

Care aide abilities in oral care delivery and seniors' oral health outcomes

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ABSTRACT

Background: Residents living in long-term care facilities have an increased risk of developing oral diseases and exacerbating existing systemic conditions. Major factors in oral health outcomes include a lack of access to dental care, varying levels of dependency, and comorbidities. While oral health can be maintained through the delivery of daily oral care, it is often insufficient. **Objective:** This literature review examines the effectiveness of theoretical education versus clinical skills training in improving oral care delivery abilities of care aides and seniors' oral health outcomes. **Results:** Adjunctive strategies to include theoretical education and clinical skill refinement have the highest potential to enhance long-term outcomes. **Discussion:** A major factor in the efficacy of oral care delivery are the attitudes of care aides. With the integration of oral health assessment tools into care practices, care staff may learn to recognize oral diseases and determine the oral health needs of residents. Furthermore, oral health professionals should recognize the responsibility they have in supporting care staff throughout geriatric care.

RÉSUMÉ

Contexte : Les résidents qui habitent en établissement de soins de longue durée ont un risque accru de développer des maladies buccodentaires et d'exacerber les états systémiques existants. Des facteurs majeurs en matière des résultats de santé buccodentaire comprennent un manque d'accès aux soins dentaires, divers niveaux de dépendance et des comorbidités. Bien que la santé buccodentaire puisse être maintenue par la prestation de soins buccodentaires quotidiens, ceux-ci sont souvent insuffisants. **Objectif :** La présente analyse documentaire examine l'efficacité de l'éducation théorique par rapport à la formation des compétences cliniques, à augmenter la capacité des aide-soignants à fournir des soins buccodentaires et à améliorer les résultats buccodentaires des aînés. **Résultats :** Les stratégies complémentaires qui visent à ajouter l'enseignement théorique et le raffinement des compétences cliniques ont le plus grand potentiel d'améliorer les résultats à long terme. **Discussion :** L'attitude à l'égard des soins est un facteur majeur dans l'efficacité de la prestation des soins buccodentaires. Grâce à l'intégration des outils d'évaluation de la santé buccodentaire, le personnel de soins peut être en mesure de reconnaître les maladies buccodentaires et de déterminer les besoins en matière de santé buccodentaire des résidents. En outre, les professionnels de la santé buccodentaire se doivent de reconnaître leur responsabilité à soutenir les aide-soignants tout au long des soins gériatriques.

CJDH STUDENT ESSAY AWARD

The *Canadian Journal of Dental Hygiene's* Student Essay Award competition, proudly sponsored by PHILIPS Sonicare, encourages students in a diploma, baccalaureate or degree-completion program to develop a love for writing and research and to recognize the possibilities that such endeavours offer for personal and professional growth. The editorial board is delighted to publish the winning entry from its 2018–2019 competition, which ably addresses the Canadian Dental Hygienists Association's 2015–2020 dental hygiene research agenda category of "access to care and unmet needs."

INTRODUCTION

The oral health status of seniors living in long-term care (LTC) facilities has become a growing concern and continues to be a primary focus in public health. Geriatric oral health has become particularly troubling as the aging population has increased in size, with the number of seniors living in LTC facilities also increasing.^{1–3} In 2016, it was found that 6.8% of Canadians age 65 years and older, and 30% age 85 years and older, were in LTC.⁴ With the prevalence of oral diseases increasing with age and the retention of natural teeth becoming more common, the complexity of seniors' oral health needs has heightened.²

Seniors living in LTC facilities are at a greater risk of oral health complications due to medication-induced xerostomia, lack of access to dental care, inadequate daily oral hygiene, and cariogenic diets.¹ Poor oral hygiene has

been associated with oral precancer or cancer, aspiration pneumonia, and oral diseases and infections, such as periodontal disease, dental caries, and candidiasis.^{1,2,5,6} In addition, poor oral conditions may result in decreased social interactions, difficulty chewing or swallowing, speaking, nutritional deficiencies, and a lower quality of life.¹ Because many seniors lack dental insurance and visit oral health professionals less frequently, preventive care is imperative to reduce oral diseases and the exacerbation of systemic conditions.

