Katholieke Universiteit Leuven
Departement Maatschappelijke Gezondheidszorg
Centrum voor Ziekenhuis- en Verplegingswetenschap
Master in de Verpleegkunde en de Vroedkunde

A survey study on perceptions and attitudes of nurses and nursing aides toward mouth and body hygiene for geriatric patients measured with the Personal Hygiene Perceptions and Attitudes Questionnaire (PHPAQ).

Elise Janssens
Promotor: prof. dr. K. Milisen
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Projectthesis aangeboden tot het verkrijgen van de graad van
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Abstract

Achtergrond: In een ziekenhuis voeren veel verpleegkundigen en zorgkundigen de lichaamshygiëne bij geriatrische patiënten dagelijks uit, terwijl de mondverzorging vaak wordt overgeslagen. Toch is er evidentie dat de mondgezondheid bij afhankelijke geriatrische patiënten suboptimaal is. Voordat veranderingen kunnen geïmplementeerd worden, is het noodzakelijk om inzicht te verwerven in de percepties en attitudes van zorgverleners omtrent persoonlijke hygiëne bij geriatrische patiënten.

Doelstellingen: Ontwikkelen en valideren van de Persoonlijke Hygiëne Percepties en Attitudes Vragenlijst (PHPAV) en het beschrijven van de eerste resultaten van een pilootstudie.

Design en methode: De vragenlijst werd ontwikkeld o.b.v. een literatuurstudie. Een expertenpanel beoordeelde de vragenlijsten ter evaluatie van de inhoudsvaliditeit volgens de methode van Lynn (m.b.v. de content validity index (CVI)). Bijkomend werden ook aangepaste kappa waarden berekend. De indruksvaliditeit werd geëvalueerd door vijf verpleegkundigen en drie zorgkundigen. Een cross-sectioneel design werd gebruikt om the interne consistentie te testen (m.b.v. de Cronbach's alfa en de gecorrigeerde totale-item correlatie) en om de eerste resultaten van de pilootstudie te beschrijven (m.b.v. descriptieve analyses).

Resultaten: Van de 164 items toonden 157 een uitstekende inhoudsvaliditeit, vijf items hadden een goede inhoudsvaliditeit en de inhoudsvaliditeit van twee items was behoorlijk. De gemiddelde CVI van de totale vragenlijst was 0.96. Hoewel enkele bemerkingen werden gegeven, werd de indruksvaliditeit toch als goed beschouwd. De Cronbach's alfa van de zes Likertschalen varieerde van 0.72 tot 0.99 en enkele alfa's veranderden minimaal bij het verwijderen van items. De gecorrigeerde totale-item correlatie varieerde van 0.01 tot 0.99.

Er werden minder barrières ervaren bij de uitvoering van de lichaamshygiëne dan bij de uitvoering van de mondhygiëne. Bijna alle participanten beschouwden zowel de mondhygiëne als de lichaamshygiëne als een prioriteit (respectievelijk 88.1% en 97.3%). Voor bijna alle mondverzorgingshandelingen ging meer dan 75% van de zorgverleners akkoord met de stelling 'Ik heb hier voldoende kennis over' en 'Ik vind deze zorg belangrijk'. Slechts enkele zorgverleners (gemiddeld 20.8%) voerden de verschillende mondverzorgingshandelingen uit volgens de aanbevolen frequentie. Alle deelnemers gaven aan voldoende kennis te hebben over lichaamshygiëne en iedereen beschouwde deze zorg als belangrijk. De verschillende lichaamsdelen werden door de meeste zorgverleners dagelijks gewassen.

Conclusie en relevantie voor de praktijk: De PHPAV toont aanvaardbare tot goede psychometrische eigenschappen en het is een waardevol instrument om de attitudes en percepties van verpleegkundigen en zorgkundigen over mond- en lichaamshygiëne bij geriatrische, afhankelijke patiënten te onderzoeken. Op basis van deze kennis zouden veranderingen in de verpleegkundige praktijk kunnen doorgevoerd worden.

A survey study on perceptions and attitudes of nurses and nursing aides toward mouth and body hygiene for geriatric patients measured with the Personal Hygiene Perceptions and Attitudes Questionnaire (PHPAQ).

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Abstract

Background: In a hospital, many nurses and nursing aides perform body hygiene for geriatric patients on a daily basis while the performance of oral hygiene is often skipped. However, there is evidence that the oral health is suboptimal for dependent geriatric patients. Before implementing changes, it is essential to gain insight into the perceptions and attitudes of caregivers toward personal hygiene for geriatric patients. The aim of this study was to develop and to validate the Personal Hygiene Perceptions and Attitudes Questionnaire (PHPAQ) and to describe the preliminary results of a pilot study.

Methods: The questionnaire was developed based on a literature review. A panel of nine experts evaluated the content validity based on the method of Lynn and was quantified by the content validity index (CVI) and a modified kappa index. Face validity was evaluated by five nurses and three nursing aides. A cross-sectional design was used to test the internal consistency by calculating Cronbach's alphas and corrected item-total correlations and to describe preliminary results using descriptive analyzes.

Results: 157 of the 164 questionnaire items showed excellent content validity, 5 items showed good content validity and 2 items were considered as fair. The average CVI of the total questionnaire was 0.96. Although some remarks were given, the face validity was still considered as good. The Cronbach's alpha of the six Likert scales ranged from 0.72 to 0.99 and some alphas changed minimally when removing items. The item-total correlations ranged from 0.01 to 0.99.

There were fewer barriers perceived in performing body hygiene than in performing oral hygiene. Almost all respondents saw both oral hygiene and body hygiene as a priority (88.1% and 97.3%, respectively). For almost all oral care acts, more than 75% of the caregivers indicated that they agreed on the statement 'I have enough knowledge about this care act' and 'I think this care act is important'. Only few caregivers (an average of 20.8%) performed the different oral care acts according to the recommended frequency. All participants indicated that they had sufficient knowledge about body hygiene and everyone considered these care acts as important. The washing of the different parts of the body was performed daily by almost all participants.

Conclusions: The PHPAQ showed acceptable to good psychometric properties and it is a valuable tool to investigate the attitudes and perceptions of nurses and nursing aides toward mouth and body hygiene for dependent, geriatric patients.

Keywords

Attitude, Perception, Elderly, Body hygiene, Oral hygiene, Nursing staff, Nursing aides, Hospital, Questionnaire.

Background

The number of people aged 80 years or older is increasing [1]. High age may be associated with increased vulnerability, loss of self-reliance and a rising care dependency, indicative for a geriatric profile. Many geriatric patients become dependent for their personal hygiene (which includes the body and mouth hygiene), especially when hospitalized [2]. In a hospital, this care is usually performed by nurses and nursing aides.

Cowdell (2011) describes body hygiene as the cornerstone of nursing practice [3]. Body hygiene keeps the skin and the genitals clean and healthy, reduces the risk on infections and it may improve the self-image of the geriatric patient. Because of the altered physiology of the older skin, frequent washing with water, soap and detergents can also cause problems such as skin dryness and irritation [3, 4, 5]. Although, daily washing with soap and water is the standard in many hospitals, there is no clear evidence for this intensive and time-consuming act [5]. Findings from previous research shows that this act has become a habit that meets the needs of a routing for the caregivers, more than the therapeutic needs of the elderly [6,7]. Strange (2001) concludes that caregivers often find it obvious that it is happening, but that does not imply that it is the best approach [8].

The personal hygiene also contains the mouth hygiene. This includes all basic actions that promote and maintain a good oral health which is important for general health and wellbeing of the older person [9,10]. Poor oral health can lead to dental caries, infections, aspiration pneumonia, weight changes,... [11,12]. Despite the obvious importance of this act, there is evidence that the oral health is suboptimal for dependent elderly people [13]. Inadequate daily oral care provided by caregivers in hospitals is a significant factor for poor oral health [11]. Previous studies indicate that oral hygiene appears to be given low priority in practice due to the many barriers that caregivers experience in this care act (lack of time, lack of knowledge, lack of cooperation from the patient...). So, this care act will only be executed if the patient has specific symptoms or problems [10,13,14,15,16,17].

