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Barriers and facilitators of oral health care experienced by nursing home staff

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Featured Article

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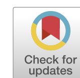

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ABSTRACT

Objectives to explore attitudes, perceptions, and perceived barriers to and the perceived facilitators of daily oral health care and the actual daily oral health care performances among nursing home staff.
Methods A mixed methods study in 21 nursing homes was completed; a) questionnaires for nursing staff and managers; b) focus group interviews with nursing staff.
Results 409 (21%) questionnaires were completed by nursing staff and 14 focus group interviews organized.
Conclusions attitude was not a barrier in this study, while oral care was not performed according to guidelines. Nursing staff reported a lack of products, while toothbrushes are available. The most frequently mentioned barriers were lack of support of dental staff, oral care for clients with cognitive impairment, and a lack of education. Increasing facilitators could be; more (practical) education combined with tailored advice from internal dental staff.
Where and on whom will the research have an impact?
Nursing home staff, nursing home organizations/ managers and dental professionals working in nursing homes.
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Introduction

Oral health is important for maintaining quality of life and general health and wellbeing. Poor oral health, especially in frail older people, affects oral function such as speaking, chewing and swallowing. Poor oral health is also related to malnutrition, dehydration, pneumonia, joint infections, poor glycemic control in diabetes and atherosclerosis; emphasizing the importance of good oral health.[1–7] Good daily oral health routines help maintain oral health.[8]

In the Netherlands, there is a strong tendency to let older people live independently as long as possible with or without ‘in home’ care. However, when the frail older person needs extensive and complex care, including activities of daily living (ADL), one can apply for residence in a nursing home. A considerable proportion of frail older people admitted to nursing homes have cognitive problems or dementia. In nursing homes, overall care is provided by a multidisciplinary team of nurses, nurse assistants, elderly care physicians, psychologists, dieticians and physical therapists. Oral health providers are usually not part of this team, but nursing homes have agreements with oral health practitioners working in private dental practices for treatment of their residents.

ADL care dependency also influences the older person’s ability to perform oral health routines such as tooth-brushing or cleaning their removeable prosthesis. Daily oral health care needs in nursing homes

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are prevalent, and one of the many tasks for the nursing staff.[9–11] To help the nursing staff to improve daily oral routines, guidelines and several oral care projects have been undertaken.[8,12,13] Current guidelines support daily oral routines for different oral health requirements, but also provide guidance at an institutional level about dental check-up frequency and education of nursing home staff. However, despite the presence of guidelines, oral care for older people in nursing homes is still deficient.[14–18]

It seems that despite the Dutch National Guidelines for oral care in nursing homes[8] being approved by all relevant health care associations, the implementation of the guidelines was unsuccessful.[19,20] One of the reasons seems to be, as in other implementation processes, that insufficient attention was given to the barriers and facilitators of performing these daily oral health routines.[19,20] Barriers affect both residents and nursing staff: residents often refuse help with their daily oral routines and/or lack regular professional dental check-ups, and nursing staff experience high workload, lack of time, relevant knowledge, experience and training to performing oral daily care adequately. In addition, there is little collaboration between oral health providers and nursing staff.[14–21] Increasing knowledge alone about daily oral health routines in nursing staff appeared not to be sufficient for improving oral health in nursing home residents.[22–25] Hoben et al. (2017) concluded that robust evidence is missing on the prevalence of oral health care problems, routines and complex interactions of the barriers and facilitators, and their consequences on daily oral health care. Studies that focused solely on nurses' attitude and perceptions concluded that the attitudes of nursing staff were mostly negative towards daily oral health care.[26–29] Other authors reported, however, awareness of the importance of oral health in nurses and managers, but there were too many challenges to face that affected adequate implementation of daily oral health care.[30] Further exploration of barriers of and facilitators for performing adequate oral health routines and the current diversity of actual oral care performances according to nursing staff, combined with their attitude and perceptions, is needed. According to Chigbu's view on qualitative and mixed methods studies,[31] we have formulated the following hypothesis: oral care performances are insufficient according to the current guidelines for oral care in nursing homes, due to barriers experienced at different levels of the nursing home organizations. It is expected that facilitators identified by stakeholders may be useful to improve current practice.

