Experience of Oral Care among Elderly in Nursing Homes

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ABSTRACT

Life expectancy among the elderly has been improving for decades and edentulousness is constantly decreasing among the senior citizens. The steady decrease of tooth loss among the elderly is a challenge to the dental profession due to the increased demand of oral care. This study aims to explore the perspectives regarding oral health and oral care among the elderly living in nursing homes.

Ten subjects from two nursing homes in Umeå were interviewed based on a defined interview guide. The interview guide contained open-ended questions regarding oral health and oral care. The subjects were interviewed, all the interviews were recorded and transcribed verbatim. Categories, subcategories and codes were created using qualitative content analysis.

Two categories and six subcategories were established based on qualitative content analysis. The two categories revealed opposing attitudes, the first promoted oral care and the second disfavored oral health. The oral care promoted factors included general satisfaction with the elderly's' present oral status, positive experiences associated with oral care and strong desire to maintain their own oral hygiene. The most notable negative factors for good oral health was the lack of thorough oral examinations and individually adapted assistance with daily oral hygiene. The informants took oral hygiene as a part of their integrity and expressed wishes to be independent.

In general, the informants held positive attitudes toward their current oral status and understood that proper oral care is a prerequisite to good oral health. However, it should be noted that assistance with oral hygiene is not practiced in either of the two nursing homes on a regular basis. This may be attributed to staff shortages and the residents desire to maintain their independence.

INTRODUCTION

Life expectancy among the elderly has been improving for decades due to better health care, developments in the medicinal industry and improved medical treatments. SCB´s (Statistics Sweden) population prognosis for Sweden shows that the number of elderly people aged 65 and above is increasing continuously. The average life expectancy in Sweden today is 79 years for men and 83 years for women, which is higher compared to figures several decades back. According to SCB, there is a trend for continuous increase in aged population for both genders (Gahnberg L, 2010).

Since 1974, when the public dental insurance and school fluoride rinsing programs (1960-1980) were introduced in Sweden, the oral health of the Swedish population has been improving (Socialstyrelsen, 2009; Socialstyrelsen, 2013; Statistiska centralbyrån, 2007). The Public Health Agency of Sweden's (Folkhälsoinstitutet) latest national population health survey indicates that 92% of the population characterize their own oral status as good (Socialstyrelsen, 2013). It is worth noting that edentulousness is constantly decreasing among the senior citizens and total edentulousness is considered today to be a social handicap (Gahnberg L, 2010). The steady decrease of tooth loss as well as the increased use of implants among the elderly is a challenge to the dental profession due to the increased demand of resources. The rapid development of dental implant provides many edentulous elderly with vastly improved chewing ability and consequently improved quality of life. On the other hand, the excessive usage of dental implant has given rise to new, unexpected complications. Peri-implantitis is the most common complication for implants. Due to the lack of adequate treatment it is also the leading cause for implant failure and removal. This contributes to more complex dental treatment for the elderly population (Murray *et al.*, 2013).

The tendency to neglect ones oral health increases with age while a healthy dentition is a prerequisite for maintaining good nutrition. From a psycho-social aspect, a healthy dentition is also a prerequisite to good communication and esthetics. However, oral health is often compromised by systemic diseases and medications, which occur during senectitude. Many of the medications, taken by the elderly, have side effects which influence saliva production. It has been documented that elderly patients taking four or

more different types of medications daily have significantly lower saliva secretion (Fure, 2003). Hypo-salivation reduces the saliva's defense mechanism associated with caries prevention. The correlation between oral health and general health is well documented. A higher prevalence of cardiovascular disease among the elderly with poor oral hygiene has been observed (De Oliviera *et al.*, 2010). Furthermore, it is shown that edentulousness has certain associations with dementia and cognitive impairment (Stein *et al.*, 2007; Hansson P *et al.*, 2013).

Taken together, oral health among the elderly has been improving steadily during the recent decades. However, more attention to oral care is still needed in order to ensure good general health and high quality of living.