Before implementing changes, it is necessary to understand the reasons why patients are washed daily and why oral health gets a much lower priority. Therefore, it is not only essential to gain insight into the context, but also into the perceptions and attitudes of the target group [12,18]. It has been suggested that the discrepancy between knowledge and behavior is influenced by the attitudes and perceptions toward hygienic care [19]. Looking at mouth and body hygiene in a new way may offer nurses and nursing aides the possibility to integrate creativity, innovation and common sense into this area of care [20]. Based on new scientific evidence, improvement strategies could be developed

and selected to implement sustainable changes in the current hygienic care and both the body hygiene and the mouth hygiene could become a more meaningful and efficient care act [18].

Literature review showed that the quality of the existing studies on the perceptions and attitudes of nurses and nursing aides toward mouth and body hygiene for a geriatric, hospitalized patient is low [Unpublished review; Janssens E, Steeman E, Milisen K, 2014]. The measurement instruments of the included studies on perceptions and attitudes toward mouth hygiene, have a moderate to poor quality. No recent studies on the perceptions and attitudes of caregivers toward body hygiene are published. There is a need for further research within this research theme.

The first aim of this study was to develop and validate the Personal Hygiene Perception and Attitude Questionnaire (PHPAQ), a questionnaire on perceptions and attitudes of nurses and nursing aides toward mouth and body hygiene for geriatric, hospitalized patients who are dependent for mouth and body hygiene. Because of the different care context, the perceptions and attitudes of caregivers in a nursing home can differ from caregivers in a hospital. The researchers decided to focus on hospitalized patients. A second aim was to describe preliminary results of nurses' and nursing aides' perceptions and attitudes toward mouth and body hygiene based on survey data.

Method

A) Development and validation of the PHPAQ

Phase 1: Literature review

The first step in the development process of the questionnaire was conducting a literature review of existing studies and questionnaires on perceptions and attitudes of nurses and nursing aides toward mouth and body hygiene. The databases Medline, Cinahl, Web of Science, Science Direct, Embase and de Cochrane library from January 1994 to October 2014 were searched. The snowball method was also applied.

Phase 2: Experts' agreement on item relevance

Content validity of the questionnaire was tested based on the method of Lynn [21,22]. An expert panel was asked to rate each item of the questionnaire on its relevance and its formulation, using a 4-point Likert-type format, ranging from 'completely irrelevant' (score 1), 'impossible to judge the relevance without adjustments or the item must be reworked so that it would no longer be relevant' (score 2), 'relevant, with minor adjustments' (score 3) and 'highly relevant and well defined' (score

4). If the expert gave a 1, 2 or 3 score, he/she was encouraged to formulate suggestions or remarks to improve the item [21,22].

The content validity was calculated for each item (item content validity index or I-CVI) and for the total questionnaire (scale content validity index or S-CVI). The I-CVI is the proportion of experts who rate content of the item as valid and was calculated by the number of experts who scored 3 or 4 on the item, divided by the total number of experts who rated the item. The I-CVI was rated as good when the value was at least 0.78 [21,22]. An I-CVI was corrected for chance agreement by calculating the modified kappa statistic (k*) (an index of agreement among experts that the item is relevant). To compute the modified kappa, the probability of chance agreement was computed first: Pc= [N!/A!(N-A)!]*0,5N (N is the number of experts and A is the number agreeing on good relevance). Next, the k* was calculated with the formula $k^* = (I\text{-}CVI\text{-}P_c)/(1\text{-}P_c)$ [22]. Finally, the standards described in Cicchetti and Sparrow (1981) and Fleis (1981) were applied to evaluate whether the value for each k* was excellent (more than 0.74), good (between 0.60 and 0.74) or fair (between 0.40 and 0.59) [23,24].

To calculate a S-CVI, different methods were applied. The first method was to calculate the $S\text{-}CVI_{Ave}$ (average scale content validity index). This is the average of all the I-CVIs of the individual items. The second method was to require 'universal agreement' among experts. The $S\text{-}CVI_{UA}$ (scale content validity index universal agreement) is defined as the proportion of items on an questionnaire that achieved a rating of 3 or 4 by all the experts. Content validity indexes were rated as good when $S\text{-}CVI_{Ave}$ and $S\text{-}CVI_{UA}$ were at least 0.90 and 0.80, respectively [22].

Phase 3: Face validity

The face validity of the questionnaire was tested by five nurses and three nursing aides. They were asked to study the questionnaire thoroughly and they were guided by specific questions such as: 'Are these questions comprehensible?', 'Do you understand all the words?', 'Is the layout clear',... In case of ambiguities, they were asked to suggest improvements. The nurses and the nursing aides also received the instruction to fill in the questionnaire, in order to determine the necessary completion time so that a target time could be passed to the participants of the study. Comments were then discussed by the researchers until consensus was reached and a final questionnaire was established [25].

B) Psychometric testing and preliminary results of the PHPAQ based on survey data

Design, participants and variables

A cross-sectional design was used to test the internal consistency of the questionnaire and to describe preliminary results. Inclusion criteria for the sample were: being a nurse or a nursing-aid; being minimum 18 years old; working at a medical, a surgical or a geriatric ward; and practicing mouth and body hygiene for geriatric patients (more than 65 years old). Those working exclusively at night were excluded. Respondent demographic characteristics such as age, gender, professional category, professional experience and type of care unit were surveyed. The demographic data were only required to know the characteristics of the population (in consideration of the generalizability) and not to seek correlations with the results on personal hygiene.

Setting, data collection and ethical considerations

A convenience sample of 312 nurses and nursing aides was obtained in the non-academic general hospital of Sint-Niklaas. The questionnaires were distributed among the nurses and nursing aides by the head nurse or the researcher and had to be completed within 10 days. All completed questionnaires were collected in an envelope on the ward. Two days before collecting the questionnaire, a reminder was sent to the head nurses.

An introductory letter of the questionnaire informed potential respondents about the purpose of the study, the fact that questionnaires were treated anonymous, the fact that participation was voluntary and the fact that the decision to return a completed questionnaire served as their informed consent. The study was approved by the Medical Ethics Committee of the non-academic general hospital Nikolaas and by the Medical Ethics Committee of the Leuven University Hospitals according to the International Conference on Harmonization Guidelines on Good Clinical Practice (ICH-GCP).

Statistical analysis

Descriptive statistics were used to describe the population characteristics as well as the responses of the questionnaire. Negatively expressed items of the questions 3.3 and 4.3 were reversed before analysis (‘a stressful task for the caregiver’, ‘a task that takes up too much valuable time’ and ‘a neglected action’). The internal consistency of the three Likert scales ‘statements regarding perceptions and attitudes’, ‘knowledge’ and ‘importance’ (both mouth and body hygiene) was measured by calculating Cronbach’s alphas (cut-off = 0.7) and corrected item-total correlations (cut-off = 0.3) (the correlations between each item and the total score of the questionnaire) [26]. In addition to comparing the results for body hygiene and mouth hygiene, results for geriatric wards (5)

and non-geriatric wards (16) were also compared to determine if these two groups of caregivers have a different perspective on the basic care issues. All data were analyzed using Statistica version 12.

Results

A) Development and validation of the PHPAQ

Phase 1: Literature review and development of the PHPAQ

Eighteen studies within the predefined research theme and with questions that might be used in the PHPAQ, were found in the databases Cinahl, Medline and Web of Science, using the following combinations of (MeSH-)terms: “Perception” and "Oral care"[9], "Oral hygiene" and "Attitude"[Mesh] [12], "Dental Care for Aged"[Mesh] and “Experiences” [14,17], "Oral hygiene"[Mesh] and “Perception” [16], “Oral health care" and “Elderly” [19], "Perspectives on bathing" [27], "Dental Care for Aged"[Mesh] and "Attitude of Health Personnel"[Mesh] [28,29], “Oral hygiene''[Mesh] and “Perspectives” [30], “Attitude of health personnel”[Mesh] and “Oral hygiene”[Mesh] [31,32], “Aged”[Mesh] and “Attitude of health personnel”[Mesh] and “Nursing Staff, Hospital”[Mesh] [33,34], “Aged”[Mesh] and “Nursing Staff, Hospital”[Mesh] and "Questionnaires"[Mesh] [35], "Oral Hygiene"[Mesh] and "Questionnaires"[Mesh] [36], “De Visschere” [10] and “van Achterberg” [37]. The snowball method further added four articles [38-41].

