Perceptions of Program Directors and Educators Regarding the Adequacy of Oral Health Education in Nursing Assistant Curricula

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Abstract

Purpose: National data indicate that the oral health status of the aging population in long term care facilities (LTCF) is poor in the majority of cases. Nursing assistants are considered to be the primary caregivers of oral health care to elders residing in LTCF's. The aim of this research was to explore the perspectives among nursing educators and program directors on the adequacy of oral health education in nursing assistant curricula.

Methods: This exploratory, cross-sectional study utilized a web-based questionnaire adapted, with permission, from a prior study conducted in 2009. The 17- question survey regarding the adequacy of oral health education, was e-mailed to 253 nursing educators and program directors in 71 locations in the New England area with an explanation of the study and a link to SurveyMonkey®.

Results: Of the 253 surveys e-mailed, 100 surveys (n=100) were returned giving an overall response rate of 40%. Fourteen respondents (n=14) indicated that their program did not include oral health education in their curriculum and were excluded from the study. The remaining 86 participants (program directors n=26 and educators n=60) indicated that oral health education was included in their nursing assistant curricula. Respondents who reported spending more time on both didactic ($P<0.001$) and clinical instruction in oral health ($P<0.001$) were more likely to agree that the oral health care education provided in their program was adequate ($P<0.001$).

Conclusion: The results indicate that the perception of nursing educators and program directors is that the level of oral health education within the nursing assistant curricula is adequate in preparing students with the skills and knowledge needed to provide oral health care to patients.

Keywords: eldercare, long term care facilities, oral health, nursing education, nursing assistants

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Introduction

In today's society, many people are living longer and retaining more of their natural teeth than previous generations.[1,2] According to the United States Census Bureau, the older adult population will more than double by the year 2050, to 80 million; meaning as many as 1 in 5 Americans would be considered to be elderly.[3] It is expected during the time period between 2030 and 2050; the growth of the elder population will average 2.8 % annually.[3] As people live longer, the prevalence of disease becomes greater; many develop chronic illnesses and conditions including cardiovascular disease, arthritis, diabetes, osteoporosis, dementia, oral disease and associated dental problems.[3,4] They also can become increasingly dependent on others for help in performing tasks and activities required for daily living, resulting in the need for institutionalized housing.[3] As caregivers in these facilities are charged with aiding the residents with their activities of daily living, one area of increasing concern is the oral health of the residents.[4,5]

Literature suggests there is an association between oral health and overall health.[6-11] This association is most significant in the older adult population residing in institutionalized Long-term Care Facilities (LTCF) due to the increased incidence and prevalence of oral disease.[12] Poor oral health affects one's quality of life in areas of speech, digestion, nutrition, social interaction, and overall well-being.[13] Adequate oral hygiene practices play a significant role in the maintenance of good oral health.[11] The preservation of oral health is a vital component in the maintenance of the overall health of the elders in LTCF.

The oral health and oral hygiene practices among the aging population in LTCF has been described as poor and neglected.[6,14,15] In 2009, the Massachusetts Department of Public Health's Office of Oral Health conducted a state wide oral health assessment among high risk elder populations, age 60 and older, in 20 state subsidized meal sites and 21 LTCF.[16] The study participants were assessed in a variety of oral health areas.[16] The two most significant oral disease indicators for participants in LTCF were gingivitis, reported at 75% and untreated decay, reported at 59%. Although the report further stated there have been many advances in oral health for the elder population, it concluded many older adults in Massachusetts experience poor oral health status due to unmet oral health needs.[16]

Licensed nursing assistants (LNA) or certified nursing assistants (CNA) are considered primary caregivers and the providers of oral care in most LTCF. While many tasks can be challenging for the nursing assistants to provide, oral care seems to be the one that is most frequently neglected.[9,17] Health care providers at the LTCF generally do not view oral health as a priority.[10,13] In many instances, even the most basic oral care, tooth brushing, is not provided.[13,18] Several studies examining the inadequacy of oral care provided to elders in LTCF's identified a number of barriers including workload, inadequate time to perform tasks, unpleasant activity, uncooperative residents, and lack of knowledge and education as reasons for nursing assistants poor performance.[7,9,17] Knowledge and education regarding oral health are crucial factors in establishing a nursing staff that is confident and comfortable with their responsibilities.[19] The influence of on-site, oral health training sessions in the LTCF has been studied; however, the impact of such training programs has been shown to be short lived in duration and not sustainable for the long term.[11,17,19]