The aim of this study is to explore the perspectives regarding oral health and oral care among the elderly living in nursing home.

MATERIAL AND METHODS

Qualitative research method

To observe and communicate with the patient is an essential part of the daily clinical work of a dentist and the importance of understanding each other cannot be underestimated. Therefore it is important to study how our patients perceive and treat their oral health. Qualitative research methods are methods which have been used effectively in the field of nursing among others and its purpose is to investigate the underlying reasons for people's behavior and actions. There are however a relatively small number of qualitative studies compared to the traditional quantitative studies in the dental research literature. For many of the social phenomenons, such as many elderly people losing contact with their regular dentist, we have no clear explanation for now. There is, in other words, a lack of knowledge which requires further research. The purpose of our study is to explore oral health and its shortcomings from the perspective of the elderly. Due to the qualitative character of the research question, a qualitative research method has been chosen.

Differing from quantitative research, a qualitative study gives us insight into social phenomenon and the society we live in (SBU, 2013). There are several different

qualitative approaches, used in different scientific fields such as grounded theory and qualitative content analysis in sociology, ethnography in anthropology and phenomenology and hermeneutic in philosophy (SBU, 2013). Grounded theory is one of the most frequently used qualitative methods in the field of nursing. According to grounded theory, researchers begin with a hypothesis, followed by data collection until reaching saturation. Finally a theory or conclusion is made by analyzing the collected data. The qualitative content analysis was used in our study. By definition, the qualitative content analysis is referred as an objective, systematic description of the manifest content and interpretations of latent content of communication (Graneheim and Lundman, 2004). It contains several steps, choosing the meaning units, condensation, creating codes, subcategories and categories. Qualitative research, which is based on observations, descriptions and interpretation, has a subjective nature. In other words, the researchers own knowledge and feelings influence the findings of qualitative studies to some extent. This could even influence the interpretation of the data. In addition to the subjective nature of the study, the qualitative approach also draws criticism due to the limited number of informants, which may question the study's trustworthiness. Therefore, how to present the findings in a more trustworthy way has been a controversial topic concerning qualitative content analysis. In order to describe the trustworthiness of qualitative studies, concepts such as credibility, dependability and transferability have been used, as well as the most common concepts, validity and reliability (Graneheim and Lundman, 2004). There are varied opinions about which concepts should be used and how to use them. Therefore, it is necessary to become familiar with the meaning of all the concepts.

The criteria which judge the quality of a qualitative study, share some similarities with those evaluating the quality of a quantitative study. Some examples for the criteria are high reading comprehension, good question formulating, and motivation regarding the applications of the method, and detailed described data collection and analysis procedures. However, there are some criteria, which characterize the qualitative approach. It is of great value and will enhance the validity and trustworthiness of the study if the author is capable of defending the transferability of the results in relation to sample selection and context (SBU, 2013). The difficulties, which occur during the analysis

process, should be discussed and resolved in a proper way. The researcher's background and his/her involvement during the work should also be noted. This makes it possible to evaluate the researcher's subjective attitudes and adherence to, or departure from the theory under investigation (Long and Johnson, 2000).

Subjects

Twelve individuals, ranging from 65 to 93-year-old and living in two different retirement homes in Umeå, were recruited to participate in the study. These twelve individuals consisted of 7 women and 5 men, all were considered mentally healthy and capable of understanding and answering questions by the staff of the two retirement homes. They were visited by the interviewer, who asked them to participate in the study. They were informed about the study verbally and received written information. The participation was voluntary, and all information was treated confidentially. Ten subjects, comprised of 5 women and 5 men chose to join the study and signed a written consent. Two individuals refused participation.

Data collection

The interviews were conducted by two dental students from Umeå University and took place in the informants' own room at the retirement home. The purpose was to create a relaxed and undisturbed environment so that they could talk freely about their experience and express opinions. An interview guide, containing 10 open-ended questions concerning their oral health, oral care, and experience with the public dental health service, was followed by the interviewer. All the questions were adapted and formulated in such a way so that it was easy for the elderly to understand. Follow-up questions were asked when necessary in order to get a more detailed answer.

