data were analysed by using SPSS version 22.0 as frequency and percentage and presented inform of a frequency table, charts and figures. Out of 50 participants, 32.2% aged 25 to 29 years, 60.0% were males, 74.0% were married, 50.0% were peasant farmers, 50.0% attained secondary education, 62.0% never went for dental checkup, 54.0% drink alcohol, 60.0% known smokers, 58.0% had no dental complaints in the past years, 100.0% participants always brush their teeth, 92.0%) brushed it less than twice daily, 76.0%) took less than two minutes when brushing, 68.4% had dentals checkup within 12 months, 85.7% ever received dental treatment, 66.7% had dental extraction. On conclusion, it was found out that all the participants 50(100.0%) said they brush their teeth but majority 62.0% never went for dental checkup, more than a half 92.0% brushed it less than twice daily, however majority 68.4% had dentals checkup within 12 months with adequate dental treatment which was mainly 66.7% dental extraction. But many factors such as alcohol intake, cigarette smoking and low socio-economic status which hindered their regular dental checkup and other lifestyles behavior like diet still put them at risk.

Keywords: Influential factors, Dental Hygiene Practices, Patients, Aged 18 Years and Above, Out-Patient Department.

INTRODUCTION

Dental hygiene is a state of being free from mouth and facial pain, oral and throat cancer, oral infection and sores, periodontal(gum) disease, tooth decay, and tooth loss [1], oral or dental diseases lead to serious health and economic burdens, resulting in a significant reduction in quality of life. [2]. Oral diseases such as caries, dental fluorosis, tooth loss, periodontal disease, dental injuries, oral cancer, dental anomalies, and craniofacial disorders have got a negative impact on Oral Health-Related Quality of Life (OHRQoL) [3]. Dental hygiene (OHRQoL) is perceived as an essential component of overall quality of life, [3] and is a significant predictor of general health and these includes; brushing "two minutes, two times a day, every day" flossing, rinsing using mouth wash and chewing sugar free gums, tobacco cessation as well as stopping sweetened eats and drinks [4]. About 3.5 Billion people worldwide have no access to Oral and Dental services [5, 6]. As a result, 11.2% of world population are suffering from dental hygiene related diseases [7]. However, according to WHO Global Oral Health Status Report [6] estimated that oral diseases affect close to 3.5 billion people worldwide, with 3 out of 4 people affected living in middle-income countries. [6]. According to a survey of adults expressing a need for oral health services, access ranges from 35% in low-income countries to 60% in lower-middle-income countries, 75% in upper middle-income countries, and 82% in high-income countries [2]. Oral health is a key indicator of overall health, well-being, and quality of life [8]. In East African countries, it was found out that periodontal oral diseases are on rising due to the higher consumption of sugar, lack of knowledge of oral health, and inadequate dental hygiene [9]. Tanzania reported a prevalence rate of dental problem of 61% [10] and South Africa reported a prevalence rate of poor dental hygiene related problems at 50% [11]. As result, the prevalence of periodontal diseases are affecting at least 63.9% in these areas [11] In Uganda, a study conducted in the Mbarara district reported that 68% participants had dental plaques showing poor oral hygiene

practices.[12]. This indicates that Oral and Dental hygiene in Uganda and other regions within Uganda are poorly practiced. At Mitooma H/C IV, there is no up to date published data on oral hygiene practices, however oral hygiene indicators including oral smell and other dental and periodontal disorders, at least 1 in every 4 patients assessed with have one or more hygiene related dental disorders pointing a gap in dental hygiene practices [13]. However, a care practice cannot be described merely in terms of care procedures and its frequency [8]. Few studies have focused on factors influencing oral care practices in adult patient. Although some factors have been documented which includes: age, oral hygiene practices, socioeconomic status, education, dysphagia, and dependence as being associated with the dental hygiene [14]. Although these factors were known to influence patients' overall health, the association between these variables and the oral health status of older stroke patients remains unclear [2]. The main purpose of this research study was to assess factors influencing the practices of dental hygiene among patients aged 18 years and above attending out-patient department at Mitooma H/C IV. This would provide the appropriate recommendation to curb down the prevalence and the influential factors associated with dental caries in adults.

METHODOLOGY

Study design and rationale

The study design was a descriptive cross-sectional study employing quantitative methods of data collection on factors influencing the practices of dental hygiene among patients aged 18 years and above attending out-patient department at Mitooma H/C IV. This design had been chosen because it was easier to be done while exploring the variables in the study effectively and in shortest time possible since both the independent and dependent variables were measured at the same time in point.

Study setting and rationale

The study was carried out from the out-patient at Mitooma H/C IV. A government health facility located in Mitooma Town Council, Mitooma district. The H/C IV has a capacity of 100 beds receiving both inpatient and outpatients for care including maternal and child health care services. The hospital is used to enhance communicable and non-communicable diseases treatment including community dental health clinic that handles most of dental problems in its population. This study area was chosen because of the hospital health record which revealed that approximately 40 patient comes complaining of dental problems and with no up-to-date published studies hence the main reason to carry out this study.

