Bringing together education, professional practice and applied research - for improved oral health care in (frail) older people

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ABSTRACT
An increasing number of European countries are facing an imbalance between oral health care demands and supply for (frail) older people. Due to a growing proportion, older people demands on the care system are increasing. Furthermore, the oral health care needs of older people are increasingly complex, following advances in oral health treatment over the past few decades.

The Dental Hygiene school at the University of Applied Sciences in Utrecht recently introduced the project “Oral health care in (frail) older people”. Within this project, dental hygiene students provide preventative oral health care, educate other caregivers and gather data for practice based research. The objectives of this approach are: (1) to improve oral health of (frail) older people, (2) to contribute an oral health care supply provision to older people and (3) integration of education, professional practice and practice based research in oral health care.
BACKGROUND

The proportion of older people in industrialized countries has increased considerably during the last few decades and is expected to increase further in the next decades. This demographic shift will have important implications for health care services. More (frail) older people will face more morbidity and disabilities and, consequently, they will need an increasing proportion of health care services (Branca, 2009). Those who are not able to function independently are often supported by domiciliary care services or admitted to (residential) care homes (Rothera, 2003; Schols, 2004).

Advances in oral health care and treatment in the past few decades have resulted in a reduced number of edentulous individuals and the proportion of adults who retain their natural teeth until late in life (Muller, 2007). In addition, a still increasing number of dentate older people have tooth wear, oral implants, sophisticated tooth- and implant-supported restorations and prostheses. As a result, they are in continuous need of both preventative and curative oral health care. The complexity of oral health status, systemic diseases, and the use of multiple medications make (frail) older people more vulnerable to oral problems than younger age groups, even more so in those who are cognitively impaired (Ettinger, 2007; Wu, 2008; Gluzman, et al., 2013; Kossioni, et al., 2013). Indeed, several worldwide reports have shown that the oral health of (frail) older people is rather poor (Forsell, et al., 2009; Isaksson, et al., 2009; Konishi, et al., 2010; Mello, et al., 2010; Naito, et al., 2010; Polzer, et al., 2010; Unluer, et al., 2007).

International literature have shown associations between oral health and general health, for instance with respect to diabetes mellitus, respiratory diseases and cardiovascular diseases (Bartold, 1999; Ghezzi and Ship, 2000; Rautemaa, et al., 2007; Rhodus, 2005; Scully and Ettinger, 2007; van der Maarel-Wierink, et al., 2011; Lockhart, et al., 2012). Oral health influences mastication, food selection, weight, speech, taste, hydration, appearance, and psychosocial behaviour and is therefore not only an essential part of general health, it also impacts quality of life during the entire lifespan of a person (Van der Putten, 2012).
Weakened oral health due to neglected self-care and/or professional care, and as a result of reduced oral health care utilization, is already found in (frail) older people when they are still community-dwelling (Holm-Pedersen, 2006; Wu, 2007). Therefore, at the moment of admission to a care home or hospital, many older people are already in urgent need of oral health care. In case of inadequate oral health care in care homes or hospitals, older peoples’ oral health status will deteriorate progressively during their residency with serious risks for general health.

The key factor in maintaining good oral health is daily removal of the oral biofilm (Hancock and Newell, 2001). However, many physically disabled and cognitively impaired older people are not or not sufficiently able to clean their mouths and/or removable dentures. Consequently, they are dependent on others for proper daily oral hygiene care (Gil-Montoya et al., 2006; Stein and Henry, 2009). The importance of oral health is often misunderstood and neglected by care-givers (Murray, et al., 2006). A lack of oral health knowledge and oral health care skills of care-givers is an important inhibiting factor in achieving an acceptable level of oral hygiene. Moreover, lack of prioritisation of oral health care by frail older people themselves, their family or the nurses is also a barrier to proper oral health and daily oral hygiene.

Recommendations to improve the oral health care provision are: (1) better integrating oral health care into general health care, (2) implementing community programmes to promote healthy behaviours and improve access to preventative oral health care, and (3) assessing the feasibility of ensuring a safety net which covers preventative and basic restorative oral health care provision. An adequate basic strategy is to develop and implement an oral health care guideline for community-dwelling older people, as per the implementation of the Oral health care Guideline for Older people in Long-term care Institutions (OGOLI) (van der Putten, 2012).
CONTEXT - ORAL HEALTH CARE IN (FRAIL) OLDER PEOPLE IN THE NETHERLANDS

Oral hygiene self-care of many Dutch (frail) older people in the community and in (residential) care homes is poor, which results in a high prevalence of oral diseases in this population (Kalsbeek, et al., 2001; Kalsbeek, et al., 2006). Other risk factors developing poor oral health include limited access to professional dental care, e.g. due to large distances to dental practices, difficult accessibility of a dental practice, and / or immobility of the older peoples themselves, resulting in a decreased number of visits to a dentist or dental hygienist. Furthermore, (frail) older people sometimes consider oral discomfort and even oral pain being part of their ageing process. In addition, (frail) older people may have low pensions and/or do not have additional dental insurances and / or are not adequately informed about the most recent changes of their (basic) insurances regarding oral health care.