The interviews lasted about 45 min each and were recorded. They were then transcribed by the interviewers and all the informants were referred to as informant 1, 2, 3 etc. The collected data from the interviews was then analysed by the two interviewers together. Swedish was the language used during the interviews and transcription.

The references were searched in database Pubmed using keywords including elderly, oral health, oral care, nursing home and qualitative study. The keyword elderly was then combined with each remaining keyword in order to select literatures relevant to the

present study. The searching results were further evaluated by using filters of publication dates and text availability. Articles published during recent 10 years with full text available were preferred.

Data analysis

A qualitative content analysis method was used to analyse the text, done by the two interviewers, who were familiar with the context. The analysis started by reading the materials several times to get a full overview of the interviews. Then the main content was reflected by the authors together. The analysis was based on several steps. In the first step, the meaning units were identified from the informants' answers and then reduced to decrease the length of the text. Afterwards the reduced meaning units were condensed, which means shortening of the text without losing the core (Graneheim and Lundman, 2004). The manifest codes were thus created, which describe the visible components.

1. Meaning units
2. Reduction of the meaning units
3. Manifest code

The interviews and analysis of the text were completed by two dentist students from Umeå University.

Ethical aspects

The Ethic Forum at the Department of Odontology at finds that appropriate ethics considerations have been integrated into this degree. The informants were informed about the confidential handling of data and that no connection could be made between the informants and the results. They were also informed that their participation is voluntary and that they may at any time cancel their participation without giving any explanation. Some ethical dilemmas could be that the elderly feel uncomfortable talking openly about their problems. To lower that risk, the interviews were done in a respectful and non-judgemental way, to encourage them to speak freely. The interviews took place in the informant's own room in order to achieve a more relaxed atmosphere.

RESULTS

Two categories and six subcategories emerged in the present study, based mainly on manifest analysis. The codes presented below were considered by the author to be most representative for the purpose of this study. The complete result is shown in table 1.

Oral care promoting factors

Facilities

The subcategory describes the factors which benefit promotion of oral care. Getting support from family member, friends and/or the staff for contacting the dental office, visiting the dentist and purchase of products for oral hygiene is a common statement. The transportation service (Färdtjänst) in Sweden is greatly appreciated by the informants as it facilitates dental visits.

"....Someone must follow me to the dentist….one of my sons who is available at that time keeps me company or somebody working here..... I just need to call a taxi….."

Financial assistance in the form of rebates, according to some informants, helps to relieve the cost of dental treatment. It seems that the financial assistance has a certain positive effect on visiting the dental office.

"We get an allowance for 300 crowns from social security every year. Last year I spent no more than 100 crowns every time I went to the dentist because they deducted my allowance from the total cost."

Self-care

Self-care refers to the recipient's attitudes toward and responsibility for their own dental health. The majority of the informants considered oral health to be an important aspect of ones well-being. They pointed out that daily oral hygiene practices and dental visits are their own responsibility. They characterized their oral hygiene practices and dental visits as careful and regular, respectively.

"..It depends on your own initiative. I have taken contact and they call me. Otherwise they would not call me. You need to want to go…."

Positive feeling

Positive feelings describe the informants' satisfaction with their current oral status. Regardless of whether they had natural teeth or prosthesis, the most of the informants

considered their mouth as well-functioning and pain free.

"My mouth works very well, I have had no problem at all the last few years…I'm happy I chose implants. Of course it was expensive, but I got a good price at that time….The implants fit like a rock."

Even though the high cost of dental care is generally acknowledged, several informants expressed that oral health is worth the investment. They believed that paying for dental care is beneficial in the long term.

"I can afford my dental care now but I don't know about the future. If I live long, then I can apply for rebate. There are many options…because my teeth are very important. I have taught my children that their teeth are an important part of their health."