Study population and rationale

The study included all adult patients aged 18 years and above attending Mitooma H/C IV outpatient department during the data collection period. They were chosen because they were the immediate source of information regarding what affects their dental hygiene.

Sample size determination

Sample size for adult patients were determined using Sloven's formula [15], given by expression below

$$n = \frac{N}{1 + N(e)^2}$$

Where n= sample size
e= margin error
N= total Population of the target population
N= Approximately 60 adult patients (18 years and above) that attend Mitooma H/C IV fortnights.
e= 5 % level of precision at 95% confidence interval= 0.05

$$n = \frac{60}{1 + 60 * (0.05)^2}$$

n=52.17

Therefore, a total of 50 adult patients were enrolled for this research study because of time and financial constraint.

Sampling procedure and rationale

Convenient sampling method was used for quantitative data collection where the researcher collected the data from adult patients who were available and willing to participate. This helped the researcher to save time since adult patients number were not bulky hence selecting some basing on any other criteria was time consuming.

Inclusion criteria

The study included all adult patients attending out-patient department at Mitooma H/C IV during the data collection period and who consented to participate in the study voluntarily.

Exclusion criteria

The study excluded those who were not willing to consent at time of data collection, those who were not feeling well and those who were mentally incapacitated to give valid information.

Dependent variable

Dental hygiene practice

Independent variables

Socio-demographic characteristics of the participants
Lifestyle factors of the participants

Research instruments

Data collection were done using a self-developed questionnaire with closed and open ended questions and it was a researcher- administered semi-structured questionnaire to assess the factors influencing the practice of dental hygiene among adult patients. The questionnaire was subdivided into 2 sub sections where section A was used to determine the socio-demographic factors and Section B was used to identify the lifestyle factors of the participants.

Pretesting of instrument

Five Questionnaires were pre-tested on five patients at Bushenyi H/C IV to ensure relevancy of questions and for the purpose of easing understanding and appropriateness of questions before the questionnaire were used for actual data collection. This helped the researcher to ensure accuracy, validity and reliability of the tools.

Data collection procedures

The researcher got an introductory letter from Research Ethical Committee of Kampala International University School of Nursing after approval of research proposal. Then presented it to the in-charge of Mitooma H/C IV to obtain permission for data collection. When permission was granted, the researcher proceeded with data collection. The researcher introduced self to the participants and explained to them the purpose of the research in order to obtain their consent both verbally and written format by willing participants. Thereafter, researcher administered the questionnaires to the consented participants where the data were collected from. Data collection took two weeks.

Data management

The filled questionnaires were checked for completeness and validity before leaving the data collection area. Data collected were packed in water proof clear bag and transported to storage areas where they were stored in a cupboard which was locked with a padlock to protect them from unauthorized persons. Soft copy data were coded with each variable being given a specific code, coded data were entered into SPSS version 22.0 and kept under strong password for analysis. A copy of the softcopy was saved into a phone as a backup.

Data Analysis

Data were analyzed using SPSS version 20.0. It involved allocating codes for each question and entering the data codes in data sheet which were analyzed inform of frequency and percentage. The percentages was further analyzed by establishing the relationship between the independent and the dependent variables where the information that were obtained were presented in figures, charts and tables to make it more meaningful.

Ethical consideration

An introductory letter was obtained from the Kampala International University School of Nursing and Midwifery Research Ethics Committee and was presented to the in-charge Mitooma H/C IV seeking for permission to carry out the research study. All information obtained from the participants were not used for any purpose other than for this research. The participants' names were not included anywhere on the questionnaire; they instead used serial numbers to keep their identity anonymous. An informed consent were requested first from the respondents prior to the administration of questionnaire. Research assistants and all the research team members were trained to know that ethics was part of the research activity and anything that could compromise the adherence to the ethical standards could equally compromise the validity of the findings so that they desist from bleaching ethics.

RESULTS

Socio-demographic characteristics of the participants

Table 1: Showing the Socio-demographic characteristics of the participants

n=50

Variables	Category	Frequency (N)	Percentage (%)
Age in years	18-24	06	12.0
	25-29	16	32.0
	30-34	10	20.0
	35 and above	18	36.0
Sex	Male	30	60.0
	Female	20	40.0
Education status	None formal	02	4.0
	Primary	05	10.0
	Secondary	25	50.0
	Tertiary/vocational	18	36.0
Average monthly income	Less than 50,000=	28	56.0
	50,000= to 100,000=	15	30.0
	Above 100,000=	7	14.0
Residence	Rural	46	92.0
	Urban	04	8.0
Marital status	Single	04	8.0
	Married	37	74.0
	Cohabiting	08	16.0
	Divorced/separated	01	2.0
Participant's occupation	Peasant farmer	25	50.0
	Civil servant	03	6.0
	Business	18	36.0
	Student	04	8.0

