

Oral Health Status of Older Patients on Admission to the Hospital

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ABSTRACT

Oral health is important for overall health, especially among older patients. Their frailty, nutritional status and dependency may affect their oral health. Screening can identify poor oral health early and prompt intervention can be made. This study aimed to identify the oral health status of older patients admitted to hospital. A cross-sectional study was conducted involving older patients admitted to the geriatrics ward at a teaching hospital in Kuala Lumpur. Data was obtained from patients and their electronic medical records (EMR). Their oral health was assessed using the Oral Health Assessment Tool (OHAT), with a cut-off score of ≥ 4 indicating unsatisfactory oral health. Of the 46 patients approached, 39 had OHAT conducted. Patients bed or wheelchair bound (OHAT done, 12 (30.8%) vs OHAT not done, 6 (85.7%), $p = 0.01$), and delirium (OHAT done, 18 (46.2%) vs OHAT not done, 7 (100%), $p = 0.01$) were less likely to have OHAT conducted. Among those who had their OHAT done, 28/39 (70%) had unsatisfactory oral health. Only 1/20 (5%) were referred to dental services. Most older patients in the hospital have poor oral health but only 1/14 are referred to inpatient dental services. Oral health assessments should be a part of routine assessments.

Keywords: Dental, hospital, geriatric, oral health

INTRODUCTION

Oral health is crucial for overall health, especially in older adults with risk factors such as multiple comorbidities and polypharmacy, which can lead to further complications. Tinker et al. (2018) demonstrated that some of them are worried that their general health affects their oral health such as medical conditions and disabilities, yet some also view the two as being separate. Those frailer are also more

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dependent. Hence their oral health may be neglected as they require assistance in their basic activities of daily living (bADL). Despite its importance, routine screening of oral health among hospitalised patients is uncommon due to lack of awareness, time constraints and presumed low priority. Screening is essential to identify and address oral health issues to prevent further complications and improve overall health outcomes. Our study aims to observe how are the oral health status of older patients upon admission to the hospital and identify whether oral health affects their overall health upon discharge from the hospital.

METHODS

A cross-sectional study was conducted involving patients who were admitted to the Geriatric Medicine ward of Universiti Malaya Medical Centre (UMMC) in 2024. It included all patients who were admitted throughout the study duration (6 weeks). There were several exclusion criteria such as patients who refused to have their oral health assessed, critical ill, terminally unwell patients, and patients who were isolated for clinical precautions. 46 patients were recruited. Necessary data such as demographics and clinical status were collected such as their clinical frailty score (CFS), basic activities of daily living (bADL) and instrumental activities of daily living (iADL). Electronic medical records (EMR) were also utilized to supplement required data and monitor patient’s health status. Patients’ oral health was assessed using the Oral Health Assessment Tool (OHAT) which allowed us to assess the lips, tongue, gums and tissue, saliva, natural teeth, dentures, oral cleanliness and dental pain at the bedside. A cut-off score of 4 was used to indicate unsatisfactory oral health. Higher score indicated poorer oral health. After collecting the required data, analysis was conducted using descriptive statistics and the appropriate statistical tests. With this, we identified any correlations between the patients’ oral health and their overall health status at the end of the study. Ethical approval was provided by local ethics committee (UMMC MREC number 2024227-13468)

RESULTS

Table 1 compares those who had their OHAT done and those who did not had their OHAT done. A total of 46 patients were recruited. Those ambulating independently or with aids were more likely to have OHAT conducted (OHAT done, 27 (67.92%) vs OHAT not done, 1 [(14.3%), $p = 0.01$]; and those who were confused were less likely to have their OHAT conducted (OHAT done, 18 (46.2%) vs OHAT not done, 7 [(100%), $p = 0.01$].

OHAT was initially conducted upon patient’s admission to the hospital (OHAT 1). After 7 days after the first OHAT was conducted, OHAT was conducted again to observe changes (OHAT 2). For OHAT 1, 16 (41%) scored 0 for lips; 4 (10.3%) for tongue; 34 (87.2%) scored 0 for gums & tissues, 27 (69.2%) scored 0 for saliva, 0 for natural teeth, 5 (12.8%) for dentures, 12 (30.8%) for oral cleanliness and 37 (94.9%) for dental pain. Among those that had OHAT done, 20/29 (70%) had unsatisfactory oral health.

Table 1
Comparison between YES and NO groups

Total patients (n = 46)	OHAT Yes Group (n = 39)	OHAT No Group (n = 7)	p-value
Age	80.3 (6.29)	85.4 (10.63)	1.76
Clinical frailty score (CFS)			0.61
1-4	7 (17.9)	2 (28.6)	
5-8	32 (82.1)	5 (71.4)	
Mobility pre-admission			0.01
With or without aids	27 (69.2)	1 (14.3)	
Wheelchair or bed bound	12 (30.8)	6 (85.7)	
4AT score			0.471
0-3	8 (72.7)	15 (53.6)	
≥4	3 (27.3)	13 (46.4)	

There were no differences in outcomes between patients with lower and higher OHAT scores except biochemical abnormalities (such as hypokalemia or hyponatremia) and ONS (oral nutrition supplement) prescription. Patients with higher OHAT scores were more likely prescribed with ONS (Unsatisfactory OHAT, 21 (71%) vs Satisfactory OHAT, 4 [(36.4%), $p = 0.03$]; while patents with lower OHAT scores were less likely diagnosed with biochemical abnormalities throughout their hospital stay (Satisfactory OHAT 0 vs Unsatisfactory OHAT 10 [(35.7%), $p = 0.04$]. A second OHAT was conducted on average 7 days after the first OHAT was conducted. A total of 18/39 (46%) patients had their OHAT 2 conducted. There was no difference between the scores for both OHAT 1 and OHAT 2, Among those with unsatisfactory oral health, only 2/28 (7%) were referred to dental services.

DISCUSSION

Based on our findings, most older patients in hospital have poor oral health. This result is also seen in a study where 71% of older patients have poor oral health upon admission (Andersson et al., 2004). Gender is not a significant factor towards oral health status upon admission to the hospital. This is unlike the findings at hospitals in Australia (Gibney et al., 2017) where men are observed to have unsatisfactory oral health upon admission. Only one-in-five were formally referred to dental services. Hence, oral health should be routinely assessed in clinics, nursing homes or prior to admission at the hospitals. More research should be conducted to show any correlations between oral health and factors, including whether admission causes changes in oral health. Study limitations include small sample size which could be due the lack of manpower during the conduction of the study and presence of human error during the OHAT assessment. More research should be conducted to show correlations between oral health and other factors in larger sample size. Hence, oral health should be implemented in routine assessments of patients.

CONCLUSION

In conclusion, our study shows that most older patients have poor oral health upon admission and oral health should be part of routine assessments.

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