Professional Caregivers' Oral Care Practices and Beliefs for Elderly Clients Aging In Place

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Abstract

Purpose: As recently as the 1990s long-term care facilities (LTCFs) were the main housing option for semi- or fully-dependent elders. Today, 90% of those 65 and older want to "age in place." The growth of the elderly population that want to "age in place" will require increasing numbers of professional caregivers to assist in oral care practices. The purpose of this study was to address the gap in the knowledge about the oral care practices and beliefs of professional caregivers who work for non-medical in-home care companies charged in the care of "aging in place" elders.

Methods: The Nursing Dental Coping Belief Scale was used in a descriptive cross-sectional study. Professional caregivers (n=67) employed by 3 non-medical in-home care companies in South Texas completed the survey. The survey gathered demographic information, oral care practice questions and oral health belief questions. Statistics used for data analysis included chi-square contingency table analysis. The level of significance was set at $p<0.05$ for all analyses.

Results: Non-medical in-home care companies are not mandated by law to provide training, yet professional caregivers wanted more training in brushing and flossing (85%). A majority (60%) reported being trained. Most (85%) looked inside their client's mouth yet nearly 18% did not floss their client's teeth and only 31% knew if their clients wore dentures.

Conclusion: While this was a small study, it provides preliminary information that professional caregivers, who serve clients aging in place, want more oral care training. Professional caregivers would be better served if there were more thorough and frequent training provided with managerial oversight.

Keywords: aging in place, oral care, oral health, non-medical in-home care companies, elderly, training

This study supports the NDHRA priority area, **Health Promotion/Disease Prevention:** Investigate how environmental factors (culture, socioeconomic status-SES, education) influence oral health behaviors.

Introduction

Unprecedented aging of the U.S. population brings about new challenges in obtaining proper oral care.[1] By 2050, the population, aged 65 and over, is projected to grow in number to 83.7 million.[2] With this growth is a concomitant increase in life expectancy. These individuals were reported to be at risk for developing chronic illnesses, and have greater prescription drug use, and age-associated physiological changes that could deprive them of their mobility and independence.[3]

As recently as the 1990s, long-term care facilities (LTCFs) were the main housing option for elders who were semi- or fully-dependent upon others for their activities of daily living.[4] Activities of daily living, were defined as the basic tasks of everyday life, such as eating, bathing, dressing, toileting and transferring.[5] In recent years, more elders have chosen a different direction than long-term care by choosing to remain in their home and "age in place."[6] Today, 90% of elders 65 and older want to "age in place" rather than move into LTCFs, and 80% believe their current residence is where they will always live.[6]

Aging in place was defined as the ability to live in one's own home and community regardless of age, income or ability level.[7] Growth of the increasingly dependent elderly population aging in place has brought about a concomitant increased need for professional caregiver assistance with activities of daily living.[3] Therefore, the use of non-medical in-home care companies has become an alternative to transitioning into LTCFs.[4]

Non-medical in-home care companies, self-defined as companies that utilized professional caregivers, allowed elderly clients to remain at home where they received non-skilled supportive care.[8] Non-skilled supportive care services ranged from housekeeping and companionship to assistance with personal care such as bathing, dressing, toileting and providing oral care.[8] Professional caregivers were defined as

either certified (CPC) or non-certified (NCPC). The CPC included: registered nurses (RN), licensed vocational nurses (LVN) and certified nursing assistants (CNA). The NCPC were defined as professionals who did not have certification or training in health care.

Among the consequences of increased dependency levels was the loss in the ability to perform oral care activities, such as brushing or flossing of teeth without assistance.[3] Elderly clients, therefore, were at an increased risk of oral health complications including tooth loss, dental caries, periodontal disease and mucosal lesions.[9] Maintaining oral health was vital for their overall health and quality of life.[9] Poor oral hygiene could complicate the management of systemic illnesses such as diabetes, dental pain could cause malnutrition and inhaling bacteria could cause pneumonia.[9] Literature was replete with studies that reported poor oral hygiene in elderly clients in LTCFs.[10-17] It was reported that, in LTCFs, oral care practices were non-systemized, insufficient and an underemphasized component of personal care provided by professional caregivers.[3,9,17]

Further search of literature found no information about training or the provision of oral care procedures for professional caregivers employed by non-medical in-home care companies. The dearth of data was a possible consequence of state regulations requiring oral care plans. For example, the Texas Administration Code (TAC) had regulations for the provision of oral care for support service companies, which included non-medical in-home care companies, and stated that they must adopt and implement a written policy that specified the companies' client care practices.[18] However, TAC did not require these companies to have a specific individualized oral care plan in the client care policy, or a coordinated educational effort in oral care for employees.[18]

Several current studies that evaluated the training of LTCF caregivers were used to support this study's discussion about training and certification of professional caregivers employed by non-medical in-home care companies.[14,15,17,19] These studies demonstrated that compromised oral health of elderly clients at LTCFs was improved by institutional intervention and training to increase the priority placed on oral care by caregivers.[14,15,17,19] When LTCF caregivers were trained in oral care practices and beliefs, studies showed that these caregivers increased the priority they placed on oral care for the elderly client.[14,15,17,19] In contrast to LTCFs, management of non-medical in-home care companies were not mandated by regulation to provide training in oral care. They provided minimal training utilizing online videos.