In the table 1 above, most 16(32.2%) of the participants were within the age bracket of 25 to 29 years and the least 06(12.0%) of the participants were within the age bracket of 18 to 24 years. More than a half 30(60.0%) of the participants were males and only 20(40.0%) were females. Nearly three-quarter 37(74.0%) were married and only 01(2.0%) had a divorced hence separated. A half 25(50.0%) of the participants were peasant farmers whereas only 03(6.0%) were civil servants. A half 25(50.0%) had attained secondary level of education whereas only 02(4.0%) said they didn't get any formal form of education. Most participants 46(92.0%) were from rural areas and the least participants 4(8.0%) were from urban areas. The study also found out that more than a half 28(56.0%) of the participants had an average monthly income of less than 50,000= while only 07(14.0%) of the participants had an average monthly income of 100,000= and above.

Participant's life style factors influencing dental hygiene practices

Table 2: Showing participant's life style factors influencing dental hygiene practices

n=50

Variables	Category	Frequency (N)	Percentage (%)
Ever gone for dental check up	Yes	19	38.0
	No	31	62.0
Alcohol intake	Yes	23	46.0
	No	27	54.0
Cigarette smoking history	Yes	20	40.0
	No	30	60.0
Ever had dental complaint in the past years	Yes	21	42.0
	No	29	58.0
Always rinses the mouth with water after eating	Yes	34	68.0%
	No	16	32.0%
Frequency of teeth brushing	< 2 times daily	46	92.0
	≥ 2 times daily	4	8.0
Always brushes for two or more minutes	Yes	12	24.0%
	No	38	76.0%
Tooth brush replacement frequency	Less than 3 months	7	14.0
	≥ 3 months	43	86.0

The study finding in the above table 2 highlighted that most participants 31(62.0%) had never gone for dental checkup at any time in point and the least 19(38.0%) had ever gone for dental checkup. Out of all the interviewed participants, more than a half 27(54.0%) drink alcohol and only 23(46.0%) had no history of alcohol. Majority 30(60.0%) were known smokers while only 20(40.0%) reported no smoking history. More participants 29(58.0%) had no dental complaints in the past years and the less participants 21(42.0%) had ever experienced dental pain in the past years. Many participants 34(68.0%) said they do rinse their mouth with water after eating as compare to few participants 16(32.0%) who said they had never rinsed their mouth with water after eating. Out of the participants who do brush their teeth daily, majority 46(92.0%) brushed it less than twice daily and only 4(8.0%) said they do brush at least twice daily. Out of which majority 38(76.0%) took less than two minutes when brushing and the least 12(24.0%) who took at least two to three minutes when brushing and the majority 43(86.0%) said they do replace their tooth brush after three months of usage whereas only 7(14.0%) said they do replace their tooth brush within three months of usage.

Participants last date of dental health check up

n=19

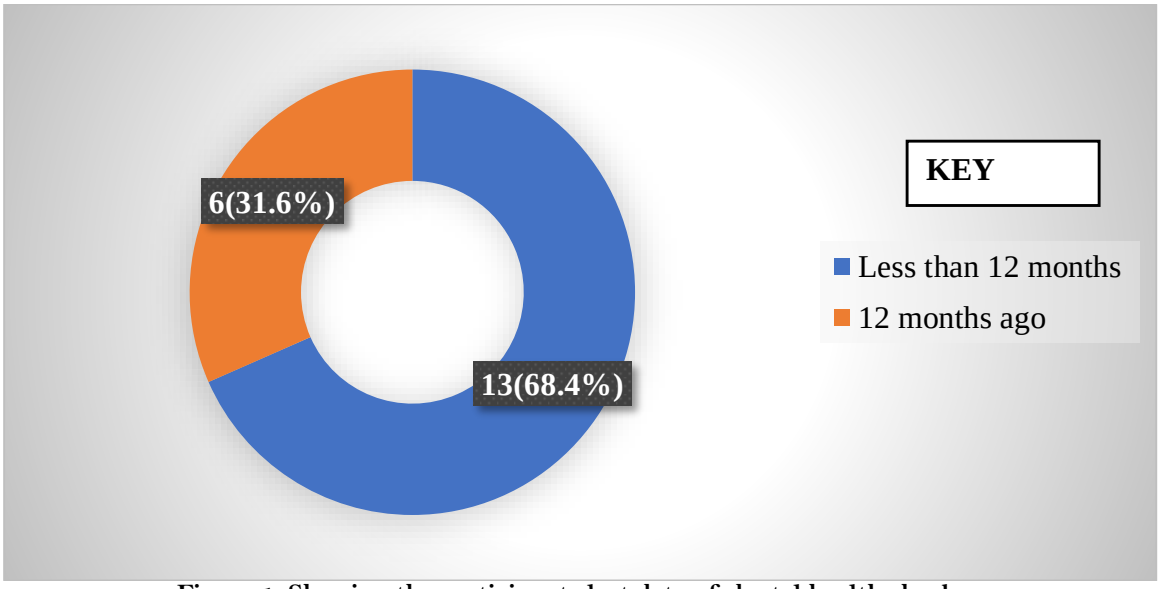

Figure 1: Showing the participants last date of dental health check up
NB: Only those who had ever gone for dental checkup at any time in point