After a thorough review of the collected data and the removal of overlapping items, a questionnaire was developed which gauges the perceptions and attitudes toward oral hygiene. Because very little literature on body hygiene was available and in order to unify the two parts of the questionnaire, the questionnaire on oral hygiene was used to make a similar questionnaire to gauges the perceptions and the attitude toward body hygiene. The PHPAQ consisted of five parts: guidelines for completing the questionnaire, demographic data, questions regarding oral hygiene, questions regarding body hygiene, questions regarding the comparison of oral hygiene and body hygiene. The last three sections inquired perceptions and attitudes. The operationalization of these concepts was done using several statements regarding perceptions and attitudes in which participants must indicate the extent to which they agree. Participants were also asked to identify up to three major perceived barriers and three major experienced incentives to perform the body hygiene and the oral hygiene. Further, they were asked for each oral care act and body care act to what extent they have sufficient knowledge, to what extent they find these care acts important and how often they perform these

care acts. The design of this last question was done with help of an expert dentist, as well as using some Dutch guidelines, obtained from the same dentist [42,43] (Appendix A).

Phase 2: Content validity of the PHPAQ

Nine of the sixteen invited experts evaluated the questionnaire, seven experts didn't respond. The response rate sufficed because according to Lynn (1986), a minimum of five experts provides a sufficient level of control for chance agreement [21]. This final panel consisted of nine experts from different hospitals including a chief nurse of a geriatric ward, a geriatrician, a (chief) nurse of a geriatric nursing support team, a dentist, a geriatric care manager, a cluster manager and an ethics expert.

The experts agreed on most of the proposed questions. However, a subset of items (n = 7) had to be reformulated to provide a valid questionnaire. 157 of the 164 items (95.7%) of the questionnaire showed excellent content validity ($0.78 \leq$ I-CVI and $0.74 < k^*$), 5 items (3%) showed good content validity (I-CVI < 0.78 and $0.60 \leq k^* \leq 0.74$) and 2 items (1.2%) were considered as fair (I-CVI < 0.78 and $0.40 \leq k^* \leq 0.59$). The $S\text{-}CVI_{UA}$ of the total questionnaire was 0.76, just below the cut-off of 0.80. The $S\text{-}CVI_{Ave}$ was 0.96, above the cut-off of 0.90. $S\text{-}CVI_{Ave}$ and $S\text{-}CVI_{UA}$ of the four parts of the questionnaire were 0.88 and 0.43 for the 'demographic data' 0.97 and 0.86 for the part 'mouth hygiene', 0.96 and 0.68 for the part 'body hygiene' and 1.00 and 1.00 for the part 'compare oral hygiene and body hygiene', respectively (Appendix B).

Only one question (item 6) was deleted in the 'demographic data'–part, because this question proved to be not relevant. All the other questions were kept, just to assess demographic data, not to associate with the results. One answer category was added to question 2.5 ('Support team, please specify: ....'). Item 33, 38, 39, 45, 110, 115, 116 and 122 were removed because they were categorized as irrelevant and some of them were not clearly formulated. Questions 3.3 and 4.3 were integrated in questions 3.4 and 4.4, respectively. Following experts' recommendations, one item was added to questions 3.1 and 4.1 ('Poor oral/body hygiene of the patients'), three items were added to questions 3.4 and 4.4 ('A moment of observation', 'A wellbeing-enhancing action' and 'My reasonability') and other items were reformulated in questions 3.1, 3.2, 3.5, 4.1, 4.2 and 4.5. Some questions were also reformulated to make the questionnaire clearer (for more details, see Appendix B). After ascertaining the content validity, two items ('It is a task for which adequate training is given' and 'A neglected action') were added to question 3.4 and 4.4 from a later discovered questionnaire ('Oral hygiene in stroke units') [44].

Phase 3: Face validity

Some remarks were given by the five nurses and three nursing aides who evaluated the face validity of the questionnaire. Comments were discussed by the researchers until consensus was reached. Minor changes were implemented to improve the clarity and the completeness of the questionnaire e.g. the introductory text was shortened, items 27, 42, 104 and 119 were removed because they were difficult to understand or the meaning was indistinguishable from the other items; for clarity items 30 and 107 were split into two separate items and for completeness 'Rinsing the mouth with water' was added to question 3.5 in 'Patients with prosthesis' (Appendix B). Also a few language errors were detected and corrected. A final questionnaire was established (Appendix A).

B) Psychometric testing of the PHPAQ based on survey data

Sample characteristics

The overall study response rate was 61% (n = 189/312) (Figure 1). The average age of the participants was 37.1 years (2 missing, range = 21–60, SD = 11.41). Most of the participants were women (n = 165, 1 missing, 87%). 39.2% of the participants were licensed practical nurses (n = 74), 50.8% were bachelor nurses (n = 96), 1.1% were master nurses (n =2), 8.5% were nursing aides (n = 16) and one person did not specify his/her professional category (0.5%). The average job experience of the participants was 14.1 years (3 missing, range = 0–38.5, SD = 11.31). The majority was employed during the dayshift (n = 179, 2 missing, 94.7%), the others worked at night and during the day (4.2%). 31.2%, 33.9%, 24.3% and 10.6% worked on a medical, a surgical, a geriatric or another ward(geriatric rehabilitation ward), respectively.

Internal consistency

Cronbach's alpha of the Likert scale 'Statements regarding perceptions and attitudes toward mouth hygiene' was 0.66, below the cut-off of 0.70 (Table 1). This alpha had minimal changes when the items 'A stressful task for the caregiver' and 'A task that requires the participation of the patient' were removed (0.69). The item-total correlations ranged from 0.01 to 0.50. Three items correlated weakly with the sum of the other items ($r < 0.3$), while the other nine items correlated moderately ($0.3 < r < 0.7$). The 'Statements regarding perceptions and attitudes toward body hygiene' scale had an alpha coefficient of 0.72, (> 0.70) and had minimal changes when the items 'A stressful task for the caregiver', 'A task that requires the participation of the patient' and 'A task for which adequate training is given' were removed (0.74) (Table 1). The item-total correlations ranged from 0.13 to 0.56. Four items correlated weakly with the sum of the other items ($r < 0.3$), while the other eight items correlated moderately ($0.3 < r < 0.7$).

For the ‘Knowledge of mouth hygiene of patients with the own teeth’ scale and ‘Knowledge of mouth hygiene of patients with dentures’ scale, the alpha coefficient was 0.83 and 0.88, respectively (Table 2). The first Cronbach’s alpha value increased slightly (0.85) with the exclusion of the variable ‘Cleaning between the teeth’. The item-total correlations were moderate and ranged from 0.41 to 0.69 and from 0.61 to 0.78, respectively. The Likert scales ‘Importance of mouth hygiene of the own teeth’ and ‘Importance of mouth hygiene of dentures’ had an alpha coefficient of 0.79 and 0.80, respectively (Table 2). The latter Cronbach’s alpha value increased slightly (0.82) with the exclusion of the variable ‘Soaking the prosthesis during the night’. The item-total correlations were moderate and ranged from 0.50 to 0.68 and from 0.40 to 0.65, respectively.

The ‘Knowledge of body hygiene’ scale showed an alpha coefficient of 0.99 (Table 3). The item-total correlations were high, ranged from 0.89 to 0.99. For the ‘Importance of body hygiene’ scale, the Cronbach’s alpha was 0.94 and the item-total correlations ranged from 0.68 to 0.84 (table 3).

C) Preliminary results of the PHPAQ based on survey data

1) Barriers and incentives of mouth hygiene and body hygiene

The participants were asked which barriers and incentives they experience in performing oral hygiene and body hygiene (Table 4). The most commonly reported barriers in performing oral hygiene were ‘Patient’s resistance’ (52.9%) and 'Not enough time’ (36.5%). 20.1% experienced no barriers. There were fewer barriers perceived in performing body hygiene. 36.7% experienced 'Patient’s resistance’ as a barrier and almost half of the respondents experienced no barrier (49.2%). In performing the body hygiene, only 5.9% of the caregivers experienced ‘Not enough time’ as a barrier. The caregivers of the non-geriatric wards reported ‘Not enough time’ (41.3%) more frequently as a barrier to performing oral hygiene than the caregivers of the geriatric wards (21.7%). Both in the performance of oral hygiene and body hygiene, more participants of the geriatric wards experienced no barrier (36.7% and 56.8%) than the participants of the non-geriatric wards (14.7% and 46.6%) (Table 4).