The results of a study of Van der Putten (2012) showed that the oral health of Dutch nursing home residents, even after implementation of the OGOLI, is still poor. In response, the Dutch Health Council and the Dutch Health Inspection announced stricter regimes during their inspection visits in order to improve oral health care in residential care and nursing homes. However, implementing the OGOLI will be not enough to improve oral health of Dutch nursing home residents. Improving knowledge, self-efficacy and facilitation of behavioral change in oral health care of older people themselves, family and care-givers are determinants that need to be addressed in implementation strategies for successful improvement of oral health care in older people (Weening-Verbree et al., 2013).

To improve oral health care in (frail) older people both in the community as well as in residential care and nursing homes, dental hygienists can play an important and central role. Unfortunately, oral health care in (frail) older people is not a popular theme among most dental hygiene students at the start of their study. Although many students become increasingly enthusiastic after they have more experience in providing oral health care to older age groups, it is expected that only a few of them will be working in a residential care home or nursing home after graduation.
Based on the increasing oral health care needs and demands of frail older people in The Netherlands, a lack of oral health care professionals is expected in the near future. Therefore, the University of Applied Sciences in Utrecht has taken the initiative to educate students specifically in oral health care in (frail) older people. A special field project named “Oral health care in (frail) older people” was introduced.

OBJECTIVES OF THE FIELD PROJECT

This field project has two objectives. The first objective is to educate dental hygiene students and to gain experience in providing preventative oral health care in (frail) older people, and to educate students in conducting practice based scientific research. The second objective is to improve oral health (care) of (frail) older people in (residential) care homes and in the community. The project focuses on the (frail) older people in (residential) care homes, (frail) older people in the community, informal as well as professional care-givers such as nurses and nurse assistants.

IMPLEMENTATION

The project is implemented through (1) group information meetings, (2) a website providing additional oral health care information for (frail) older people, and (3) an evaluation of the project including the effectiveness of the information meetings.

1. Group information meetings

Information meetings are for (frail) older people, informal and formal caregivers and, they take place at (residential) care homes and general health care centers. The content of the information meeting is based on the recommendations from and experiences during the implementation of the OGOLI. The information meetings include:
• A 30-minutes lecture presented by a dental hygiene student (supervised by a dental hygienist of the HU), regarding the theoretical and practical essentials of achieving an adequate oral health, including accessibility and the costs of professional dental care,

• Provision by the dental hygiene student of information brochures and oral health care materials and products for each participant.

2. Website providing additional oral health care information for (frail) older people

A website www.mondzorgouderen.nl has been developed offering additional information to that provided during the information meetings. The content is adapted to the different target groups (older people, professional care givers and informal care givers) and is presented in an attractive way using pictures and short movies. The website also provides contact data of dentists’ and dental hygienists’ practices and practices in dental prosthetics, all specialized in oral health care for older people.

The continuous improvement of the content and the usability of the website is an assignment for students of the Media and Communication school of the University of Applied Sciences in Utrecht.

3. Evaluation of the project including the effectiveness of the information meetings

To measure the effectiveness of the information meetings data are gathered on:

1. knowledge regarding the oral health care (self-care and the relationship between oral health and general health (10 questions) and

2. the level of oral self-care (13 questions),

both measured before and 4 to 6 weeks after the group information meetings.

In addition, to evaluate further needs of the participants and to provide epidemiological data on the prevalence of oral health diseases and oral health perceptions in older people in different settings (care homes and in the community), data are gathered on:
1. the state of oral health (12 questions);
2. oral health perception (GOHAI – 12 questions);
3. visit(s) to an oral care professional, possibilities and obstacles (10 questions);
4. participants’ opinions on the project and further needs regarding the information meetings and/or individual advices (short semi-structured interview).

Based on the evaluation, goals will be established for the subsequent academic year and the next group of students. Based on the experiences to date, one of the goals for the future will be to focus more on individual preventative care and on increasing the involvement of professional care givers in oral health care provision. As the whole project is embedded into the initial curriculum of dental hygiene students, the long-term setting is secured and this offers opportunities for longitudinal practice based research investigating effects of this preventative approach to oral health care.

CONCLUSION

This project is an example of integration and reinforcement of education, research and professional practice. With this project three actual challenges in The Netherlands are addressed:

1. Improve poor oral health of (frail) older people in the community and in (residential) care homes, by implementing a special education program in the curriculum of dental hygiene students in providing preventative oral health care in these populations.

2. Lack of oral health care professionals in (frail) older people in the (nearby) future, by promoting dental hygiene students in a special education program.

3. Improve practice based research and evidence based practice of dental hygienist students, by involving them in a scientific research program on oral health care of (frail) older people.

Through this project, we will bring students closer to professional practice, promote practice based research and most importantly make a contribution to help improving oral health,
general health and quality of life of (frail) older people. Implementation of similar projects is recommended in other countries that have similar oral health care problems of (frail) older people.

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REFERENCES


Forsell, M., Sjogren, P. and Johansson, O., 2009. Need of assistance with daily oral hygiene measures among nursing home resident elderly versus the actual assistance received from the staff. The Open Dentistry Journal, 3, pp.241-44.


older adults. The *Journal of the American Dental Association*, 138 Suppl., pp.7S-14S.