From the figure 1 above, more than a half 13(68.4%) of the participants had their dentals checkup within 12 months and only 6(31.6%) had their dental checkup in the last 12 months.

Had ever received any dental treatment pertaining their dental complaints

n=21

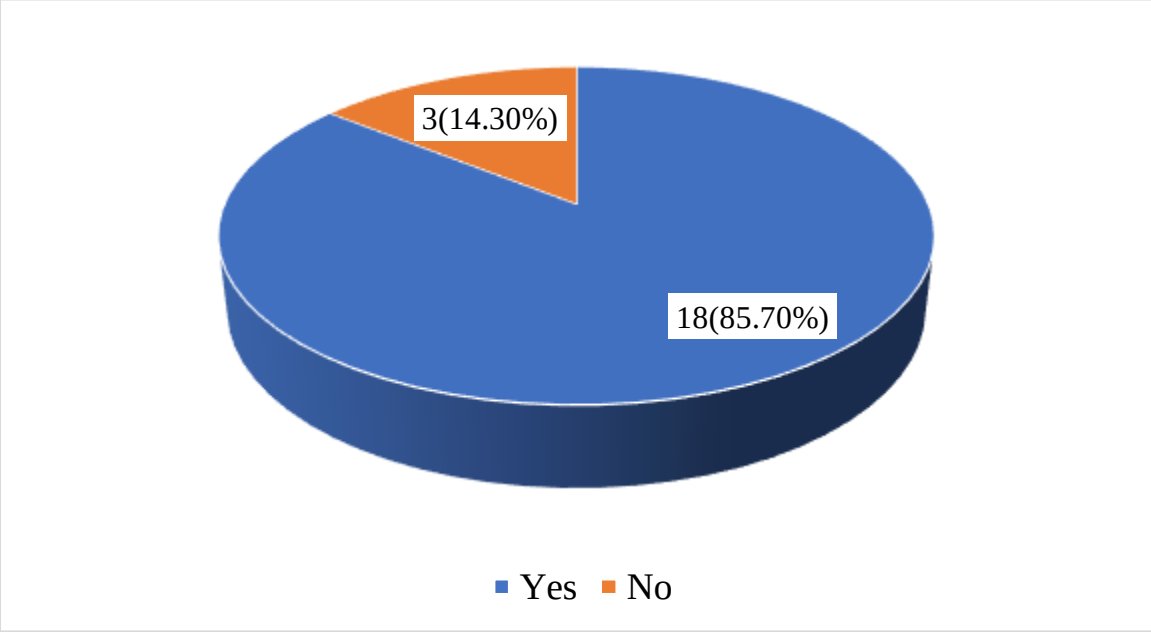

Figure 2: Showing whether participants had ever received any dental treatment pertaining their dental complaints

NB: Only those participants who ever had any dental complaints in the past years.
In the figure 2 above, more than three-quarter 18(85.7%) said they had ever received dental treatment pertaining their dental complaints whereas only 3(14.3%) said they had never received any dental treatment pertaining their dental complaints.