The aim of our study was to explore in depth attitudes, perceptions, and perceived barriers and facilitators for daily oral health routines and the actual daily oral health care performances among nursing staff in nursing homes.

This study can give direction towards an improved implementation of oral care, when pairing perceived barriers and facilitators with the actual performance of oral routines.

Methods

A mixed methods study consisting of a quantitative sample (questionnaire) and a qualitative sample (focus group interviews) was performed. Both studies were performed in the province of Friesland in the Netherlands.

Population

Nursing staff and their managers from all 24 nursing home organizations in the province of Friesland were approached to take part in this study. For the quantitative sample the inclusion criteria were nursing staff (nurses and nurse assistants) who were charged with general daily care and the managers of the nursing homes. For the qualitative sample, the participating nursing home staff members were approached to join in the focus group interviews.

Ethical approval

The study was judged not to fall under the provisions of the Medical Research Involving Human Subjects Act and was approved by the Medical Ethical Review Board of the University Medical Center of Groningen, the Netherlands. The study met all requirements of the Personal Data Protection Act. Informed consent was given by the participants prior to sending in the questionnaire and/or prior to the focus group interviews.

Data collection

Data were collected through a) quantitative sample: questionnaires completed by nursing staff and managers and b) qualitative sample: focus group interviews with nursing staff and eventually professional oral health care providers when involved in the nursing home.

(a) Questionnaires

The questionnaire aimed to gain insight into the performance of oral care among nursing staff and the organization of oral care by managers. The questionnaire items were based on the topics described in the current guidelines used in a previous study.[8,32] One open ended question was added to the questionnaire: 'What are barriers or facilitators for you to perform oral care'. The questionnaires for the nursing staff and for the managers are available in Appendix A.

1. *Nursing staff questionnaires*: Between January and March 2014, 2000 questionnaires for nursing personnel were distributed among the 21 participating nursing homes. The managers of the nursing homes estimated that the number of nursing staff members was approximately 2000. In every nursing home one person was identified to be responsible for distribution of the questionnaires; who was contacted once by email or telephone to remind their staff to complete the questionnaires.

2. *Nursing home managers questionnaires*: All 21 managers of the nursing homes received a questionnaire for completion and a reminder.

(b) Focus group interviews – current status and nursing staff attitudes and perceptions regarding oral care/ barriers and facilitators for oral care.

To conduct an in-depth examination of the nursing staff's perceived barriers to and facilitators of oral health care, qualitative focus group interviews were organized. The focus groups consisted of 6–8 people, and interviews lasted, on average, 20 to 30 min. Preferably, the group consisted of nursing staff who delivered daily care, a manager and a dental hygienist. The contact person for the nursing home was asked to form a group accordingly.

The interviews were conducted by dental hygiene students using general guidelines to structure the interviews. The following questions and probes were used to semi-structure the interviews and to encourage the groups to talk more about the topic:

1. You have all completed the questionnaire about oral care in this nursing home. Can you tell me more about 'what you think of oral care, as you perform this in your residents?' 'What is the way oral care happens?' Probes: current status of oral care, guidelines for oral care, brushing, routine.
2. Are there any problems that you or your colleagues face when performing oral care? Can you tell me more about this? Probes: barrier, experience, difficulty.
3. What would you like to be different/change/develop within this nursing home, considering oral care? Probes: encouragement, support, facilitators, collaboration.
4. What is needed to improve or to maintain oral care in this nursing home? Probes: preconditions, support, continuous awareness, management.

All discussions were recorded and transcribed verbatim afterwards. From one interview, a summary that was written immediately after the interview was used because the audio recording was lost.

Analysis

(a) Questionnaires: the results of the questionnaire were described by using frequency distributions and means (standard deviations) using Statistical Package for the Social Sciences for Windows Version 25.0 to perform statistical analysis (IBM Corp., NY, USA). The single open-ended item on the questionnaire about barriers that nurse assistants experience in oral care highlighted the importance of some barriers. The most frequently mentioned barriers by the quantitative sample respondents are reported.
(b) Focus group interviews: the analysis of the focus group interviews followed the procedures of thematic analysis.[33] Thematic analysis searches for patterns or themes in the data and is an accessible method for researchers with little experience in qualitative data analysis.