Physical limitations, psychological conditions or other health conditions may result in individuals living in LTC facilities being fully or partially dependent on care aides.² Although care aides receive some training in providing oral care, their delivery methods are often inadequate due

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to a lack of extensive training, insufficient time, lack of oral health knowledge, and lack of resources to perform oral care services.^{2-3,7} With a primary focus on systemic health in LTC facilities, oral health is often overlooked.

Current literature

Various approaches have been undertaken to improve oral care delivery in LTC facilities, including the introduction of guidelines incorporating extensive oral care education, practical training, side-by-side delivery with an oral health professional, provision of resources, and the implementation of oral assessment tools.^{1,3,7,8} Despite identifying inadequate oral care and a higher prevalence of oral diseases in the geriatric population, improvements have been insufficient and unsuccessful. A lack of understanding of the relationship between oral health and systemic health, institutional policy, proper education and skill training, availability of resources, and oral health assessment tools have been identified as barriers to improving the oral health and quality of life of seniors living in LTC facilities, and remain influential factors for oral health outcomes.¹

By focusing on one aspect of the barriers identified, future standardized recommendations for oral care training may be achieved. This literature review aimed to explore the effectiveness of either theoretical education or clinical training of care aides on oral care delivery, and their influences on care aide abilities and oral health outcomes in the geriatric population.

METHODS

The electronic databases of Google Scholar, PubMed, Cochrane Database of Systematic Reviews, and CINAHL were searched to obtain relevant literature. Key terms for the search were geriatric dentistry, senior oral health, nursing aid knowledge, care home, oral hygiene, oral disease, skills, long-term care facility, and residential facility. Inclusion criteria were English full-text, peer-reviewed articles published within the last decade. A total of 8 articles were evaluated, with 4 articles meeting the inclusion criteria. Of these, 1 was a systematic review, and 3 were clinical trials. Additional resources provided supplemental information.

RESULTS

Exploring current strategies to educate nursing aides is necessary to bridge the gap between seniors living in LTC and oral health outcomes. From the assessment of studies, it was observed that neither theoretical education nor clinical skills training exclusively may result in improved delivery of oral care. Rather, adjunctive strategies incorporating both methods are better suited to enhancing care aide abilities and seniors' oral health outcomes. Theoretical education provides the framework for developing oral health knowledge, whereas clinical skills training helps develop the abilities of care aides. Integration of both

approaches should be considered, along with involving dental health professionals in directing oral health education and supporting care staff in LTC facilities.

While there is a need for more research in this area, results from this literature review offer many recommendations to improve care staff education in oral health. Research involving a higher frequency of intervention exposure and a combined longer study period is needed, as well as studies exploring long-term outcomes of interventions conducted by oral health professionals. With the revision of study designs, outcomes may be better accomplished, and standardized oral health education programs may be supported.

DISCUSSION

Care aide attitudes

Modern day nursing care is often complex, given the variety of comorbidities common among seniors. Oftentimes, care aides have high workloads, creating a situation where prioritization of tasks is necessary. This complicates oral care, as oral diseases are prioritized less often when compared to systemic health concerns.⁹ The attitudes of care aides influence oral care delivery and their commitment to long-term implementation. However, a lack of support and educational training often correlates with their attitudes. Care aides often exhibit low confidence in delivering oral care and meeting seniors' oral health needs, and express being unsupported by LTC administrators.⁹⁻¹² Interestingly, care aides generally over-report the ability to perform adequate oral care delivery such as when brushing the teeth and tongue of residents or when cleaning dentures. Observations of oral care delivery revealed that plaque removal from the dentition and/or dentures was often insufficient.¹¹ Additionally, with an increased prevalence of dementia or other cognitive impairments, residents may exhibit combative or resistant behaviours. Care aides are generally less persistent in providing oral care to these individuals, and report having deficient skills to help support oral care delivery.^{9,11,12}

Theoretical education

From the evaluation of peer-reviewed studies, it was observed that routes of intervention most commonly involve theoretical education in the form of presentations. Presentation formats often focus on daily hygiene care such as brushing the dentition, tongue, and dentures. Additionally, presentations are often singular and offered in a short time frame, limiting the amount and depth of information that can be shared and understood by care staff. Several clinical trials that studied this approach report a lack of statistically significant difference in oral health outcomes between the intervention and control groups.¹²⁻¹³ Despite theory-driven approaches being available to many care aides, the assessment of care aide potential and confidence is absent, and long-term success is limited. Moreover, with the lack of behavioural theory

applications, care aides' behaviours and attitudes are minimally changed. It is acknowledged that theoretical education provides the framework for development of oral health knowledge but may be insufficient to support oral care delivery.