Obstacles for receiving a good oral care

Limitations

This subcategory includes factors which may hinder an optimal oral care. Our informants experienced visual impairments and mobility that are directly age-related. According to these informants, these problems lead to difficulty in daily oral hygiene. Rheumatoid arthritis is the disease most frequently mentioned and pointed out to be associated with impairment of mobility.

"I cannot hold up my arms and hold the toothbrush. It is difficult. And my vision has become blurry……I follow my senses when I am brushing.... I have many bridges and food get stuck underneath them. "

The informants regularly talks about the high cost of dental care. Some stated that they were compelled to visit the dentist due to the financial burden. At the same time, dental care were considered by the informants to be necessary to avoid tooth loss

"Dental care is so expensive now people can not afford it. …but they must....dental care is also expensive for me, but I have to prioritize. I will be called to a dental hygienist again soon and it will cost me one thousand crowns. It is very expensive."

The majority of the informants have free time and are willing to spend time on daily oral hygiene. However, a minority of the informants considered time as a crucial factor and were unwilling to spend the necessary time on oral hygiene. They prefer a good, stress free environment in order to have enough time and strength for their oral hygiene,

especially in the mornings. The lack of time in the morning is mainly contributed to early doctor appointments and with family members or friends.

"Sometimes when I have to go to dialysis and I oversleep, I put some routines aside."

"I sometimes brush my teeth insufficiently, especially on those days I have visitors, because I prefer to comb my hair."

Most of the informants in our study stated that the staff working at the nursing home do not prioritize oral hygiene, and oral care is not included in the daily routine. Many informants feel that the staffs do not take oral hygiene seriously. According to the informants, the staff never offered to help with oral hygiene on their own initiative rather one should ask for it. Some of the informants described the staff as overworked and stressed due to staffing shortages. At the same time, the informants showed understanding for the staff that have so many people to take care of, and for this reason they are reluctant to ask for help outside of the daily routine such as oral care.

"They've got enough taking care of all the residents. They do not have time. One should not ask for anything more. I try to take care of my teeth by myself.....there are other things which are more important."

When it comes to asking for help with oral hygiene, most of the informants including both dependent and relatively independent residents try to be independent and manage oral hygiene on their own. They expressed that oral hygiene is a part of their privacy and being provided help is degrading and a threat to their integrity.

"I should have gotten more help, but I am stubborn. I will manage it by myself...I will never allow them to ask me if I have brushed my teeth, it is a matter of respect. My hygiene has nothing to do with them."

Negative feelings

Based on the informants' reflection upon their own oral status, complaints about minor discomforts in their mouth occur frequently. Dry mouth and food impaction are most common. Some informants attributed the sense of dry mouth to their prescriptions. Several of them were even troubled by medicines sticking to the dry oral mucosa, which can be very difficult to remove. In spite of these small discomforts, they still judge their oral status as acceptable in general.

"My mouth works...But is obvious that when people getting older...It is easy to get food stuck under the plastic fillings. Especially when I eat cereals…My mouth is very dry now…I eat several medicines now and people have to take medicines when they become older. "

The elderly's attitude to the modern aids for oral hygiene, such as interdental brushes, varied among individuals. Some informants felt that the benefits of the modern oral hygiene aids were not justified by the additional expense as compared with traditional toothbrushes and toothpicks. They described the modern dental products as fragile and impractical.

"...those sold at the pharmacies cost a lot of money. Do they have any benefit?...and those small brushes...is there anything better than wooden toothpicks? Those brushes bend so easily..."

Impassiveness

This subcategory describes an impassive attitude towards oral care, for example irregular dental visits and careless daily oral hygiene. The informants attributed this negligence to lack of motivation. Only a few informants held impassive views to oral care in the present study.

"....If you keep it up as much as you can, there is no need to visit the dentist..."