Two studies identified that education in oral disease, oral health, and dental hygiene as major barriers in providing adequate oral care to residents in institutionalized settings, such as LTCF.[8,19] In the United States, nursing assistant curriculum is regulated by the Code of Federal Regulations (CFR) 42, Part 483.[20] This regulation specifies that nursing assistants must be trained in "grooming- including mouth care" but is not detailed as to exactly what training must be included for mouth care.[20] While nursing assisting curricula must adhere to the federal regulations, each state's Board of Nursing (BON) ultimately approves the individual nursing assistant program curriculum using the standards for nursing skills approved by the Accreditation Commission of Education in Nursing (ACEN) and the Commission on Collegiate Nursing Education (CCNE) as a guide.[21,22] Accreditation standards for nursing curricula require the inclusion of integration of preventive health promotion strategies, including oral health screenings; however, nursing assistant curricula includes very little in oral health education.[12,21] With increasing evidenced- based research identifying the link between oral health and overall health, nursing assistant program curricula should be modified to include a more comprehensive oral health education component.[19,23,24] Incorporating evidenced-based oral health education and best practices within nursing assistant curricula will further the understanding of the importance of oral health care for the older adult population and extend beyond the actual process of how it should be performed.[7,8,12,19] Closing the gap regarding the adequacy of oral health education among nursing assistants is an area that requires further attention and has the potential of eliminating lack of education as a barrier to providing adequate oral health care.[5,8,19,25] The aim of this study was to explore the perception among the nursing educators and nursing assistant programs directors on the adequacy of oral health education in the nursing assistant curricula.

Methods and Materials

A convenience sample of 253 program directors and nursing educators of nursing assistant programs located in the New England geographical region of the northeastern United States (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont) was solicited for study participation between February 1, 2015 and February 28, 2015. Inclusion criteria were being a program director or educator of a nursing assistant program in New England. Exclusion criteria were participants representing nursing assistant programs lacking an oral health component in their curriculum. Potential participants were contacted from email addresses obtained on websites of educational institutions and facilities with nursing assistant programs located in New England. The email invitation provided information about the study and included an electronic link to the survey instrument using SurveyMonkey®. Follow-up emails were sent detailing the same information during the second, third and final week of the survey. This study received approval from the Massachusetts College of Pharmacy and Health Sciences (MCPHS) University Institutional Review Board.

Survey Instrument

The survey instrument was modified, with permission, from a 2009 study by Samson, et al.[26] Content validity was established by a panel of five experts.[27] The 17-item questionnaire was subsequently piloted with one program director and three nursing assistant program educators from New England for clarity and comprehension.

The questionnaire included demographic questions about the role and professional background of the participant; characteristics of the oral health education program including the inclusion of oral health in the curriculum, number of didactic and clinical hours spent on oral health education, types of clinical

experiences, evaluation of students' knowledge and type of educational institution. Three open-ended questions regarding educational materials used, instructor/student ratio during clinical instruction and recommendations for improvement of the oral health component of the nursing assistant curricula were added to the end of the survey.

Survey responses to categorical questions were enumerated using frequency percentiles and summary statistics. Differences in select categorical question responses across position type (program director; nursing educator) were assessed via ANOVA and Fisher's Exact Test.[28,29] Associations between select categorical questions and Likert scale questions were assessed using Fisher's Exact Test and Nonparametric Spearman Rank Correlation Tests.[29,30] All statistical tests were performed at an alpha threshold of 0.05. All statistical analyses were performed in STATA® statistics/data analysis software version 11.2.

Results

Of the 100 participants who completed the online questionnaire, 40% response rate; 14 (n=14) indicated their nursing assistant program did not include an oral health care component as part of the curriculum and were therefore excluded from the analysis. The remaining 86 participants, included educators (n=60) and program directors (n=26). The most common academic/professional designation was a Registered Nurse (RN) for program directors (61%) and a Bachelor of Science in Nursing (BSN) for educators (45%). (Figure 1)

Overall, the characteristics of the oral health education programs were comparable between program directors and educators without any statistically significant differences. (Table I) Sixty percent of participants indicated that oral health objectives were outlined in their program, with 81% reporting that oral health education was provided in both didactic and clinical settings. The greatest number of respondents (38%) reported spending 1 to 2 hours for the didactic portion and clinical portion of their oral health program. Ten percent reported spending more than three hours on the didactic portion and while 14% reported spending more than three hours on the clinical portion. Eighty-six percent of the respondents reported that their students received feedback during clinical instruction. With regards to student evaluations of oral health knowledge, 77% utilize both written and clinical evaluations in their program, 1% reported written only and 9% reported clinical only. Regarding the educational materials utilized, 92% use a nursing assistant textbook, 8% utilize videos/DVD's, 6.7% incorporate online resources and 6.7% use no specific materials.