Clinical skills training

In several studies evaluated, clinical skills training as an adjunct to theory education had the greatest potential to enhance care aide attitudes and seniors' oral health outcomes. It was found that there was a lack of research exploring the outcomes of clinical skills training exclusively. This may suggest that care staff must be competent in and understand oral health theory to apply concepts in oral care delivery.

Following clinical skills training, care aides expressed feeling more equipped to deliver oral care independently and sufficiently, and this was evident in the measurements across several oral health components such as denture plaque, dental plaque, and gingival bleeding.^{9,13} Through the refinement of skills, care aides expressed being able to provide sufficient care to individuals who displayed resistant or combative behaviours previously, and even saw a reduction in these behaviours.⁹ The application of skills training may be most beneficial in preparing care aides to handle situations more confidently, and may enhance their approach to oral care delivery.

One limitation of this approach is the lack of available dental professionals to educate and support care aides. Both studies that evaluated a hands-on approach involved continuous or intermittent clinical guidance from either a dentist or dental hygienist in oral hygiene tasks.^{9,13}

Interdisciplinary collaboration

By incorporating dental professionals in LTC facilities, care staff and other health professionals may be better supported in enhancing their oral health knowledge and skills. There is limited research on the long-term effects of previous intervention strategies on prevention of oral disease in seniors living in LTC, or on the changing perceptions of the importance of oral health.¹³ However, the inclusion of dental professionals on the interdisciplinary health care team offers an insightful approach to improving the oral health-related quality of life of seniors living in LTC facilities. The involvement of dental professionals in care conferences allows for reciprocal learning among health care providers and helps in the development of personalized care plans encompassing various health concerns.¹³ Despite this, most LTC facilities do not have dental health professionals on their team of care providers. Although future research is needed to explore the impact of interdisciplinary practice in LTC, dental professionals should recognize their role in geriatric dentistry to help reduce oral health disparities.

Oral health assessment tools

Oral health assessment tools are supportive elements

in oral care delivery and have the potential to improve seniors' oral health outcomes. Plaque levels associated with the dentition and/or dentures are often used in measuring the effectiveness of oral health care delivery. However, studies most often fail to report the efficacy on oral health outcomes and improved quality of life.¹³ By recognizing other visual characteristics of oral health and disease, care staff may be better able to determine the health needs of a resident. Furthermore, recognition of oral health and diseases may broaden the dental competency of care staff.

An example of a promising oral health assessment tool is the Revised Oral Assessment Guideline (ROAG), which is a high sensitivity and specificity tool used to assess oral components in the elderly.¹⁴ This tool helps monitor the voice, lips, saliva, swallowing ability, mucous membrane, tongue, gums, and teeth or denture(s) of seniors living in LTC facilities. Similarly, the Oral Health Assessment Tool (OHAT) assesses oral components including lips, tongue, gums and tissues, saliva, natural teeth, dentures, oral cleanliness, and dental pain.¹⁵ Both tools are suitable for use in residential care facilities due to their simple formats and straightforward interpretations of results for non-dental care staff.

Strengths and limitations

Further research is needed to make necessary recommendations to care staff for improving the oral health-related outcomes of LTC residents. Many trials to date have involved short-term or single intervention strategies. Thus, the long-term effects of these strategies remain unknown. Research involving a higher frequency of intervention exposure and a combined longer study period is also needed.

CONCLUSION

This literature review acknowledges the strengths of theoretical education and clinical skills training individually but indicates that adjunctive strategies would be most beneficial for improving care staff abilities and seniors' oral health outcomes. As care aides are often the main providers for seniors living in LTC facilities, it is essential that their perceptions of oral health align with those concerning systemic health. While efforts are being made to improve the oral health outcomes of seniors living in LTC facilities, oral health professionals need to consider their role and responsibility in geriatric dentistry. Although there is inconclusive evidence in supporting care aides through oral health education, current research provides strong recommendations in guiding future practices.

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