Both in the performance of oral hygiene and body hygiene, the most frequently reported incentives were ‘The importance of mouth/body hygiene’ (82.0%/93.1%), ‘Avoiding mouth/skin problems’ (59.8%/55.6%) and ‘The own sense of satisfaction after performing mouth/body hygiene’ (49.2%/42.8%). Also for both oral hygiene and body hygiene, more caregivers of the geriatric wards experienced ‘Avoiding mouth/skin problems' as an incentive (78.3% / 65.9%) than the caregivers of other wards (53.6% / 52.5%). The caregivers of the non-geriatric wards reported ‘My own

mouth/body hygiene' (30.8% / 35%), 'I want to be seen as a good caregiver (14.7% / 14.7%,) and 'Patient's habits' (21% / 15.4%) more frequently as an incentive to performing oral and body hygiene than the geriatric ward caregivers (19.6% / 15.9%, 2.2% / 4.6% and 4.4% / 6.8%; respectively) (Table 4).

2) Statements regarding perceptions and attitudes toward mouth hygiene and body hygiene

The participants were asked to which extent they could agree with some statements on oral hygiene and body hygiene. Table 5 shows the results. Almost all respondents saw both oral hygiene and body hygiene as a priority (88.1% and 97.3% agreed or strongly agreed, respectively), as a part of the elementary basic care (97.8% and 98.9% agreed or strongly agreed, respectively), as a moment of observation (94.6% and 98.9% agreed or strongly agreed, respectively), as a health-enhancing action (96.7% and 97.8% agreed or strongly agreed, respectively) and as a wellbeing-enhancing action (95.1% and 98.4% agreed or strongly agreed, respectively). Less than 25% considered oral hygiene and body hygiene as a stressful task for the caregiver (21.7% and 17.6% agreed or strongly agreed, respectively) and as a task that takes up too much valuable time (21.7% and 27.3% agreed or strongly agreed, respectively) (Table 5).

Concerning body hygiene, 75.6% agreed or strongly agreed with the statement 'It is a task for which adequate training is given' and 85.6% agreed or strongly agreed with the statement 'It is a task that requires the participation of the patient'. For oral hygiene, this was only 38.8% and 76.6%. The participants considered the performance of oral hygiene, more than body hygiene, as a neglected action (45.0% and 6.7% agreed or strongly agreed, respectively) and as their responsibility (97.2% and 74.7% agreed or strongly agreed, respectively). All caregivers were satisfied with the performance of body hygiene (100% agreed or strongly agreed). As for oral hygiene, this was 89.8% (Table 5).

In almost all statements regarding body hygiene, the geriatric ward caregivers agreed or strongly agreed more than the caregivers of the non-geriatric wards. 97.7% of the geriatric ward caregivers agreed or strongly agreed with the statement 'It is my responsibility'. For the non-geriatric ward caregivers, this was only 73.94%. In 8 of the 12 statements regarding mouth hygiene, the caregivers of the geriatric wards agreed or strongly agreed more than the non-geriatric ward caregivers. 54.7% of the geriatric ward caregivers agreed or strongly agreed with the statement 'It is a task for which adequate training is given'. For caregivers employed in a non-geriatric ward, this was only 33.8% (Table 5).

3) Knowledge, importance and implementation of mouth hygiene

For almost all oral care acts, more than 75% of both geriatric ward caregivers and non-geriatric ward caregivers indicated that they agreed or strongly agreed with the statement ‘I have enough knowledge about this care act’. Only 63.6% of all participants agreed or strongly agreed with the statement 'I have enough knowledge on how to clean between the teeth'. There were fewer geriatric ward caregivers who agreed or strongly agreed with the statements ‘I have enough knowledge about rinsing the mouth with water (76.7%)’, ‘I have enough knowledge about brushing the prosthesis’ (67.6%) and ‘I have enough knowledge about soaking of the prosthesis during the night' (75%) than non-geriatric ward caregivers (91.2%, 99.7% and 88.6%, respectively) (Table 6).

As for the statement 'I think this care act is important', for almost all oral care acts, more than 75% of both geriatric ward caregivers and non-geriatric ward caregivers indicated that they agreed or strongly agreed. 68.2% of the geriatric ward caregivers agreed or strongly agreed with the statement ‘I think it's important to clean between the teeth' and 69.8% agreed or strongly agreed with the statement ‘I think it’s important to soak the prosthesis during the night’. Among non-geriatric ward caregivers, this was 53.3% and 89.4% (Table 6).

For 10 of the 13 oral care acts, more caregivers of the geriatric wards performed the acts according to the recommended frequency than non-geriatric ward caregivers. Only ‘The use of mouth rinse' was performed correctly more often by non-geriatric ward caregivers than by their geriatric ward colleagues (39% and 24.4%). Table 6 gives an overview of the frequency of performing the different oral care acts by the participants. Generally, it can be said that only few caregivers (an average of 20.8%) performed these care acts according to the recommended frequency. Only the removal of the prosthesis was done every night by 61.7% of the non-geriatric ward caregivers and by 78.6% of the caregivers of the geriatric wards (Table 6).

4) Knowledge, importance and implementation of body hygiene

All participants indicated that they have sufficient knowledge about the body care acts of the various body parts and everyone thought these care acts are important. Only the ‘Washing without water’-technique got a different assessment. More than half of the participants disagreed or strongly disagreed with the statements 'I have sufficient knowledge about the ‘Washing without water’-technique' (68%) and ‘I find the ‘Washing without water’-technique important’ (55.2 %) (Table 7).

The washing of the different parts of the body was performed daily, or more frequently, by almost all participants. Only washing of the legs and washing of the feet was done by some participants every

two days (11.5% and 34.3%, respectively). The 'Washing without water'-technique was never used by 74.6% of respondents (Table 7).

5) Statements regarding perceptions and attitudes toward the comparison of mouth hygiene versus body hygiene

Most of the participants disagreed or strongly disagreed with the statement 'Performing body hygiene is mentally harder than performing mouth hygiene on geriatric patients' (81.5%). Most participants agreed or strongly agreed with the statement 'Performing body hygiene is physically harder than performing mouth hygiene on geriatric patients' (85.7%). 48.9% of the non-geriatric ward caregivers agreed or strongly agreed with the statement 'With geriatric patients, I consider body hygiene more important than mouth hygiene' and 92.0% agreed or strongly agreed with the statement 'With geriatric patients, I spend in proportion more time on body hygiene than on mouth hygiene'. Among the caregivers of the geriatric wards, this was 21.0% and 75.6%, respectively (Table 8).

Discussion

A) Development, validation and psychometric testing of the PHPAQ

The first purpose of this study was to develop and to assess the validity and reliability of the Personal Hygiene Perception and Attitude Questionnaire (PHPAQ). Based on an extensive literature review, it can be concluded that this is the first questionnaire on perceptions and attitudes of nurses and nursing aides towards mouth and body hygiene for geriatric, hospitalized patients who are dependent for mouth and body hygiene.

Most findings support the validity of The PHPAQ. Experts judged the majority of items as relevant. The results of both measurements, k* and I-CVI, were in line with each other, with items not showing excellent k* values not meeting the I-CVI criterion of 0.78 and vice versa, indicating that both methods resulted in the same conclusion. The S-CVI_{UA} of the total questionnaire was 0.76, just below the cut-off of 0.80 but due to the large number of experts and the large number of items, it can be said that the amount of items with unanimity among experts was acceptable. However, after removing the items 6, 33, 34, 38, 39, 45, 110, 111, 115, 116 and 122 (Appendix B), the S-CVI_{UA} increased to 0.82. The two items that were added after the content validity ('It is a task for which adequate training is given' and 'A neglected action') were not evaluated by the expert panel. Yet,

discussions between researchers led to a consensus to the relevance of these items and were therefore included in the final questionnaire.