Clinical instructional methods varied among the participants, but the most common method between program directors and educators was brushing on patients, (educators 75%; program directors 92%), second was the use of foam swabs on patients, (educators 73%; program directors 84%), and lastly was denture cleaning (educators 73%; program directors 80%). (Figure 2) Approximately 10% of both program directors and educators reported

Figure 1. Professional Background of Participants

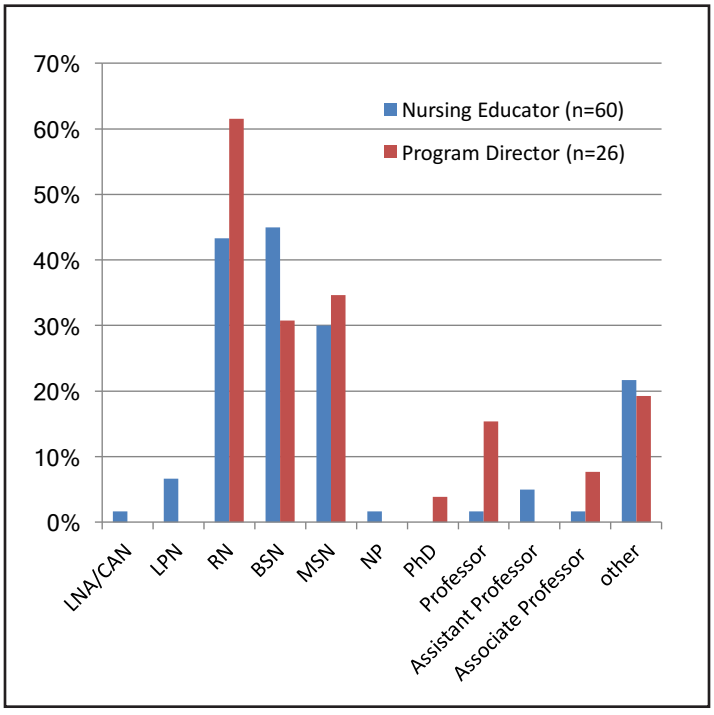


Figure 2. Oral Hygiene Clinical Practice Experiences

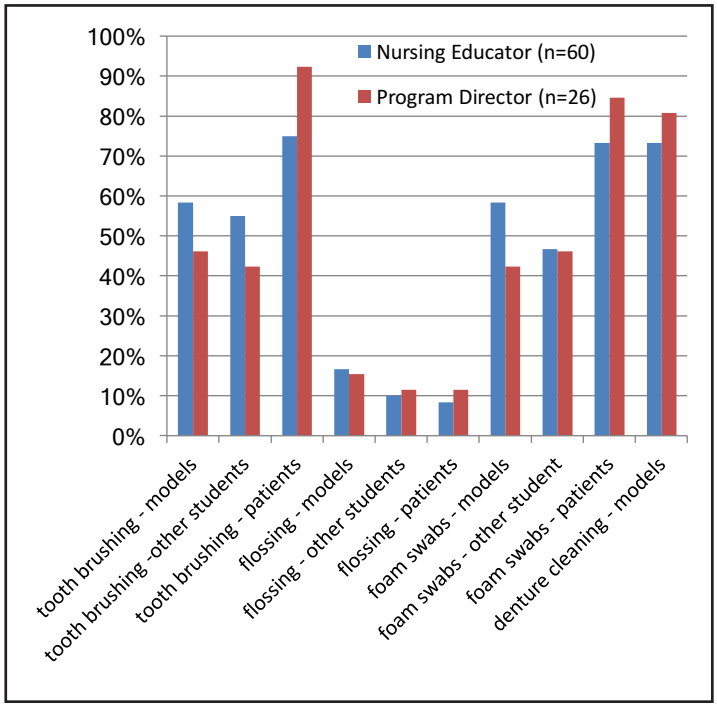


Table I. Characteristics of Oral Health Education Programs

	Total Survey Population (n = 86)	Program Directors (n = 26)	Nursing Educators (n = 60)	*p-value*
Oral Health (OH) education given during:				0.47
didactic only	1 (1%)	0 (0%)	1 (0%)	
clinical only	4 (5%)	0 (0%)	4 (7%)	
both didactic & clinical	70 (81%)	24 (92%)	46 (77%)	
missing	11 (13%)	2 (8%)	9 (15%)	
Hours of classroom instruction on OH education offered during program				0.98
less than 1 hour	22 (26%)	8 (31%)	14 (23%)	
1-2 hours	29 (34%)	10 (38%)	19 (32%)	
2-3 hours	12 (14%)	3 (12%)	9 (15%)	
3 hours or more	9 (10%)	2 (8%)	7 (12%)	
not sure)	3 (3%)	1 (4%)	2 (3%)	
missing	11 (13%)	2 (8%)	9 (15%)	
Hours of clinical instruction on OH education offered during program				0.92
less than 1 hour	15 (17%)	5 (19%)	10 (17%)	
1-2 hours	33 (38%)	11 (42%)	22 (37%)	
2-3 hours	10 (12%)	4 (15%)	6 (10%)	
3 hours or more	12 (14%)	3 (12%)	9 (15%)	
not sure	5 (6%)	1 (4%)	4 (7%)	
missing	11 (13%)	2 (8%)	9 (15%)	
OH care goals and objectives outlined in program/syllabus	52 (60%)	17 (35%)	35 (58%)	0.74
missing	11 (13%)	2 (8%)	9 (15%)	
Student/Instructor ratio, mean	8.9 (2.2)	8.5 (1.8)	9.1 (2.4)	0.26
Students receive feedback during clinical practice	74 (86%)	24 (92%)	50 (83%)	0.64
Student's OH knowledge evaluated by:				0.41
written evaulation	1 (1%)	1 (4%)	0 (0%)	
clinical evaluation	8 (9%)	2 (8%)	6 (10%)	
written and clinical evaluation	66 (77%)	21 (81%)	45 (75%)	
missing	11 (13%)	2 (8%)	9 (15%)	
Education Institution type				0.39
Community College	19 (22%)	9 (35%)	10 (17%)	
Technical College	2 (2%)	0 (0%)	2 (3%)	
Nursing Home	1 (1%)	0 (0%)	1 (2%)	