There were no studies found in the U.S. that reported on the oral care practices and oral health beliefs of professional caregivers of non-medical in-home care companies. International studies were located that compared LTCF caregivers and those who provide domiciliary home care by using the nursing Dental Coping Belief Scale (nDCBS).[3,20] The Dental Coping Belief Scale (DCBS) survey was developed and validated in the U.S. in 1991 by Wolfe.[21] It was originally used to measure the effect of individual oral health care instructions to male veterans, not health care workers.[21] In 2005 the survey was modified and translated in Swedish by Wardh, and it was to be used in a nursing context.[20] The survey was tested amongst 31 nursing staff at a hospital and at a special facility.[20] The aim was to develop an oral health care priority index which could be used at both hospital wards and special facilities to measure oral health care priority among nursing staff.[20] The survey was validated and renamed the nDCBS. The nDCBS became a useful survey for further studies where the aim is to measure how even small nursing staff group samples give priority to and allocate responsibility for oral health care in different ways.[20]

In 2012, Garrido et al utilized the a validated measure to compare caregiver oral health beliefs in LTCFs to those who provided domiciliary home care in Chile.[3] Thirty-nine caregivers agreed to participate in the study and were interviewed by a trained interviewer during working hours or visited at their home.[3] The nDCBS survey found no significant differences between LTCF and domiciliary caregiver's oral health beliefs.[3] However, LTCF and domiciliary caregivers believed they would respond favorably to educational programs.[3] Garrido et al recommended educational programs should be arranged to promote adequate oral care practices.[3] The nDCBS was modified and used in this study, as an extension of the study by Garrido et al.[3] The purpose of this study was to begin to address the gap in literature about the non-medical in-home care companies' professional caregiver's oral care practices and oral health beliefs for their elderly clients aging in place.

Methods and Materials

A descriptive, cross-sectional study design surveyed professional caregivers from three non-medical in-home care companies in South Texas. Participants responded to the nDCBS, which was adapted to reflect current practice and specific goals of this study.[3] The survey was designed to obtain information about the priority professional caregivers assigned to the provision of oral care for their elderly clients. The survey included demographic information, close-ended oral care practice questions, and a 4-part oral health belief Likert scale survey.

The 4 parts of the Likert scale section were:[3]

1. Internal locus of control, the belief that the results of one's oral health depended on their own

attitudes and capabilities
2. External locus of control, the belief that results of one's oral health were caused by uncontrollable factors such as the environment or other people
3. Self-efficacy, the extent of ones belief in one's own ability to reach goals
4. Oral health beliefs, the extent to which one chooses to believe or not to believe in preventive oral health behaviors

The survey included participant instructions that specifically defined the term oral care as daily brushing, flossing and cleaning the clients' dentures.[3]

The survey was distributed, using SurveyMonkey®, to a list of n=1,076 professional caregivers employed by 3 NHMCs. Two of the NHMCs sent an "invitation to participate" in the study by email to their caregiver employees with instructions for informed consent and a link to access the questionnaire. The third NHMC placed a letter with an "invitation to participate" in the study, directions for informed consent and a link to the survey into employee paycheck stub envelopes. Survey participants were given 1 month to complete the survey. Follow-up emails and letters were sent by the non-medical in-home care companies to encourage participation at weekly intervals until the survey closed. Even with the incentive of a gift card drawing, response rates were low.

Survey responses were extracted from SurveyMonkey®, and obtained data were analyzed statistically with SAS® software, version 9.4 for Windows. Chi-square contingency table analysis was used to determine if there was a significant association between oral care practices and oral health beliefs of CPCs and NCPCs. The level of significance was set at $p<0.05$. The study received institutional review board approval.

Results

A 6.2% response rate (n=67) was attained from the total invited (n=1,076). From those who responded, 67 completed the demographic information, 65 completed the oral care practices questions and 62 completed the oral health beliefs questions. The majority of respondents were Hispanic (45%), female (97%) and between the ages of 40 to 60 years (52%). Thirty-seven percent of caregivers were CPCs and 58.2% were NCPCs.