We tested the internal consistency of the six Likert scales of The PHPAQ and found good alpha values, between 0.72 and 0.99. This means that the items measure the same concept, namely the attitudes and perceptions of the nurses and nursing aides toward personal hygiene for geriatric patients. Except for the scale 'Statements regarding perceptions and attitudes toward mouth hygiene', the Cronbach's alpha was 0.66, close to the recommended limit of 0.70. The lower alpha of the above-mentioned scale and of the 'Statements regarding perceptions and attitudes toward body hygiene' scale (0.72), may be due to the fact that the assumption of positive correlations was not met. Some low negative correlations disturbed the values of the Cronbach's alphas and the item-total correlations. If the items 'A stressful task for the caregiver' (item 40), 'A task that requires the participation of the patient' (item 41) and 'A task for which adequate training is given' were removed from the 'Statements regarding perceptions and attitudes toward mouth hygiene' scale, the negative correlations disappeared and the alpha increased to 0.73. If the items 'A stressful task for the caregiver' (item 116) and 'A task that takes up too much valuable time' (item 121) were removed from the 'Statements regarding perceptions and attitudes toward body hygiene' scale, the negative correlations disappeared and the alpha increased to 0.78. Low negative correlations indicate a poor coherence between two items, probably because the participants gave these items different scores. Because the Cronbach's alphas were good, these items would be allowed to be maintained in the questionnaire. The fact that several bad correlations can still give a good Cronbach's alpha, must be taken into account. Looking at the item-total correlation is a next step to determine whether these items really contribute to measuring the construct.

More than half of the item-total correlations from the 74 items of the six Likert scales were moderate. The instrument showed nine items with a low item-total correlation and twenty items with a high item-total correlation. A low item-total correlation might indicate that the item was not measuring the same construct measured by the other instrument items [26]. While a correlation value less than 0.3 would suggest that the corresponding item did not correlate well with the overall instrument, deleting these items did not increase or only very slightly increased the Cronbach's alpha. When comparing the items with a low item-total correlation (40, 41, 116, 118, 121; notice that these are the same items as above) with the results of the content validity index, it is noticed that these items had an excellent agreement on item relevance (e.g. k*-value and content validity index) and may indicate a good contribution to the scale. However further testing is warranted to resolve this issue and to determine whether these items really contribute to measuring the construct.

The high item-total correlation of the scales ‘Knowledge of body hygiene’ and ‘Importance of body hygiene’ might indicate that the items distinguished themselves insufficiently from the total and that all participants gave the same answers on all the items [26]. This could indicate that nurses and nursing aides think less about these care acts and find it obvious to carry out personal hygiene.

B) Preliminary results of the PHPAQ based on survey data

The second purpose of this study was to describe the preliminary results of the PHPAQ. In general, there were fewer barriers perceived in performing body hygiene than in performing mouth hygiene. Notable was the fact that the participants of geriatric wards experienced fewer barriers both in the performance of oral hygiene and body hygiene than the participants of a non-geriatric wards. Better understanding of the reason for this fact, and determining whether or not there is a causal link between the lower experience of barriers and the fact that the oral hygiene acts were performed more often (the results had shown that geriatric ward caregivers performed the oral care acts more often than non-geriatric ward participants), could help to reduce the number of barriers of the non-geriatric ward caregivers and eventually to increase the frequency of performance of the oral care acts.

A lot of participants perceived ‘Patient’s resistance’ as a barrier in performing personal hygiene (more often experienced in mouth hygiene). This could mean that the participants consider the autonomy of the patient as an important element of quality nursing care. Gastmans (2006) also describes that the autonomy of the geriatric patient should not be neglected [6]. Furthermore, the motivation of the non-geriatric ward caregivers was not only the result of their own satisfaction (‘My own mouth/body hygiene’ and 'I want to be seen as a good caregiver), but it was also the result of the patients desire (‘Patient’s habits’). Besides that, there were also some caregivers who disagreed with the statement ‘The performance of mouth hygiene/body hygiene requires the participation of the patient’. This disagreement indicates that the participants don’t always take enough notice of the autonomy of the patient.

A systematic review and meta-analysis indicated that oral health education programs for caregivers may be effective for improving the oral health of the elderly [45]. Yet, only 38.8% of the caregivers indicated that they had received sufficient training on performing oral hygiene. Contradictory, they indicated that they did have sufficient knowledge of almost all oral care acts. Although more geriatric ward caregivers agreed with the statement ‘The performance of mouth hygiene is a task for which adequate training is given' (yet only 54.7%) than the non-geriatric ward caregivers, it is important to

say that the former group still experiences less knowledge about certain oral care operations than the latter group, namely ‘I have enough knowledge about rinsing the mouth with water’, ‘I have enough knowledge about brushing the prosthesis’ and ‘I have enough knowledge about soaking of the prosthesis during the night'. Despite the above findings, geriatric ward caregivers performed the mouth care act more frequently than non-geriatric ward caregivers and both categories didn’t perceive the item 'lack of expertise' as a barrier. So there are probably other barriers that prevent the caregivers from performing the oral care.

The barrier ‘Not enough time’ was a frequently perceived barrier in the performance of the oral hygiene while this barrier was almost not experienced in the performance of the body hygiene. Furthermore, most of the participants agreed or strongly agreed with the statement ‘With geriatric patients, I spend in proportion more time on body hygiene than on oral hygiene’ and more participants considered oral hygiene, more than body hygiene, as a neglected action. The results also show that the oral care acts were not carried out frequently enough. However, most of the participants experienced ‘The importance of mouth/body hygiene’ as an incentive (more often experienced in body hygiene than in oral hygiene) and both oral hygiene and body hygiene were experienced as a priority, as a part of the elementary basic care, as a moment of observation, as a health-enhancing action, as a wellbeing-enhancing action and as the caregivers’ responsibility. Finally, these care acts weren’t experienced as a task that takes up too much valuable time and most of the participants agreed or strongly agreed with the statement ‘I think the performance of mouth hygiene/body hygiene is important’. From these findings, it can be concluded that the importance of both care acts is recognized by the caregivers, but due to the barriers and the lack of time, the oral care acts aren’t given according to the recommended frequency. These care acts are considered as a priority, but in practice, they are not. These findings correspond with previous research [10,13,14,15,16,17]. To create a policy in which these two priorities receive the necessary time and attention, is a challenge for the future. First of all, the reason why geriatric ward caregivers perceived the barrier ‘Not enough time’ to perform oral hygiene less than non-geriatric ward caregivers can be the subject for further research, and the results can be applied on non-geriatric wards. A possible explanation for this result could be the fact that non-geriatric wards have a more chronic patient population in comparison with non-geriatric wards, that also have an acute patient population. As a result, geriatric ward caregivers have less work with acute care acts and have therefore more time for hygienic care acts.

The participants considered the performance of oral hygiene, more than body hygiene, as their responsibility. This finding is in line with findings of previous research [14,16]. However, the

participants experienced some oral care acts as insufficiently known and as unimportant ('cleaning between the teeth' and 'soaking the prosthesis during the night'). If the caregivers would pay more attention to these care acts, the quality of the oral hygiene for geriatric patients could rise. Yet, most of the caregivers were satisfied with the given oral care. This could mean that they don't realize that they will have to improve their current habits. Further research is needed to confirm this hypothesis.

All participants found the performance of body hygiene important, they had sufficient knowledge about the body care acts of the various parts of the body, they performed these care acts on a daily basis and they didn't think this tasks takes up too much valuable time. Also the performance of body hygiene was experienced as a physically harder task than performing oral hygiene. All caregivers were satisfied with the given body care. This may suggest that they would not want to change their current practices and it can be deduced that the participants would not want to reduce the performance of the body care acts. However, reducing the frequency of performing body hygiene can lead to more time for oral care acts or other important nursing tasks and less physical burden for caregivers. The current disadvantages of frequent washing could also be reduced by applying other washing techniques like the 'Washing without water'-technique. Time and cost saving are just a few advantages of this washing technique [35]. Nevertheless, this technique is still not known and applied in practice, which is also confirmed by this study.

C) Limitations and implications

Our study has several limitations, but also suggests several areas for future research. Primary, for the development of the questionnaires some requested, existing questionnaires were never obtained from the authors. This missing information could have improved the current questionnaire (PHPAQ).