Private Facility	8 (9%)	1 (4%)	7 (12%)	
Other	45 (52%)	14 (54%)	31 (52%)	
Missing	11 (13%)	2 (8%)	9 (15%)	

*p-values for continuous variables via ANOVA; p-values for categorical variables via Fisher's Exact Test

providing students instruction on flossing, either on models, patients, or other students. In general, the didactic focus was on the oral health of the geriatric population at large, (educators 71%; program directors 77%). Specific emphasis on the oral health of the institutionalized elder population was less frequent with 48% of educators and 65% of program directors reporting providing specific instruction focused on elders living in LTCF. (Figure 3)

Questions regarding the adequacy and importance of oral health education in the nursing assistant program had some differences between the two groups. Participants who reported their programs outlined oral health care goals and objectives in their syllabi were more likely to agree (educators $P<0.0001$; program directors $P<0.001$) with the statements "The oral health education offered is adequate in providing graduating students with sufficient skills in providing oral health care to their patients", and "Oral health care is an important part of the nursing assistant program." Additionally, participants who were more likely to agree their programs were adequate, also reported more hours of classroom instruction ($P<0.001$) and more hours of clinical instruction ($P<0.001$) devoted to oral health education. Overall, both educators (54%) and program directors (57%) strongly agreed that oral health is an important part of their nursing assistant program; however, only 18% of educators and 15% of program directors strongly agreed that the oral health education was adequate. (Table I and Figure 4)

As a follow-up question to the above two statements, participants were asked if they had any recommendations for improvement to the oral health education in their curricula, 66% had recommendations including the following: 32% recommended more time, hours and/or practice; 13% recommended the curricula include education on the oral-systemic health connection; 2.7% recommended instruction with either dentists or dental hygienists, and 4% were unsure.