All data were anonymized in the transcripts. The transcripts of the focus group interviews were independently coded by the first author (LWV) and third author (SLC) using Atlas.ti 8 (Scientific Software Development GmbH, Berlin, Germany). After coding the first seven transcripts, they discussed the definition of the different codes. The first reviewer (LWV) formed a codebook, and these codes were almost identical to the codes that were found in the transcripts by the second reviewer (SLC). After this initial phase, both authors considered and discussed how different codes could be combined to form an overarching theme, and individual codes were discussed and agreed upon, to adjust the different codes to the themes. A whiteboard was used during the discussion to visualize the representation and organization of the different themes and codes. Compelling and demonstrative quotes from the interviews were selected to support the results.

Results

Response rate

Twenty one of 24 eligible nursing homes participated in the quantitative study. Three refused to participate due to high workload (n = 2) or because they had already started an intervention on improving oral health among their residents (n = 1). Fourteen of 21 nursing homes also participated in focus group interviews.

(a) Results from the questionnaires (n = 409)

The response rate of nursing home staff was 20% (409 out of 2000 questionnaires distributed). Questionnaires were completed by 32 registered nurses (8%), 365 nurse assistants and nurse aids (92%) and 12 nursing home managers. Fewer than 1% of the respondents had no nursing educational background, such as nutritional assistants or social workers. For this reason, all staff members who help residents with their ADL will be referred to as nursing staff in the paragraphs that follow. We have summarized the results of the questionnaires completed by the nursing staff.

Background information nursing staff

The average experience in care giving was 16 years (1–37 years) and the average experience in their current position was 12 years. Nursing staff's own oral health was important to 99% of the respondents, with 94% reporting brushing their teeth at least twice-a-day. Oral care was incorporated in their degree program (56%) or 'only little information' about oral care was part of their vocational training (36%). Nursing staff felt 'quite competent' (66%), 'very competent' (17%), 'not competent, but not clumsy' (13%) to perform oral care. According to nursing staff, education about oral care was offered by the nursing home (43%). The frequency, content and duration of education about oral care was unclear from the responses (answered by only 16% of the respondents). The majority of nursing staff reported that they would like to obtain more knowledge and skills about oral care (58%).

Questions about 'the oral status of residents'

According to nursing staff, 50–100% of the residents wore full dentures (90%), whereas 0–25% of the residents had solely natural teeth (83%) and 25–50% of the residents had some natural teeth (15%). Nursing staff reported knowing which residents had dental implants (69%).

According to nursing staff, common oral problems of older people are poorly fitting dentures (86%), decreased masticatory function (70%), bad breath (69%), and inflammation of gums (63%), tooth fractures (48%), yeast infection of the mucosa (37%), decreased saliva flow (29%), cavities, (24%) and root canal infection (10%). Other oral problems mentioned were difficulties removing dentures, extensive flow of saliva, the presence of calculus, stomatitis, unclean dentitions, coated tongues, loose teeth, swallowing problems, ulcers, and dry mouth.

Questions about 'the oral care performance in residents'

Nursing staff stated that:

- 'oral care is fairly important or very important' (98%).
- 'oral care is a very unpleasant task' (10%).
- oral care is 'performed at least twice-a-day' (55%), 'performed once-a-day' (43%), or 'performed once or twice-a-day' (2%).
- oral care is performed 'in the morning before or after breakfast time and before bedtime' (57%), 'before bedtime' (38%), 'when the time was most convenient' (3%), or 'when the resident asks for it' (2%).
- they 'always provide oral care to patients with natural teeth' (76%), 'sometimes provide oral care to patients with natural teeth' (depending on the resident's own performance of oral care) (13%), or 'never provide oral care' (mostly due to the resident's refusal) (10%).

In Table 1 the oral care products used according to nursing staff are tabulated.

Nursing staff further reported that dentures were cleaned with toothpaste (45%), soap (29%), rinsed with water (5%), or a combination of these methods (36%). When oral care was not/ hardly possible, nursing staff asked for help from an oral health professional/ nursing colleague, some sprayed or rinsed the mouth or used gauze or a brush later that day, or did not do anything (3%). Resident care dossiers included a section for oral health according to 77% of the respondents.