Difference means of dental treatment received by the participants

n=18

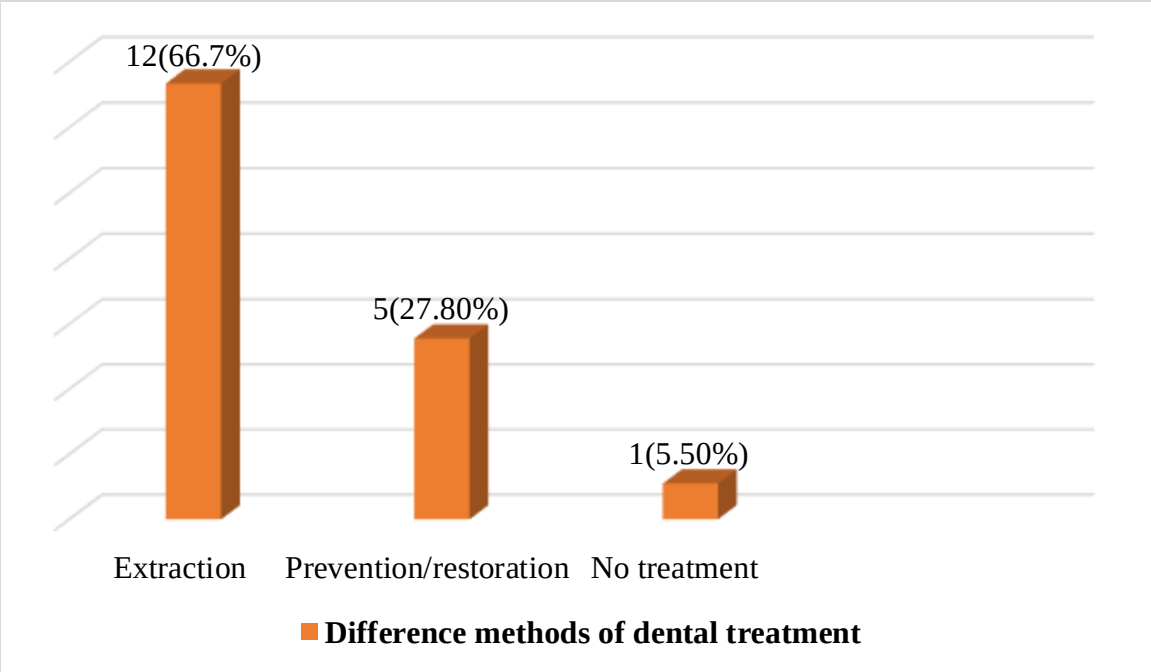

Figure 3: Showing difference means of dental treatment received by the participants
NB: Only participants who had ever received any dental treatment about their dental complaints.

From the figure 3 above, it was found out that most participants 12(66.7%) had dental extraction and the least 1(5.5%) didn't receive any dental treatment.

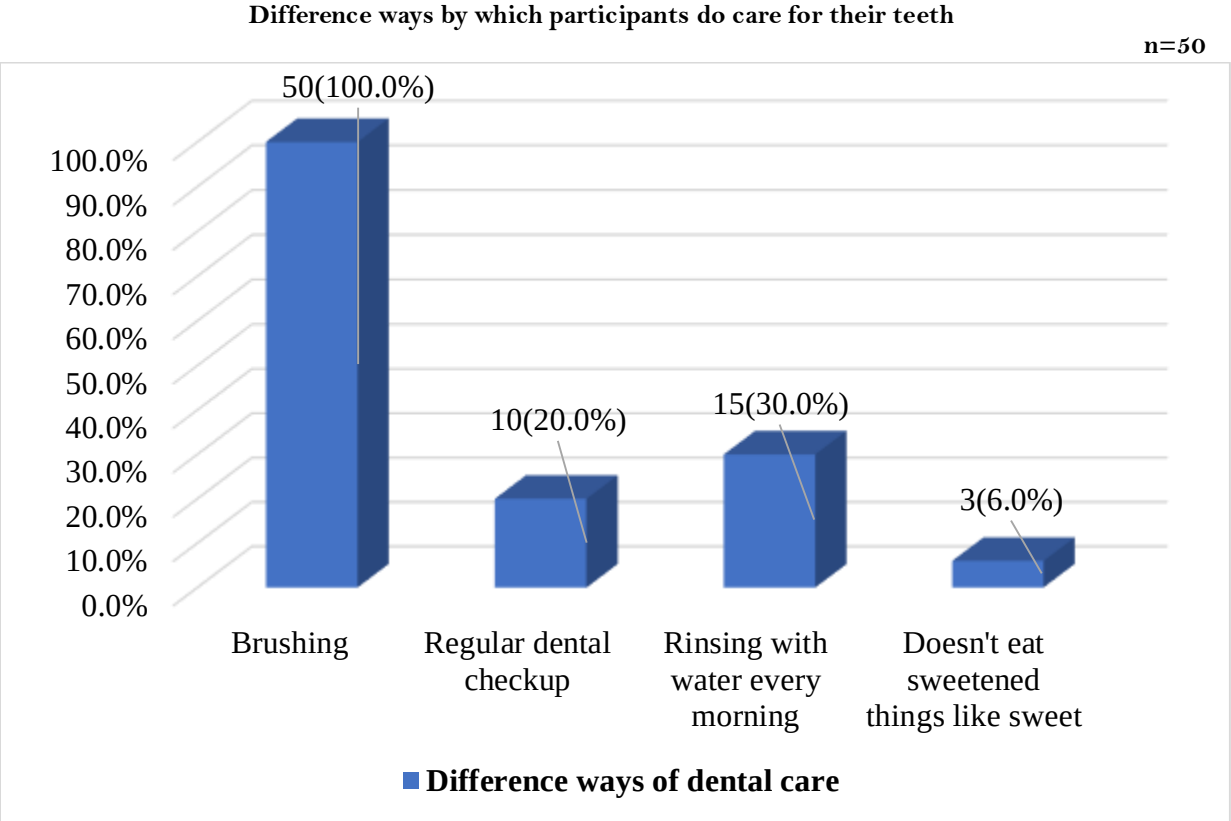

Figure 4: Showing the difference ways by which participants do care for their teeth

From the figure 4 above, the study found out that all the participants 50(100.0%) said they do always brush their teeth, 15(30.0%) said they always rinse their mouth with water in the morning, 10(20.0%) talked about going for regular dental checkup and the least 3(said they don't eat sweetened things like sweet.