The method of Lynn is seen as an extensive method to evaluate the content validity and has shown valuable results. Yet, there are some limitations on the method used in this study. In this study we have done only one round of expert review, but although the first round gave good results, the recommended number of rounds is two [22]. Face validity was tested only on a small group of nurses and nursing aides selected from the peer group of one of the researchers and therefore might not be very objective.

On the one hand, the response rate was good, on the other hand there was a significant proportion of missing data. In total, there were 2.82% missing data. For some items, the number of missing data rose to almost 10%. If an item has a lot of missing data, the results of this item might be biased.

Further research should address the extent to which the missing data on specific items were due to a reluctance to fill out this type of questions because of their sensitive nature or because respondents did not understand the question. Indeed, some questions should be changed so that the questions are unambiguous. Some participants suggested to change the answer option 1x/day into ≥ 1x/day for some oral care acts (items 74, 75, 77, 79, 81, 83) in question 3.4 'How often do you perform this care act with a geriatric patient who is dependent for the mouth care?', to obtain a more correct answer (Appendix A and B). Likewise, probably the participants interpreted the item 'I consider the mouth/personal hygiene in geriatric patients as a task about which adequate training is given' in a different way because some participants wrote down a remark on that question. This question is about providing training to caregivers, not about providing training to patients. This item had a low item-total correlation (0.19) which means that this item was not measuring the same construct as the other included items. Because this item was added after evaluating the items by the experts, the low item-total correlation can't be compared to the content validity index. Retaining this item is debatable. Caution regarding the interpretation of the results from this statement is necessary. Further research will be needed to preserve whether or not the findings regarding this statement and to optimize the questionnaire.

Despite the fact that it was mentioned that the participants could only indicate a maximum of three barriers and three incentives, some participants indicated more than three incentives, both in oral hygiene and in body hygiene. For the barriers, most caregivers restricted themselves to a maximum of three items. This may indicate that they experienced more incentives by performing the care acts than they experienced barriers. Another hypothesis is that participants answered in a socially desirable way. The fact that the upper items of the list were most designated, may indicate that they didn't read well the different items and that they indicated the upper items out of easiness. A new study in which the order of the items is reversed, would be able to bring more clarity on this. Also for other questions, illogical answering patterns were seen. E.g. a participant indicated in question 4.4 'How often do you perform this body care act?' always the same answer, namely ≥ 1x/day (also on the 'Washing without water'-technique), while the other caregivers of the ward indicated that they have never used the 'Washing without water'-technique. This may indicate that the participant filled in question 4.4 blindly, without reading the various body care acts (Appendix A). In further research, the stability should be examined in order to improve the reliability.

A few items gauge the organizational context of the care (e.g. training, equipment, department policy) rather than the perceptions and attitudes of the caregivers. While the consideration of these aspects is important to make meaningful changes, the purpose of this survey was to gauge the

perceptions and attitudes of caregivers toward personal hygiene. Surely, as mentioned in the introduction, the examination of the inner motives and attitudes are crucial to implement permanent changes. It must be considered if these items are to be maintained in the questionnaire.

Because non-respondents were not identifiable and traceable, we do not know if there are significant differences between respondents and non-respondents in terms of demographic data and perceived perceptions and attitudes. In one ward, not a single caregiver responded. Because caregivers of different wards can give different attention to the personal hygiene, one possible explanation could be that the caregivers of this ward gave little attention to personal hygiene and therefore weren't interested in completing the questionnaire. Also caregivers with a different education degree may have different perceptions and attitudes on basic care issues. In the analysis, no difference was made between nurses and nursing aides because of the limited number of nursing aides in the sample. Further research is needed to determine whether these two groups of caregivers have different perceptions and attitudes toward mouth and body hygiene for geriatric patients and whether there is a relationship between demographic data and perceived perceptions and attitudes.

Generalization may also be limited by the sampling method, e.g. twenty-one participating wards in one single hospital. Nurses and nursing aides within the same hospital are likely to have similar perceptions and attitudes on basic care issues and therefore similar scores on the PHPAQ. They tend to follow the vision of the hospital. The demand for this study came from AZ Nikolaas. So, the hospital already pays attention to the implementation of the basic cares and wants to re-examine their current standard. A preliminary protocol on oral health was already formatted (although, this is not yet used throughout the hospital). Therefore, the PHPAQ may have to be primarily used as an instrument to make inter ward/hospital comparisons (like in this article the comparison between geriatric ward caregivers and non-geriatric ward caregivers was described).

There are a lot of findings in this study that suggest that geriatric ward caregivers give more priority to both oral hygiene and body hygiene and that they recognize the importance of both care acts more than non-geriatric ward caregivers. To begin with, the geriatric ward caregivers experienced fewer barriers and their main incentive for the implementation of the personal care acts had been focused on the importance of these acts ('Avoiding mouth/skin problems' and 'The importance of mouth/body hygiene'). Further, they performed the hygienic care acts more frequently than the non-geriatric ward caregivers and they found some oral care acts more important than their non-geriatric ward colleagues (e.g. 'Cleaning between the teeth'). Finally, the geriatric ward caregivers agreed more than the non-geriatric ward caregivers on statements regarding perceptions and attitudes toward mouth hygiene, they agreed less on the statement 'With geriatric patients, I consider body

hygiene more important than oral hygiene' and they experienced the performance of body hygiene more as their responsibility than the participants of the non-geriatric wards. Further research, with the same number of geriatric ward caregivers and non-geriatric ward caregivers, would ascertain if there is a real significant difference between these two groups, and the cause of this difference.

Finally, because of our small sample size, it was not possible to evaluate construct validity. For further validation of the scale, construct validity should be tested in a larger sample size with confirmatory factor analysis.

Conclusion

We conclude that the Personal Hygiene Perception and Attitude Questionnaire (PHPAQ) showed acceptable to good psychometric properties and it seems to be a valuable tool to investigate the attitudes and perceptions of nurses and nursing aides toward mouth and body hygiene for dependent geriatric patients. Based on this, it would be possible to adjust the policy regarding the personal hygiene. However, some items of the questionnaire should be evaluated in future studies and may have to be modified or removed from the instrument. Our data suggest the need for more extensive validation.

Performing the body hygiene is considered to be important. It is a care act where few barriers and many incentives are experienced and that is carried out daily. For the caregivers, bathing is a routine act which evokes not many questions. Most of the oral care acts are also considered to be important. However, these acts aren't performed according to the recommended frequency, probably because of the perceived barriers and maybe as a result of a lack of knowledge. Further research is necessary to get a better insight into the perceived attitudes and perceptions of nurses and nursing aides toward mouth and body hygiene for geriatric patients and to investigate statistical evidence of causal relationships.

List of abbreviations

PHPAQ, Personal Hygiene Perceptions and Attitudes Questionnaire; I-CVI, Item content validity index; S-CVI, Scale content validity index; $S\text{-}CVI_{Ave}$, Average scale content validity index; $S\text{-}CVI_{UA}$, Scale content validity index universal agreement; ICH-GCP, International Conference on Harmonization Guidelines on Good Clinical Practice.

Competing interests

The authors declare that they have no competing interests.

Author's contribution

EJ designed the study, collected data, analyzed and interpreted the results and drafted the manuscript. ES designed the study, collected data, participated in the interpretation of the data and critically revised the manuscript. KM designed the study, participated in the interpretation of the data, critically revised the manuscript and supervised the research project. All authors read and approved the final manuscript.