Managers' questionnaires

From the 21 questionnaires distributed to managers, 12 were completed (57%). Seven of 12 managers (58%) reported that their residents were not visited by an oral health provider but that their residents visited an outside dental practice in case of dental problems. The other five managers (42%) reported that dentists offered oral health care within the nursing home upon residents' demand. In 8 of 12 nursing

Table 1
Oral care products used by staff.

Manual toothbrush	97%	Gauzes	34%
Powered toothbrush	54%	Toothpaste	92%
Denture brush	70%	Chlorhexidine	33%
Denture case	80%	(Fluoride) mouth rinse	8%
Interdental brushes	29%	Liquid soap	42%
Wood sticks	10%	Vinegar	13%
Detergent tablets for dentures	6%	Tongue cleaners	1%

homes, an oral hygienist was available on demand. Nine of the 12 managers were aware of the national oral health guidelines. Resident care dossiers included a section for oral health according to five managers (40%). All managers (except one) knew how oral care for residents was financed. Managers reported that educational training was not funded and that the institute had to pay this out of pocket.

Open-ended question from the quantitative sample

Furthermore, the open-ended question from the questionnaire highlighted the importance of the barriers perceived by the nurse assistants. The majority of nursing staff (85% of questionnaire respondents) experienced barriers due to resident-related factors, including impairments due to chronic diseases and/or non-cooperative behavior due to, for example, cognitive impairments. Other barriers (8% of reported barriers) that were mentioned in the questionnaires included lack of education, autonomy of the resident, time pressures and a lack of products and supplies for oral care. According to 7% of the nursing staff respondents, no barriers were experienced at all.

Focus group interviews

The 14 transcripts were classified into 151 different codes. After determining and agreement on the codes, 11 code groups or themes could be distinguished, using a visual presentation on a whiteboard. The two reviewers agreed that different code groups could be assigned to three main categories, when the ‘actor or key figure’ was considered to be the focus of the category:

Nursing home staff: nurse assistants or nurses; attitude and perception, knowledge and need for education and collaboration with dental professionals, skills, experienced barriers and facilitators.

The residents of the nursing homes: residents’ behavior, oral hygiene habits and oral health (status), attitudes.

The nursing home institute: the employment of dental professionals, facilitating collaboration, providing products for oral care and facilitating education.

For each category or main theme the subsequent themes and codes will be further explored below.

Category: nursing home staff

Education/ knowledge and skills

Lack of knowledge or education about oral problems and oral care was often mentioned as a barrier, but education, also acted as a facilitator in different nursing homes. Nursing staff expressed that they would like to increase their knowledge about the use of products for oral care and refresh their knowledge regularly. In their opinion, a continuing educational program about oral care would draw attention to oral health. In the focus group interviews it was also highlighted that nursing staff lacked practical skills with regard to performing oral care. One staff member stated, *‘Well, it is simple, I would like to know how we could brush the residents’ teeth in a practical way’.*

Attitude and perception

Nursing staff understood the importance of oral health and there was an awareness and willingness to give attention to oral care. Yet, there were contradictions within the nursing staff responses. Whereas some stated that oral care is a part of ADL, others considered it more like a service to residents and did not consider oral care to be a primary care item. Barriers related to this were: oral care was not incorporated in the daily working routine and was perceived by some of the nursing staff as ‘a difficult or unpleasant task’ and was of low priority. Nursing staff experienced residents’ mouths as unclean or reported that the resident had ‘bad breath’. On the other hand, nursing staff presented a ‘There is a lot to learn’ studious attitude and some of them were ‘continuously trying to execute oral care’.

Nursing staffs’ respect for the autonomy of the resident could act as a barrier. Their attitude was focused on ‘wellbeing of resident as most important (not force resident/ autonomy must be maintained)’. A staff member stated, *‘The resident is the main focus in this home, so, whatever the resident wants…’*: Other nursing staff members said that ‘wellbeing of residents’ was of main importance, that meant that the nursing staff wanted residents to be well and feel comforted, and this included oral care.