DISCUSSION

According to this study, it was found out that most 16(32.2%) of the participants were within the age bracket of 25 to 29 years. This could be due to their risky life styles which prone them vulnerable in seeking health care services. This study doesn't conform to a research study done among a sample of adult Nigerians revealed that 67.7% of the participants who utilized dental checkup were those aged 40 years and above, this was believed to be due to their irregular dental checkup in their early ages and the least utilization was reported among those in early 20s. [16]. It also contradict another studies by Alade and Bamigboye[17] where they found out that age of 43.9 ± 14.6 years highly utilized dental services hence had good dental hygiene practices. But conform a study finding conducted by Griffin [18]on factors influencing the impact of oral health among adults and older adults where they observed that dental decay prevalence among older adults was at 27.9%. This study also found that more than a half 30(60.0%) of the participants were males. This could be due to their nature of work which do predispose them to various ill-health and also due to some activities like smoking and alcohol consumption.. This is in line with a study conducted by Chikte et al., [11] in South Africa which revealed that males had poor dental hygiene and presented worse periodontal conditions than females However, it contradict another studies by Nazir [19] where they found out that majority that is 61% of female were associated with poor dental hygiene and periodontal disorders. This research study also highlighted that a half 25(50.0%) had attained secondary level of education. This could be due to the free secondary education services but they had inadequate training regarding dental hygiene since it's not part of their curriculum. This is not in line with a study carried out by OHAAC, [20] which revealed that more than two thirds 47 (77%) of the total respondents agreed that low levels of education hinder the utilization of oral and dental hygiene and health services. It also contradict another study conducted by Andrade, et al, [21] in Illinois, U.SA where utilization of oral and dental services was low and 12.7% was linked to low educational attainment and it also disagrees another research study by Tefera & Bekele [22] which revealed that low education below secondary school, was significantly associated with poor dental hygiene and it was also not in line with a study carried out by WHO [23]on factors Influence the Oral Hygiene Practices and Oral Health Status of Tea Garden Workers which revealed that most of the workers (62.1%) were illiterate. This study also found out that most participants 46(92.0%) were from rural areas. This could be attributed to their low socioeconomic status which hindered their early access to dental checkup. This correspond to a study conducted by Deolia, et al, [24] on oral health service utilization among rural population of western Rajasthan, India, findings which revealed that 52.1% had no access to the oral care

supplies and more so, Deolia et al conform a research which revealed that rural residency were significantly associated with poor dental hygiene.

This study finding also revealed that more than a half 28(56.0%) of the participants had an average monthly income of less than 50,000=. This could be because majority of them are from rural areas and their main source of income is through farming hence could not afford costs of good dental hygiene. This study finding also highlighted that most participants 31(62.0%) had never gone for dental checkup at any time in point. This could be associated with their low-income level and their unawareness about the importance of dental checkup. Furthermore, reasons for poor dental hygiene included high cost of treatments for dental hygiene (47.5%,) and fear of pain (8.5%) during dental hygiene as well as limited number of dental health care providers. High cost associated with inadequate health insurance coverage also hindered their regular checkup as also mentioned Okoroafor et al., [25], in African countries. This also correspond to a research study done among a sample of adult Nigerians which revealed that 60.8% of the respondents had never utilized dental health services [16]. This study also found out that more than a half 27(54.0%) drink alcohol and 30(60.0%) were known smokers. This was because they believed it could help in relieving stress and other personal problem. This study also found out that, all the participants 50(100.0%) said they do always brush their teeth, 15(30.0%) said they always rinse their mouth with water in the morning, few participants 16(32.0%) who said they had never rinsed their mouth with water after eating. 10(20.0%) talked about going for regular dental checkup and the least 3(said they don't eat sweetened things like sweet. This contradict a research study by Tefera & Bekele [22] which revealed that the majority (72.1%) of the study participants had no regular habit and fixed time of tooth brushing which resulted into poor dental hygiene. This study also found out that majority 46(92.0%) brushed it less than twice daily and only 4(8.0%) said they do brush at least twice daily. This could be attributed to inadequate knowledge regarding the number of times a person should brush each day. This conform to a study by Okoroafor et al.,[25] in Eastern Nigeria which revealed greatest majority believed brushing one's teeth could prevent tooth decay. According to this study, it was found out that most participants 12(66.7%) had dental extraction and the least 1(5.5%) didn't receive any dental treatment. This could be because dental extraction is a simple procedure and it's less costly. This correspond to a research study done among a sample of adult Nigerians revealed that having had an extraction done and having a dental complaint in the previous year were significantly associated with higher odds of non-utilization.[16]. In this study also, it was found out that more than a half 13(68.4%) of the participants had their dentals checkup within 12 months. This could be due to their dental pain and could be those ones who resided near the health facilities. This is not in line with a research study done among a sample of adult Nigerians revealed that 28.5% had their last dental visit >12 months preceding the study, while 10.8% had a last dental visit ≤12 months preceding the study .[16].