Discussion

This study explored perceptions among program directors and educators regarding the adequacy of oral health education of nursing assistant programs in New England. Current literature describes the oral health condition of the institutionalized elder population as poor.[6,15] A number of reasons have been identified as contributing factors to poor oral health including the current state of oral health of older adults, barriers to care, and lack of adequate oral health education in nursing assistant curricula.[4,6-8,15,17,19,25] Professional care is most often absent in LTCF.[6,11] While emergency services and annual exams may be performed by a dentist, routine daily care is the responsibility of

Figure 3. Oral Health Populations: Educational Focus

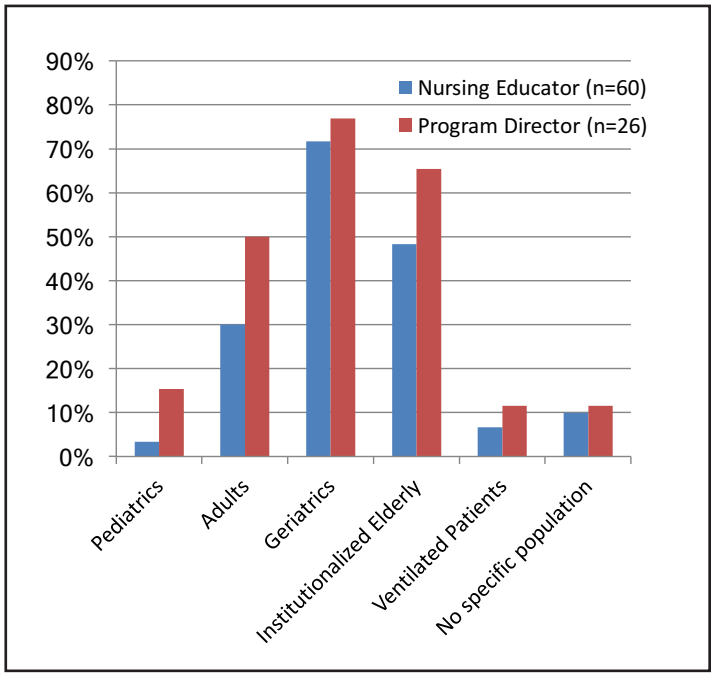
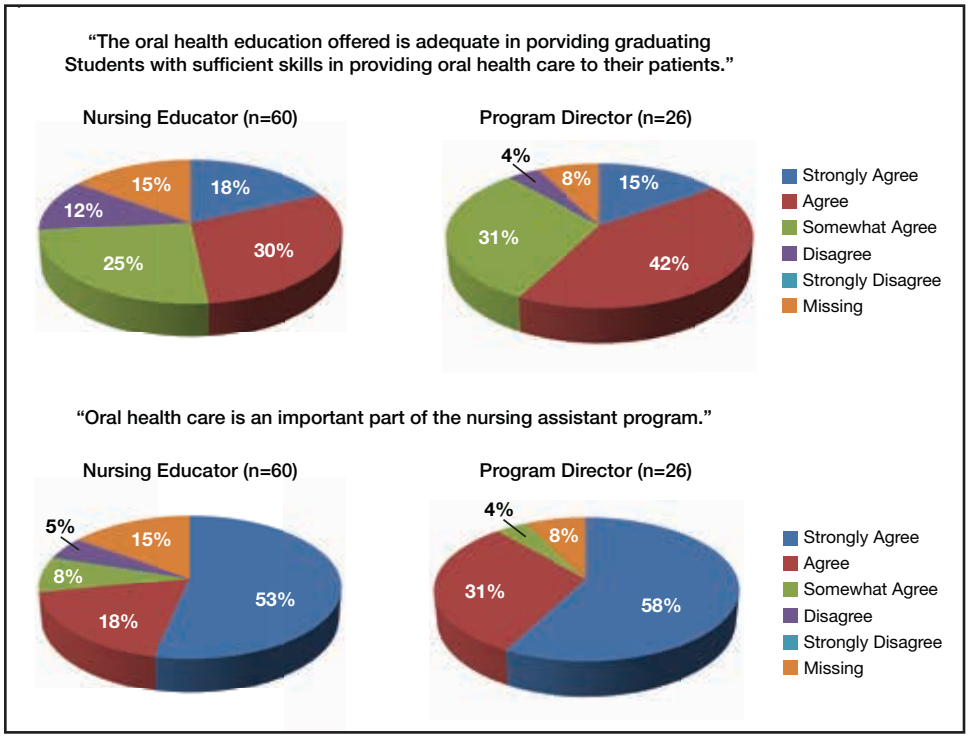