Secondary conditions, materials and oral care products

Nursing staff mentioned that there was ‘no consultation and collaboration of nursing home personnel and other staff in some nursing homes, such as oral hygienists, dentists, speech and language therapists’. Nursing staff lacked collaboration with dental professionals and their professional advice. It was clearly shown in the focus group discussions that transporting residents to and from the dental office was perceived by the nursing staff as a hassle. Nursing staff preferred that dental professionals visit the nursing home. One staff member stated, *‘It is an enormous procedure to get the residents there (to the dental practice). There was a situation when the taxi did not show up, the residents were all confused for days, and the dental hygienist was annoyed because she had no residents that day’.* Also time pressure - not enough time for daily oral care - was mentioned as a barrier. To nursing home staff it was not clear how and whether oral care is funded (by resident/health care system/institution) and this acted as a barrier. A possible facilitator that was mentioned was oral care plans and visual instruction cards for oral care to support oral care.

Category: residents

In this category, we have reported the resident-related barriers and facilitators derived from the focus group interviews. Nursing staff experienced behavioral problems in their residents, mostly as a result of psychiatric or cognitive diseases, e.g., severe dementia. One staff member stated, *‘it is disastrous if residents have their natural teeth, especially when they do not cooperate’.* This quote reflects the inability to deliver oral care, and it expresses frustration since this nursing staff member is motivated to perform oral care. Also physical resistance from residents (hitting, biting), emotional resistance (angriness) and avoiding oral care (delaying oral care and hoping it will be forgotten) is experienced as barriers to oral care by nursing staff.

Sometimes oral care is not in the routine of the resident (anymore) or residents are not familiar with oral care that is available. When residents are able to (verbally) express that they asked for oral care, they receive help. One staff member stated, ‘*when they say they want oral care, then you take action’*. Help with oral care was more demand-driven than supply-driven. Additionally, in this sub-area, the autonomy of the resident could be understood as a barrier. Some residents expressed that they do not want their teeth brushed, and the nursing staff do not want to ‘force’ residents; in such cases, the autonomy of the resident is highly respected. In addition, some residents (said that they) cared for their teeth themselves without any help from the staff. One staff member stated, *‘no, in that case, residents have their own autonomy….they have to cope with it themselves’*. Nursing staff, on the other hand, were uncertain about the quality of the performance of oral care when residents perform their own oral care. One staff member stated, *‘there are residents who want to brush by themselves, but it is uncertain, you know….do they really brush?…those residents do not want us to brush their teeth. But do they succeed?”.*

In cases were nursing staff performed oral care, it was difficult for nursing staff to visualize/assess the mouth of the residents because of insufficient light or the position of the resident was not ideal. The nursing staff could not verify when the quality of oral hygiene was sufficient.

When a resident is used to oral care and is able to express what he or she likes and has a natural dentition that has been cared for, it works as a facilitator according to nursing staff.

Furthermore, the state of oral health is often poor at the time of admission to the nursing home, which makes oral care difficult. One staff member stated, '*This is how their teeth looked like when they arrived here (bad looking teeth, backlog in oral treatment, bad oral care*)'. A barrier also mentioned by nursing staff, is that 'visiting an external dentist or oral hygienist (not in the nursing home) is too burdensome or physically impossible', for residents.

Category: the institute of a nursing home

The barriers and facilitators related to nursing homes, or the organization of oral care in the nursing homes. Nursing home staff mentioned that there was a lack of supplies and products (e.g., toothbrushes) or assistance for oral care. According to the nursing staff, the institute should collaborate with residents to develop a policy for central purchasing of supplies and products. Also conditions/ facilities should be organized to facilitate oral care, e.g., enough space in the bathroom to perform oral care.

A barrier to perform correct oral care was that oral care was not always reported in the internal patient system and there was hardly any collaboration with (internal) dental hygienists or dentists in the nursing homes. The nursing staff mentioned that it was often unclear what type of oral care should be given to the residents. There was little to no communication between the dental professionals and the nursing staff. The nursing staff stated that the institution should facilitate collaboration between oral health providers and wards. It would facilitate dental staff to be active in the institution (with mobile unit or clinic situated in nursing home) as a service for residents.