CONCLUSION

On conclusion, it was found out that all the participants 50(100.0%) said they brush their teeth but majority 62.0% never went for dental checkup, more than a half 92.0% brushed it less than twice daily, however majority 68.4% had dentals checkup within 12 months with adequate dental treatment which was mainly 66.7% dental extraction. But many factors such as alcohol intake, cigarette smoking and low socio-economic status which hindered their regular dental checkup and other lifestyles behavior like diet still put them at risk.

Recommendation for further study

Based on this study, the followings are some of the recommendations

- The dental department and the hospital administrators should engage in community outreaches to encourage the public to seek early treatment and regular dental checkup at least once a year.
- The participants especially young adults and youth should be educated about their diet especially sugary diet and to limit the alcohol and smoking intake.
- Dental treatment if possible should be a free services and it should be covered by the government of the republic of Uganda.

Study limitations and delimitations

Financial constraint such as high-cost stationery and other related costs like time. This was solved by the researcher by doing all the work like typing, questionnaire distribution and collection and shortening the data collection periods. The researcher also faced a challenge of poor cooperation from some respondents and biasness since the nature of the questions were targeting the participants hence this was overcome by re-assuring the respondents that the study were for academic purpose only and it would be kept confidential. The study population turn up at the area of study was at times lower than the required sample size; however, the researcher took an extra day(s) until the study sample were fully realized

REFERENCES

1. Okello, H., Kalungi, V.C.: Knowledge, Attitude and Practices towards Oral Hygiene among Adults (18-45yrs) in Lira Regional Referral Hospital, Lira City. A Cross-sectional Study. Stud. J. Health Res. Afr. 3, 15–15 (2022). https://doi.org/10.51168/sjhrafrica.v3i6.160
2. Almutlaqah, M.A., Baseer, M.A., Ingle, N.A., Assery, M.K., Al Khadhari, M.A.: Factors Affecting Access to Oral Health Care among Adults in Abha City, Saudi Arabia. J. Int. Soc. Prev. Community Dent. 8, 431 (2018). https://doi.org/10.4103/jispcd.JISPCD_205_18