Caregiver certification was significantly related to "having training in providing oral care" ($p<0.0001$) and "looking in the elderly client's mouth" ($p=0.05$). Data showed that 89% of CPCs compared to only 39% of NCPCs reported being trained in the provision of oral care. Similarly, 85% of CPCs compared to only 63% of NCPCs looked in their elderly client's mouth.

Aggregated data showed that the majority of respondents were trained in the provision of oral care (60%). Of those 60%, most looked inside their client's mouth (85%), provided oral care once a day (55%), yet did not floss their client's teeth (18%). Respondents were ambivalent about knowing if their client used a mouth rinse (51% responded "no" and 49% responded "yes"). Only 31% knew if their client wore dentures and 62% stated they did not clean their client's dentures. Greater than 46% reported using a toothbrush to provide oral care, and more than 77% stated they brushed their client's teeth using toothpaste. Finally, a variety of toothbrush hardness was reported as: 31% used a medium toothbrush, 33% used a soft toothbrush, and 15% used an electric toothbrush, with 18% not sure what type of tooth brush was used.

Data from questions under internal locus of control, where the results of caregiver's oral health was "dependent on their own attitudes and capabilities," demonstrated that both caregiver types felt strongly that teeth should last a lifetime (93.6%), cavities could be prevented (96.8%), and flossing could help prevent gum disease (100%). However, for the items of external locus of control, where the results of their oral health were "caused by uncontrollable factors," both groups of caregivers where ambivalent about whether tooth loss was a normal part of growing old (43.6% responded "yes" and 56.4% responded "no").

In the oral health beliefs dimension, the extent to which a "person chooses to believe in preventive oral health behaviors," caregiver certification was significantly related to "visiting the dentist with tooth pain" ($p=0.0018$). Slightly more than 74% of CPCs and 100% of NCPCs disagreed that visiting the dentist is only "necessary with tooth pain." In the self-efficacy dimension, where the extent of the respondent's belief in their "ability to reach goals" was questioned, both groups of caregivers indicated a high level of belief that training to recognize mouth sores (88.7%), training in brushing and flossing (85.3%), and training about gum disease (83.9%) would help them provide better oral care.

Discussion

This study was developed as an extension of the study by Garrido et al, who compared LTCF caregivers' and domiciliary caregivers' oral care practices and oral health beliefs.[3] While there were parallels between the caregiver duties in LTCFs and non-medical in-home care companies, there was no literature that focused specifically on the NMHC caregivers. Results of this study demonstrated that while CPCs were more likely than NCPCs to have training in oral care practices, they still did not provide oral care on a daily basis.

This new information supported existing literature which stated that CPCs of LTCFs had training in oral care practices that was inadequate, with evident deficiencies in providing knowledge of oral care procedures such as daily brushing, flossing and cleaning their clients' dentures.[3,14,15,17] This study supported current findings that most LTCFs and non-medical in-home care companies did not have protocols in place for providing oral care practice training for their caregiver employees.[14,22] The management of the non-medical in-home care companies, perhaps because of the lack of state regulation and oversight, provided minimal oral care training with no assurance of employee compliance or accountability to the state. This lack of accountability negatively impacted oral care guidance that professional caregivers needed when working with elderly clients.[17]

Study data suggested that caregivers overestimated the incidence of environmental factors, such as their clients' age (external locus of control).[3] Caregivers also believed certain oral care practices could have an effect on their elderly clients' oral health (internal locus of control), yet they were unsure of their ability to perform these practices (self-efficacy).[3] Therefore, it was not surprising when both CPCs and NCPCs stated they believed oral care training could improve the way they provided oral care (self-efficacy).[3]

NMHC administrators are in a prime position to initiate innovative changes in oral care policies and facilitate opportunities for knowledge building through in-service training utilizing educators in the current oral health care workforce, such as a registered dental hygienist (RDH).[14,16,22] Legislation should require all professional caregivers to be certified and mandate non-medical in-home care companies to provide training in oral care.[14,16,22] Oral care training would incorporate instructions to caregivers about daily brushing, flossing, and cleaning their clients' dentures. Further information would include the importance of oral health to support the recommended task.[23]

While providing insight and useful baseline data, there were several limitations of this study. The research does not reflect a representative sample of non-medical in-home care companies, as only 3 non-medical in-home care companies in south Texas with a total of n=67 respondents were included to support this initial research. Additionally, there were incomplete survey responses. Of the 67 professional caregivers who started the survey, 5 did not complete all of the questions and were excluded from the analyses. The survey consisted of close-ended oral care practice questions that may not exactly represent caregiver behaviors due to the Hawthorne effect.

Conclusion

While this was a small study, it provides preliminary information about professional caregivers (CPCs and NCPCs) who were serving clients aging in place, and their interest in receiving more oral care training. The CPCs, as well as the NCPCs, would be better served if there were more thorough and frequent training provided with managerial oversight.

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