Furthermore, the nursing homes as institutes lacked education of nursing home staff about oral care. The nursing staff reported that education was the responsibility of the institute. Educating nursing home staff with a special focus on oral health ('Focus nurse/ oral care champion'), was identified as a facilitator: one staff member stated, *'I have had extra education on oral hygiene and now I try to spread my knowledge among my colleagues. And I am also the person who has contact with the dentist or the oral hygienist'.*

Discussion

Main findings

The results support our hypothesis that oral health care provision is insufficient, according to current guidelines in nursing homes. Barriers to perform daily oral care can be subdivided in the following categories; 'residents', 'nursing staff' and 'care organization'. Residents were not accustomed to oral care routines or they suffered from cognitive impairment and therefore refused oral care. These findings were reported in the quantitative survey and also mentioned in the focus group interviews. The residents' autonomy was respected in a way that oral care is of secondary priority in ADL care and for some staff, oral care is a service, not a primary care item. Nursing staff reported lack of time, but had a studious attitude towards oral care and almost all staff found oral care of importance for their residents. The institutes could facilitate oral care, by providing materials and products for oral care and supporting internal dental staff. The data seems to be contradictory as the focus group data enlightened that nursing staff would like to receive more practical training, whilst the questionnaires showed that the majority of the nursing staff consider themselves as 'competent'. Apart from feeling competent and acknowledging that oral care is important, it seems that oral care is not prioritized to the level required by the guidelines, since oral care for residents is mostly not performed twice-a-day and not all nursing staff members consider oral care to be part of ADL care. In line with our hypotheses, we expected that oral care performance would be less than that described in the oral care guidelines.

In this study, nursing staff showed a more positive attitude towards oral care than is generally reported.[26–29] Chami et al. 2012 found that nursing staff felt disgust and there was a negative attitude towards oral care. In our study, nursing staff said that oral care for residents is important and they are not reluctant to perform oral care tasks in residents. This is an important finding as attitudes appear not to be a barrier in daily oral care. Other researchers concluded that there is a complex interaction between barriers and facilitators[19] and we agree with that.

Nursing staff in our sample were mainly nurse assistants, whose vocational education included information about oral care, according to 56% of the respondents. Organizing additional and continuing education and training about oral care was requested by nursing staff, but only 40% of the nursing homes provide such educational sessions, even when this education is the nursing homes' responsibility.

Nursing staff reported a lack of supplies and products for oral care, but on the other hand, toothbrushes and toothpaste were the products that were available and these are the most important products in oral care. Barriers such as 'lack of products', 'lack of time' and 'lack of education' have been described previously.[14,17–19,34] This discrepancy is remarkable and can possibly be explained by the lack of tailored advice by oral health providers about products that can be used in individual residents' oral situations. Some of these barriers could be overcome by implementing a more centralized purchase policy in the institute and/or by making wards responsible for stock acquisition, but *how* to perform oral care or use products well is a matter that should be guided by oral health providers.

Also, it could be the case that nursing staff meant that they lacked products for full dentures and prostheses, because denture brushes, denture cases and detergent tablets are less used/available, whilst the same nursing staff stated that most of the nursing home residents wear full dentures. Possibly, denture care is therefore not sufficient. The proportion of full denture wearing residents mentioned by nursing staff is not consistent with the Dutch national statistics of oral status. The statistics report a lower prevalence of full dentures (55%) among people 65+ years.[35,36] A possible explanation for this deviation is that nursing staff are not always adequately aware of the true dental status of their residents. Similarly, in our study, root caries and yeast infections are almost unmentioned even though they are the most common oral diseases among this group, according to the literature.[37,38] Previous studies have also suggested that nursing staff insufficiently attend to oral health and oral diseases. These facts could, however, be caused by a lack of knowledge and skills.

As discussed in other studies, a frequently mentioned barrier to performing oral care was related to residents' cooperation and behavior, often caused by cognitive impairments/ dementia, which make oral care difficult.[39,40] The nursing staff do not want to 'forcefully' brush a resident's teeth out of respect for the autonomy of the resident and because 'well-being is most important'. This is a complicated matter since the distinction between 'overruling autonomy' versus 'necessary care' is unclear and in our study often mentioned by nursing staff. The barriers 'autonomy of residents' and 'not willing to force residents' are also reported by other researchers.[41] This is a complicated matter and nursing staff should create social norms in discussions of future implementations of oral care. Nursing staff mentioned that the oral status of their residents had already deteriorated at the time of admission to the nursing home and oral care was not in their routines (anymore). A Dutch nursing home study showed that residents entering a nursing home were often severely cognitively impaired and that oral care and dental visits had not been a priority prior to their admission.[42] Taking into account that oral care declines because of impaired ADL and medication use, it is to be expected that older peoples' oral health should be of much more importance when still dwelling at home.