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References

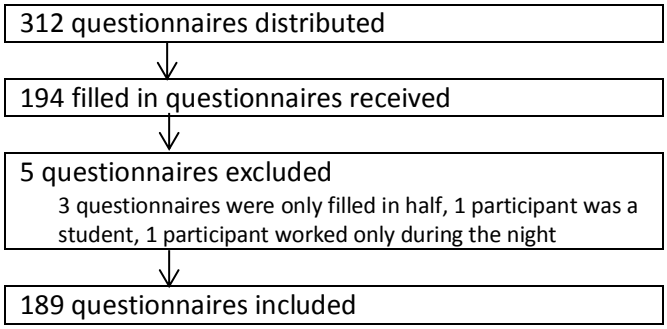
1. De Visschere LMJ, van der Putten GJ, de Baat C, Schols JMG, Vanobbergen JNO. De Richtlijn Mondzorg voor ouderen in zorginstellingen: Effectiviteit en implementatie in Nederland en Vlaanderen. Ned Tijdschr Tandheelkd. 2009;116:23-7.
2. Fitzpatrick J. Oral health care needs of dependent older people: responsibilities of nurses and care staff. J Adv Nurs. 2000;32(6):1325-32.
3. Cowdell F. Older people, personal hygiene, and skin care. Medsurg Nurs. 2011;20(5):235-40.
4. Cowdell F. Promoting skin health in older people. Nurs Older People. 2010;22(10):21-6.
5. Kottner J, Rahn Y, Blume-Peytavi U, Lahmann N. Skin care practice in German nursing homes: a German-wide cross-sectional study. J Dtsch Dermatol Ges. 2013;11(4):329-36.
6. Gastmans C, Vanlaere L. Cirkels van zorg. Ethisch omgaan met ouderen. 3rd ed. Leuven: Ten Have; 2006. p. 35-58.
7. Rytterström P, Unosson M, Arman M. The significance of routines in nursing practice. J Clin Nurs. 2011;20(23-24):3513-22.
8. Strange F. The persistence of ritual in nursing practice. Clin Eff Nurs. 2011;5:177-83.
9. Paulsson G, Söderfeldt B, Nederfors T, Fridlund B. Nursing personnel's views on oral health from a health promotion perspective: a grounded theory analysis. Acta Odontol Scand. 2002; 60(1):42-9.
10. De Visschere L, de Baat C, De Meyer L, van der Putten GJ, Peeters B, Söderfelt B et al. The integration of oral health care into day-to-day care in nursing homes: a qualitative study. Gerodontology. 2013; doi:10.1111/ger.12062.
11. Jablonski RA, Munro CL, Grap MJ, Schubert CM, Ligon M, Spigelmyer P. Mouth Care in Nursing Homes: Knowledge, Beliefs, and Practices of Nursing Assistants. Geriatr Nurs. 2009;30:99-107.
12. Forsell M, Sjögren P, Kullberg E, Johansson O, Wedel P, Herbst B et al. Attitudes and perceptions towards oral hygiene tasks among geriatric nursing home staff. Int J Dent Hyg. 2011;9(3):199-203.
13. Peltola P, Vehkalahti MM, Wuolijoki-Saaristo K. Oral health and treatment needs of the long-term hospitalised elderly. Gerodontology. 2004;21(2):93-9.
14. Frenkel HF. Behind the screens: care staff observations on delivery of oral health care in nursing homes. Gerodontology. 1999;16(2):75-80.
15. Frenkel H, Harvey I, Needs K. Oral health care education and its. Community Dent Oral Epidemiol. 2002;30:91–100.
16. Sonde L, Emami A, Kiljunen H, Nordenram G. Care providers' perceptions of the importance of oral care and its performance within everyday caregiving for nursing home residents with dementia. Scand J Caring Sci. 2011;25(1):92-99.

17. Wårdh I, Andersson L, Sörensen S. Staff attitudes to oral health care. A comparative study of registered nurses, nursing assistants and home care aides. Gerodontology. 1997;14(1):28-32.
18. Grol R, Wensing M, Eccles M, Davis D. Improving patient care: the implementation of change in health care. 2nd ed. Oxford: Wiley Blackwell; 2013.
19. Forsell MF, Kullberg E, Hoogstraate J, Herbst B, Johansson O, Sjögren P. A survey of attitudes and perceptions toward oral hygiene among staff at a geriatric nursing home. Geriatr Nurs. 2010;31(6):435-40.
20. Rader J. To bathe or not to bathe: that is the question. J Gerontol Nurs. 1994;20(9):53-4.
21. Lynn MR. Determination and quantification of content validity. Nurs Res. 1986;35(6):382-86.
22. Polit DF, Beck C, Owen SV. Is the CVI an acceptable indicator of content validity? Appraisal and recommendations. Res Nurs Health. 2007;30(4):459–467.
23. Cicchetti D V & Sparrow S. Developing criteria for establishing interrater reliability of specific items: Application to assessment of adaptive behavior. Am J Ment Defic. 1981;86:127-37.
24. Fleis. Statistical Methods for Rates and Proportions. 2nd ed. New York: John Wiley; 1981.
25. Polit DF, Beck CT. Face Validity. In: Nursing Research: Generating and Assessing Evidence for Nursing Practice. 9th ed. Philadelphia: Wolters Kluwer; 2012. p. 336.
26. Field A. 2009. Reliability analysis. In: Discovering Statistics Using SPSS. Sage Publications; 2009. p. 673-685.
27. Freeman EM. International perspectives on bathing. J Gerontol Nurs. 1997;23(5):40-4.
28. Preston AJ, Kearns A, Barber MW & Gosney MA. The knowledge of healthcare professionals regarding elderly persons' oral care. Br Dent J. 2006;201(5):293-95.
29. Pyle MA, Jasinevicius TR, Sawyer DR, Madsen J. Nursing home executive directors' perception of oral care in long-term care facilities. Spec Care Dentist. 2005;25(2):111-7.
30. Azodo CC, Ezeja EB, Omoaregba JO, James BO. Oral health of psychiatric patients: the nurse's perspective. Int J Dent Hyg. 2012;10(4):245-9.
31. Chan EY, Hui-Ling Ng I. Oral care practices among critical care nurses in Singapore: a questionnaire survey. Appl Nurs Res. 2012;25(3):197-204.
32. Thean H, Wong ML, Koh H. The dental awareness of nursing home staff in Singapore - a pilot study. Gerodontology. 2007;24(1):58-63.
33. Dharamsi S, Jivani K, Dean C, Wyatt C. Oral care for frail elders: knowledge, attitudes, and practices of long-term care staff. J Dent Educ. 2009;73(5):581-8.
34. Jablonski RA, Munro CL, Grap MJ, Schubert CM, Ligon M, Spigelmyer P. Mouth care in nursing homes: knowledge, beliefs, and practices of nursing assistants. Geriatr Nurs. 2009;30(2):99-107.

35. Mynors-Wallis J, Davis DM. An assessment of the oral health knowledge and recall after a dental talk amongst nurses working with elderly patients: a pilot study. Gerodontology. 2004;21(4):201-4.
36. Wårdh I, Paulsson G, Fridlund B. Nursing staff's understanding of oral health care for patients with cancer diagnoses: an intervention study. J Clin Nurs. 2009;8(6):799-806.
37. Schoonhoven L, van Gaal BG, Teerenstra S, Adang E, van der Vleuten C, van Achterberg T. Cost-consequence analysis of "washing without water" for nursing home residents: a cluster randomized trial. Int J Nurs Stud. 2015;52(1):112-20.
38. Skewes SM. Bathing: it's a tough job! J Gerontol Nurs. 1997;23(5):45-9.
39. Paulsson G, Fridlund B, Holmén A, Nederfors T. Evaluation of an oral health education program for nursing personnel in special housing facilities for the elderly. Spec Care Dentist. 1998;18(6):234-42.
40. Paulsson G, Nederfors T, Fridlund B. Conceptions of oral health among nurse managers. A qualitative analysis. J Nurs Manag. 1999;7(5):299-306.
41. Paulsson G, Söderfeldt B, Fridlund B, Nederfors T. Recall of an oral health education programme by nursing personnel in special housing facilities for the elderly. Gerodontology. 2001;18(1):7-14.
42. Deerenberg-Kessler W, Nieuwlands TCM, Vreeburg EM, Brevé MT, Hazen J, Koel EC et al. Mondzorg & de rol van verzorgenden en verpleegkundigen. NVVA. 2007:12-3.
43. Schols JMGA. Richtlijn voor zorgafhankelijke cliënten in verpleeghuizen. NVVA, 2007:17-8,56-7.
44. Horne M, McCracken G, Walls A, Tyrrell PJ, Smith CJ. Organization, practice and experiences of mouth hygiene in stroke unit care: a mixed-methods study. J Clin Nurs. 2014;24:728–38.
45. Wang TF, Huang CM, Chou C, Yu S. Effect of oral health education programs for caregivers on oral hygiene of the elderly: A systemic review and meta-analysis. Int J Nurs Stud. 2015;52(6):1090-96.