3. An, R., Li, S., Li, Q., Luo, Y., Wu, Z., Liu, M., Chen, W.: Oral Health Behaviors and Oral Health-Related Quality of Life Among Dental Patients in China: A Cross-Sectional Study. Patient Prefer. Adherence. 16, 3045–3058 (2022). https://doi.org/10.2147/PPA.S385386
4. McClure, J.B., Anderson, M.L., Krakauer, C., Blasi, P., Bush, T., Nelson, J., Catz, S.L.: Impact of a novel oral health promotion program on routine oral hygiene among socioeconomically disadvantaged smokers: results from a randomized semi-pragmatic trial. Transl. Behav. Med. 10, 469 (2019). https://doi.org/10.1093/tbm/ibz009
5. Improving Access to Oral Healthcare: Adopted by the FDI General Assembly: 27–29 September 2021, Sydney, Australia. Int. Dent. J. 72, 2 (2022). https://doi.org/10.1016/j.identj.2021.11.003
6. Jain, N., Dutt, U., Radenkov, I., Jain, S.: WHO's global oral health status report 2022: Actions, discussion and implementation. Oral Dis. 30, 73–79 (2024). https://doi.org/10.1111/odi.14516
7. Madi, M., Abuohashish, H.M., Attia, D., AlQahtani, N., Alrayes, N., Pavlic, V., Bhat, S.G.: Association between Periodontal Disease and Comorbidities in Saudi's Eastern Province. BioMed Res. Int. 2021, 5518195 (2021). https://doi.org/10.1155/2021/5518195
8. Tanguay, A., LeMay, S., Reeves, I., Gosselin, É., St-Cyr-Tribble, D.: Factors influencing oral care in intubated intensive care patients. Nurs. Crit. Care. 25, 53–60 (2020). https://doi.org/10.1111/nicc.12456
9. Teshome, A., Muche, A., Girma, B.: Prevalence of Dental Caries and Associated Factors in East Africa, 2000–2020: Systematic Review and Meta-Analysis. Front. Public Health. 9, 645091 (2021). https://doi.org/10.3389/fpubh.2021.645091
10. Mbawalla, H.S., Nyamuryekung'e, K.K., Mtaya-Mlangwa, M., Masalu, J.-R.: Dental Caries Pattern Amongst Tanzanian Children: National Oral Health Survey. Int. Dent. J. 73, 731 (2023). https://doi.org/10.1016/j.identj.2023.03.008
11. Chikte, U., Pontes, C.C., Karangwa, I., Kimmie-Dhansay, F., Erasmus, R.T., Kengne, A.P., Matsha, T.E.: Periodontal Disease Status among Adults from South Africa-Prevalence and Effect of Smoking. Int. J. Environ. Res. Public. Health. 16, 3662 (2019). https://doi.org/10.3390/ijerph16193662
12. Batwala, V., Mulogo, E.M., Arubaku, W.: Oral health status of school children in Mbarara, Uganda. Afr. Health Sci. 7, 233 (2007)
13. Lertpimonchai, A., Rattanasiri, S., Vallibhakara, S.A.-O., Attia, J., Thakkinstian, A.: The association between oral hygiene and periodontitis: a systematic review and meta-analysis. Int. Dent. J. 67, 332 (2020). https://doi.org/10.1111/idj.12317
14. Wu, C., Huang, H., Xu, W., Li, J., Chen, M., Zhao, Q.: Influencing factors associated with oral health among older hospitalized patients with ischemic stroke: A cross-sectional survey. Int. J. Nurs. Sci. 10, 302–308 (2023). https://doi.org/10.1016/j.ijnss.2023.06.011
15. Ryan, T.: Sample Size Determination and Power. Sample Size Determ. Power. (2013). https://doi.org/10.1002/9781118439241
16. Adeniyi, A.A., Oyapero, A.: Predisposing, enabling and need factors influencing dental service utilization among a sample of adult Nigerians. Popul. Med. 2, 1–9 (2020). https://doi.org/10.18332/popmed/128504
17. Alade, G., Bamigboye, S.: Self-reported oral hygiene practice and utilization of dental services by dental technology students in Port Harcourt, Rivers State, Nigeria. Afr. Health Sci. 22, 284–290 (2022). https://doi.org/10.4314/ahs.v22i4.33
18. Griffin, S.O., Jones, J.A., Brunson, D., Griffin, P.M., Bailey, W.D.: Burden of Oral Disease Among Older Adults and Implications for Public Health Priorities. Am. J. Public Health. 102, 411 (2012). https://doi.org/10.2105/AJPH.2011.300362
19. Nazir, M.A.: Prevalence of periodontal disease, its association with systemic diseases and prevention. Int. J. Health Sci. 11, 72 (2017)
20. Effect of Oral Health on the Community, Overall Well-Being, and the Economy. In: Oral Health in America: Advances and Challenges [Internet]. National Institute of Dental and Craniofacial Research(US) (2021)
21. Andrade, F.B. de, Antunes, J.L.F., Andrade, F.C.D., Lima-Costa, M.F.F., Macinko, J.: Education-Related Inequalities in Dental Services Use among Older Adults in 23 Countries. J. Dent. Res. 99, 1341 (2020). https://doi.org/10.1177/0022034520935854
22. Tefera, A., Bekele, B.: Periodontal Disease Status and Associated Risk Factors in Patients Attending a Tertiary Hospital in Northwest Ethiopia. Clin. Cosmet. Investig. Dent. 12, 485 (2020). https://doi.org/10.2147/CCIDE.S282727
23. emhj: Oral health status, knowledge and practice among pregnant women attending Omdurman maternity hospital, Sudan, http://www.emro.who.int/emhj-volume-22-2016/volume-22-issue-11/oral-health-status-knowledge-and-practice-among-pregnant-women-attending-omdurman-maternity-hospital-sudan.html
24. Deolia, S.G., Kela, K.S., Sawhney, I.M., Sonavane, P.A., Nimbulkar, G., Reche, A.: Evaluation of oral health care seeking behavior in rural population of central India. J. Fam. Med. Prim. Care. 9, 886 (2020). https://doi.org/10.4103/jfmpc.jfmpc_990_19
25. Okoroafor, C.C., Okobi, O.E., Owodeha-ashaka, M., Okobi, E., Oluseye, B., Ekpang, O.B., Aya, L.E., Owolabi, O.J., Oru-betem, T., Nwafor, J.N.: Dental Health Knowledge Attitude and Practice Among University of Calabar Students. Cureus. 15, e40055 (2023). https://doi.org/10.7759/cureus.40055

CITE AS: Abura Geoffrey, Musimenta Allen and Rukundo Annitar (2025). Factors Influencing Dental Hygiene Practices among Patients Aged 18 Years and Above Attending Out-Patient Department at Mitooma Health Center IV. INOSR Experimental Sciences 15(3):105-114.
https://doi.org/10.59298/INOSRES/2025/153105114