The organization and provision of oral care are the responsibilities of the nursing homes as institutes. An intervention to increase facilitators we identified from this study: oral health providers (who

generally serve as external consultants in case of dental problems) should be employed at the nursing homes. The regular presence of oral health providers was highly valued by the nursing staff and managers, since it was a burden to transport residents to a dental clinic. When an oral health provider is present regularly, dental care is more proactive instead of reactive. In addition, the nursing staff would highly appreciate advice tailored to each resident. Dental hygienists should be the main link to nurse assistants when performing daily oral care and should therefore be present in every nursing home, as suggested by other researchers.[43] The presence and involvement of internal oral health providers is mentioned by nursing staff as a possible facilitator for oral care. Individual oral care plans, as part of general care plans, are not common in the nursing homes we included in our study, while this is part of the national guidelines. Moreover, attention to following the guidelines is required, since these are known to not be present in all nursing homes.

Strengths and limitations of the study

In our study, response bias and social desirability could have biased our results. It is a widespread problem that people who are interested in the subject of oral care are willing to cooperate in research projects, and therefore results may seem too positive. Also, social desirability may have biased the results in a positive direction. Other studies also found a discrepancy between the nurses' statements about performing oral health care and the actual performance.[44] This could also be the case in our study. Additionally, the nurse assistants who completed the questionnaires worked at different times during the day. Therefore, it could be the case that nurse assistants who worked in the morning thought that oral care would be performed before bedtime. Because not all nursing homes report oral care and we did not ask about working time, the results could be positively biased or based on assumptions among the nursing staff.

A strength of our study is that the focus group interviews were carried out by dental hygiene students who were very open to the nursing staff's experiences, and they were unknown to the nursing staff, which allowed the staff to speak more frankly. A limitation could be that nursing staff participating in the focus group interviews were not explicitly asked if they completed the questionnaires before the interviews were held. Furthermore, due to time constraints, we were not able to analyze the results of the questionnaires before the interviews were planned, possibly resulting in less in-depth quality of the interviews.

A strength of this study was the mixed method design that gave a detailed view of the issues and the complex interaction between barriers and facilitators. The validity of the findings concerning the barriers was assumed to be high since the barriers that were mentioned in the focus group interviews were supported by the answers of the open-ended question from the questionnaire.

This study was performed in the North of the Netherlands, and although we think the sample was representative for the Dutch situation, it may not be representative for other (European) nursing homes because of possible difference in care systems between countries. However, by combining insights into nursing staffs' perceptions and attitudes with the results of a quantitative questionnaire, we have added to what is already known about this topic internationally.

Conclusions

This study has gained insight in the oral health care performance in nursing homes from the perspectives of the nursing staff and shed more light on experienced barriers and facilitators in different levels of nursing home organizations. The perceived problems of nursing home staff on how to cope with residents with cognitive impairment was confirmed. More (practical) education, instructions and advice on how to use products combined with tailored advice from internal dental staff could be facilitators to improve daily oral care in nursing homes.

Recommendations

The need for adequate oral care in nursing homes is evident. It is the responsibility of the nursing home and nursing home staff to deliver adequate oral care to their residents. According to our study results, oral care implementation in nursing homes, should include: 1) discussions about the most frequently mentioned barriers, including the autonomy of the resident and the residents ability to perform oral care, 2) training and education about oral diseases, assessment of the residents oral status and oral hygiene, 3) a shared view/norm on oral care as part of ADL and 4) practical exercises in performing adequate oral care and the use of products in different oral situations of residents, and 5) collaboration with oral health provider staff.

Oral health providers also have responsibilities. They are responsible for paying attention to the oral health of home-dwelling, frail, older people prior to an eventual admission to a nursing home. In our opinion, they also have a responsibility to initiate collaborations with nursing homes.

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Declaration of Competing Interest

No conflict of interest has been declared by the author(s).

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Supplementary materials

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