"...I brush my teeth sometimes, maybe 3 times a week at most. Especially when I am going to socialize with a woman…The reason why I don't do it everyday is because I don't take the time. It's not because I can't manage. There are not such discussions. It's because of the will…"

DISCUSSION

The present study aims to explore the elderly's perspective on oral health and the maintenance of good oral health while living in a nursing-home. The results of the interviews reveal an overall good self-perceived oral health among the elderly. In terms of function and esthetics, oral health is judged as an important aspect of general health and well-being by the majority of the informants. The perceived importance of oral health serves as a significant motivator for independent oral hygiene and dental visits. Impassive

attitudes toward oral care still exist even though this opinion occurred less frequently in the present study. Getting help with daily oral hygiene is considered to be uncommon among the elderly living in nursing homes. Dental care is believed to be helpful and effective but, on the other hand, costly. Taken together, these observations provide insights in the elderly's perceptions of oral care and the potential obstacles for achieving good oral care.

The agreement between findings in other studies and the present one strengthen the research value of our findings. For example, it was reported in two studies that the elderly judged their oral health as good or fairly good aside from minor complaints (Andersson and Nordenram, 2004; Stråhlnacke, 2007). However, when comparing our findings with the clinicians view a disparity between the informant´s self-perceived oral health and the clinical evaluation arose (Söderpalm Andersen *et al.*, 2006; Isaksson *et al.*, 2003). It was reported that oral health among older individuals living in nursing homes was poor overall and most of the elderly being examined exhibited a poor oral hygiene (Söderpalm Andersen *et al.*, 2006). In another Swedish study, the actual treatment need in an elderly population receiving long-term care is as high as 61%, in the form of either prophylactic or reparative procedures (Isaksson *et al.*, 2003). While performing our interviews, we observed that one informant who described their oral status as good and oral hygiene as independent, had a note from the dental hygienist hanging on the bathroom wall indicating the need for both treatment and assistance with oral hygiene. According to one informant, a dental hygienist had been to the nursing home and examined her, however she was not aware of the need for assistance with daily oral hygiene. This observation suggests the need for better communication between the dental care provider and the nursing home residents. Similarly, it was found in a study that 77% of the nursing home residents were in need of assistance with daily oral hygiene while only 6.9% received that kind help (Forsell *et al.*, 2009). The ability to manage routine daily activity declines with increasing age. Age-related impairments and disabilities can affect the elderly's-ability to maintain their oral health and make them more dependent and vulnerable (Schembri and Fiske, 2001). However, receiving assistance with daily oral hygiene from the staff was opposed for two main reasons. The first was integrity. The informants considered their oral hygiene as private and insisted on performing their own oral care. The other reason was the lack of attention given to oral care by the nursing home staff. A similar

phenomenon was also mentioned in previous studies as oral health was frequently overlooked by the staff in the nursing home and lost its priority due to other more urgent medical care (Lindqvist *et al.*, 2013; Andersson *et al.*, 2007). However, it should be emphasized that oral and general health are linked in numerous ways and the importance of oral health should therefore not be neglected. Study shows that many common systemic diseases in the elderly population have oral manifestations and careful evaluation of the patients' oral status is essential for early diagnosis and timely treatment (Chi *et al*, 2010). It is suggested in a study that good oral hygiene has a preventive effect on pneumonia and respiratory tract infections among the elderly in hospitals and nursing homes (Sjögren *et al.*, 2008). Accordingly, it is crucial that the nursing staff is aware of the importance of oral health and it's correlation with general health. To achieve this, adequate education in how to perform assisted oral care is necessary. In several studies, oral hygiene education directed towards nursing staff members was shown to give positive results (Sjögren *et al.*, 2010; Kullberg *et al.*, 2009). Based on the findings in our study, it became evident that this education was still not widely offered and the need for this education is considered urgent. At the same time, we also advocate oral health and hygiene classes for the nursing home residents. We believe that this information will facilitate the residents' acceptance of help by the staff. Despite the lack of oral hygiene education for nursing staff, another obstacle recognized in our study was the lack of time. Negligence of residents' oral hygiene by the nursing staff was often a consequence of high work load and time pressure (Lindqvist *et al.*, 2013; Andersson *et al.*, 2007). It was also illustrated that the existing routines or strategies for the improvement of oral hygiene were inadequately executed. Hence several new strategies were suggested for improvement, such as documentation of oral hygiene, quality assessment and clearly defined responsibilities (Lindqvist *et al.*, 2013). Efficient resource planning, including scheduling and prioritizing is essential to good oral hygiene.