Figure 4. Perceptions of Adequacy and Importance of Oral Health Education



the primary caregivers, nursing assistants, at the institutionalized setting or LTCF.[9,17,20] Oral health care education provided during nursing assistant training is minimal and has been self-identified by the nursing assistant caregivers as a major barrier to providing adequate oral health care.[6,8,11,31] The findings of this study highlight the minimal time spent on oral health education with only 34% of the participants reporting 1-2 hours of didactic instruction and 38% reporting 1-2 hours of clinical instruction. Even more concerning is the data from programs providing minimal oral health education with 26% reporting less than one hour of didactic instruction and 17% less than one hour of clinical instruction. Furthermore, 14% of the participants reported that oral health education is not included in the program at all. Only 10% of the programs provided more than three hours of didactic instruction and 14% had over three hours of clinical instruction. These results appear to differ to the 2009 Norwegian study by Samson, et al., where two-thirds of the participating schools reported providing three or more hours of oral health care training.[26] It is worth noting the professionals providing LTCF oral health care in Norway were registered nurses, social educators, auxiliary nurses or care workers.[26] The minimum, entry-level education requirements for care workers is two years, with registered nurses, social educators and auxiliary nurses completing three years.[26]

In any curriculum, it is important to specify educational objectives for both students and educators to allow for proper instruction and learning.[32] This study demonstrated that only 60% include oral health care education objectives in their syllabi. While most of the participants noted the use of a nursing assistant textbook and some the use of instructional videos, several noted there were no specific educational materials used for oral health education.

Inadequate training and education have previously been identified as barriers to care by the caregivers, however, this study showed that the perception of program directors and educators of nursing assistant programs is in contrast.[9,17] Overall, while 50% of the educators and program directors felt that oral health education is an important part of the nursing assistant curricula, less than 20% strongly agreed that the education received was adequate.

A review of the various types of educational facility/institutions the participants were affiliated with shows that community colleges represented 25.3%, technical colleges 2.7%, private facilities 1.3% and nursing homes 10.7%, while 60% of the remaining participants responded to the "other" category. Of those in the "other" category, 40 of the respondents reported being affiliated with a technical high school. These findings suggest a large majority of the students in those programs are between the age of 16-18. In many instances, this adolescent population may have unmet oral health needs of their own which further supports the importance of an adequate oral health education component in the nursing assistant curriculum.[33,34] Educating this student demographic with an emphasis on the importance of oral health, plays a vital role in teaching the necessary skills for the provision of adequate oral health care to the elder population.

As the dental hygiene profession continues to evolve and progress, the findings of this study further support the need for interprofessional collaboration among healthcare providers for the betterment of oral health. As the integration of Certified Public Health Dental Hygienists (CPHDH) increases, the implications of this study further support the need for LTCF to allow for the CPHDH position on a full-time basis. In addition, dental hygiene educators teaching at institutions offering a CPHDH curricula would benefit from incorporating these statistics to signify what types of oral health education, didactic and clinical, is being taught in nursing assistant programs.

Limitations of this study included the absence of a demographic question regarding the particular state in which the participant's program was located and a question regarding the total number of required hours for the participant's nursing assistant program. Also, results from the New England states may not necessarily reflect areas outside of this region. Furthermore, this study had a relatively low (40%) response rate so these results cannot be generalized to represent the total population of program directors and educators of nursing assistant programs. Lastly, the responses to the questions using the Likert-type scale may have produced vague data due to the interpretation the response may have elicited.

Conclusion

While the data collected regarding the total number of hours spent on didactic and clinical oral health education appears to indicate that there is room for improvement in these areas, the perception of the program directors and educators is that the amount of time currently provided for oral health education is adequate in nursing assistant curricula. Based on the individual recommendations of the study participants, continuing efforts to increase the length of time spent on oral health education and incorporating evidenced-based information for educating students on oral-systemic health connections, will create the foundation for increased knowledge and awareness of the importance of oral health for the institutionalized elder population. Future research should include assessing the nursing assistants' perception on the adequacy of the oral health care education received during their training, as well as their recommendations for improvement. Moreover, in-depth explorations of the perceptions regarding the value of oral health among nursing assistants, program directors and nursing educators would provide unique perspectives in identifying

specific areas of development needed to update the nursing assistant curriculum standards and provide solutions to improve oral health outcomes among the elder population in Long-term Care Facilities.

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