The validity of this qualitative study can be divided into internal and external validity. Internal validity may refer to the impact of the researchers' background and experience on the collection and interpretation of the data. In the present study, the interviewers' identity as dental students may influence the authenticity of the collected data and we can't exclude the risk that the informants would try to please us and hide the negative aspects of their oral status and oral care. On the other hand, it is fully understandable that

a frank discussion about one's own oral problems may be difficult when trying to protect one's own integrity. The external validity regards generalizability of the results. As opposed to quantitative studies, the external validity of a qualitative study is determined by the readers. We argue that the transferability of the results can be questioned by the fact that all the informants originated from the same region with convenient access to dental care service. Therefore the results of the present study may not be representative for groups from other regions without similar resources. In the present study, several efforts were made to enhance trustworthiness. The first two interviews were performed and then transcribed directly in order to make sure that the questions were understandable for the informants. Difficulties in obtaining pertinent answers to the questions while interviewing the elderly was a challenge and the question guide was modified to make the questions more straightforward. Furthermore, follow-up questions were used with higher frequency to encourage more detailed and completed answers. The transcripts were assessed by both interviewers in order to reduce misinterpretation.

Finally in conclusion, we found that the informants in general held positive attitudes toward their current oral status and were aware of that proper oral care is a prerequisite to good oral health. However, receiving help for daily oral hygiene is not frequently practiced in the two nursing homes although the elderly are in need of assistance. Therefore, in order to further improve the elderly's oral health and enhance the availability of dental service towards nursing home residents, we propose that both dental service and nursing homes have a stronger association with each other in the form of regularly scheduled visits and that the nursing staff take on more of the oral hygiene responsibilities when needed. Long term associations could be established between nursing homes and dental clinics where each nursing home could have a dental hygienist assigned to it. This dental hygienist would also be associated to a dental clinic where he or she could turn to for advice and treatment.

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Table 1

CATEGORY	Oral care promoting factors			Obstacles for achieving good oral health		
SUBCATEGORY	Facilities	Positive feelings	Self-care	limitations	Negative feelings	Impassiveness
CODE	• Support • Enough time • Economic support • Close to dentist • Stress free environment	• The mouth works well • Satisfied with implant • Have all my teeth remained • No caries • Perceived improvement • Get credits from dentist • Sufficient oral care • Worth to spend money on oral care	• Own will • Own responsibility • Oral health is important • Regular dental visits • Important to get treatment • Go rarely to bed without brushing my teeth	• Lack of time • Insecurity of tools and technique • Lack of knowledge • Poor sight • Bad light • Impairment of motor activity • No elevator in some clinics • Limited accessibility with bridges • Economy • Fear • Integrity/privacy • Understaffing	• Difficult to remove medicines • Modern products no benefits • Contact person not available • Small discomforts • Distrust on the staff	• No need to go to dentist if I take care • Brush occasionally, not pedantic • I am careless sometimes • Use too short time, not fun • Unwillingness • Irregular dental visits

Appendix

Question guide: How do you experience your oral health and what possibilities and obstacles are there for achieving a good oral health?

- How long have you been living here? (Nursing home)
- How have your teeth been taken care of? (Of whom, how often, what tools?) Do you feel you get enough oral care?
- What aggravates your oral care? What ease your oral care?
- What do you think about the:
- Time required for oral care?
- Costs for hygiene articles/oral care?
- Help from outsider and kindred?
- How do you experience the dental office's and nursing home's possibility to help with your oral health? Do you think that you get the help you need from them?
- Is there anything else you want to add?
- Can we call you if something is unclear?