Figure

Figure 1: Flowchart



Tables

Table 1: Internal consistency 'Statements regarding perceptions and attitudes toward mouth hygiene and body hygiene' scale

	Mouth hygiene Corrected-item total correlation	**Mouth hygiene** Total alpha if item is deleted		**Body hygiene** Corrected-item total correlation	**Body hygiene** Total alpha if item is deleted
I consider the mouth/body hygiene in geriatric patients as:	**Cronbach's alpha**: 0.66			**Cronbach's alpha**: 0.72	
A priority	0.41	0.62		0.51	0.68
A part of the elementary basic care	0.37	0.63		0.55	0.68
A stressful task for the caregiver	0.02	0.69		0.15	0.74
A moment of observation	0.40	0.63		0.53	0.68
A task that requires the participation of the patient	0.01	0.69		0.24	0.72
A health-enhancing action	0.39	0.63		0.53	0.68
A wellbeing-enhancing action	0.46	0.62		0.56	0.68
A task that takes up too much valuable time	0.34	0.64		0.13	0.74
A task for which adequate training is given	0.19	0.66		0.19	0.74
A neglected action	0.31	0.65		0.39	0.70
My responsibility	0.52	0.61		0.56	0.68
Overall, I am satisfied with the oral/body care acts that I give to geriatric patients.	0.50	0.62		0.38	0.70

Table 2: Internal consistency 'Knowledge and importance of mouth hygiene' scale

	1) Corrected-item total correlation	1) Total alpha if item is deleted		2) Corrected-item total correlation	2) Total alpha if item is deleted
Patients with own teeth	**Cronbach's alpha**: 0.83			**Cronbach's alpha**: 0.79	
•Rinsing the mouth with water	0.61	0.79		0.54	0.76
•Inspecting the oral cavity	0.69	0.78		0.64	0.74
•Brushing the teeth	0.62	0.80		0.44	0.78
•Cleaning the mucous membranes and the tongue	0.68	0.78		0.68	0.73
•Cleaning between the teeth (e.g. with a toothpick, dental floss,….)	0.41	0.85		0.52	0.77
• Using mouth rinse	0.63	0.79		0.50	0.77
Patients with a prosthesis	**Cronbach's alpha**: 0.88			**Cronbach's alpha**: 0.80	
•Rinsing the mouth with water	0.65	0.86		0.54	0.78
•Rinsing the prosthesis with water (outside the mouth)	0.71	0.86		0.57	0.77
•Inspecting the oral cavity	0.64	0.87		0.61	0.77
•Brushing of the prosthesis (outside the mouth)	0.73	0.86		0.59	0.78
•Cleaning the mucous membranes and the tongue	0.64	0.87		0.53	0.78
•Removing the prosthesis during the night	0.78	0.85		0.65	0.76
•Soaking the prosthesis during the night	0.61	0.87		0.40	0.82

1) I have enough knowledge about this care act, 2) I think this care act is important

Table 3: Internal consistency 'Knowledge and importance of body hygiene' scale

	1) Corrected-item total correlation	1) Total alpha if item is deleted		2) Corrected-item total correlation	2) Total alpha if item is deleted
With geriatric patients, the washing of:	**Cronbach's alpha**: 0.99			**Cronbach's alpha**: 0.94	
•The face and the neck	0.98	0.99		0.75	0.93
•The arms	0.98	0.99		0.82	0.93
•The hands	0.98	0.99		0.78	0.93
•The armpits	0.97	0.99		0.80	0.93
•The chest and the abdomen	0.99	0.99		0.84	0.93
•The back	0.96	0.99		0.81	0.93
•The legs	0.95	0.99		0.79	0.93
•The feet	0.89	0.99		0.68	0.94
•The intimate toilet	0.97	0.99		0.73	0.93
•The rump	0.98	0.99		0.75	0.93

1) I have sufficient knowledge about this action, 2) I think this care act is important

Table 4: Barriers and incentives of mouth hygiene and body hygiene

Barriers	Mouth hygiene (%)	Body hygiene (%)	Mouth hygiene non-geriatric wards (%)	Mouth hygiene geriatric wards (%)	Body hygiene non-geriatric wards (%)	Body hygiene geriatric ward (%)
•Patient's resistance	52.9	36.4	53.8	50.0	38.4	29.5
•Not enough time	36.5	5.9	41.3	21.7	5.6	6.8
•Distaste for teeth, dentures of the patient/ Distaste for washing the genitals	1.1	0.0	1.4	0.0	0.0	0.0
•Poor oral hygiene, bad breath of the patient/ The poor body hygiene, bad smells of the patient	1.6	2.3	1.4	2.2	1.4	4.5
•Insufficient expertise	2.1	0.0	2.8	0.0	0.0	0.0
•No suitable material on the ward	10.6	1.1	11.9	6.5	1.4	0.0
•Fear to cause injury or pain to the patient	9.5	4.3	9.8	8.7	3.5	6.8
•Not performing oral/body hygiene by colleagues	0.5	0.5	0.7	0.0	0.7	0.0
•Patient's habits	17.5	5.9	21.8	4.4	7.7	0.0
•Lack of a clear department policy	5.8	0.5	5.6	6.5	0.7	0.0
•Too difficult act(s)	1.1	0.0	1.4	0.0	0.0	0.0
•Registration in the patient file	1.1	0.0	1.4	0.0	0.0	0.0
•No barriers	20.1	49.2	14.7	37.0	46.9	56.8
•Other(s), please specify:	2.1	7.0	2.8	0.0	7.0	6.8
Incentives	**Mouth hygiene (%)**	**Body hygiene (%)**	**Mouth hygiene non-geriatric wards (%)**	**Mouth hygiene geriatric wards (%)**	**Body hygiene non-geriatric wards (%)**	**Body hygiene Geriatric wards (%)**
•The own sense of satisfaction after performing the mouth/body hygiene	49.2	42.8	51.8	41.3	44.1	38.6
•The importance of mouth/body hygiene	82.0	93.1	79.7	89.1	93.0	93.2
•Avoiding mouth/skin problems	59.8	55.6	53.9	78.3	52.5	65.9
•My own mouth/body hygiene	28.0	30.5	30.8	19.6	35.0	15.9
•I want to be seen as a good caregiver	11.6	12.3	14.7	2.2	14.7	4.6
•Patient's habits	16.9	13.4	21.0	4.4	15.4	6.8
•Pressure from colleagues that I experience	1.1	0.5	0.7	2.2	0.7	0.0
•Pressure from the family of the patient that I experience	1.1	1.1	0.7	2.2	0.7	2.3
•The patient's gratitude	31.8	33.7	31.5	32.6	35.7	27.3
•Other(s), please specify:	0.5	1.1	0.7	0.0	1.4	0.0

Table 5: Statements regarding perceptions and attitudes toward mouth hygiene and body hygiene

	Mouth hygiene				Body hygiene				Mouth hygiene non-geriatric wards		Mouth hygiene geriatric wards		Body hygiene non-geriatric wards		Body hygiene geriatric wards	
I consider the mouth/body hygiene in geriatric patients as:	**1 (%)**	**2 (%)**	**3 (%)**	**4 (%)**	**1 (%)**	**2 (%)**	**3 (%)**	**4 (%)**	**1+2 (%)**	**3+4 (%)**	**1+2 (%)**	**3+4 (%)**	**1+2 (%)**	**3+4 (%)**	**1+2 (%)**	**3+4 (%)**
A priority	1.6	10.3	47.6	40.5	0.5	2.1	28.9	68.5	14.3	85.7	4.4	95.5	2.8	97.2	2.2	97.8
A part of the elementary basic care	0.5	1.6	30.4	67.4	0.5	0.5	17.7	81.3	1.4	98.6	4.4	95.6	1.4	98.6	0.0	100.0
A stressful task for the caregiver	35.3	42.9	15.8	6.0	34.3	49.2	12.2	4.4	81.3	18.7	68.9	31.1	84.2	15.8	81.0	19.1
A moment of observation	0.5	4.9	50.5	44.0	0.0	1.1	19.9	79.0	4.3	95.7	8.9	91.1	1.4	98.6	0.0	100.0
A task that requires the participation of the patient	2.3	21.1	56.0	20.6	2.2	12.2	54.1	31.5	21.2	78.8	30.2	69.8	15.6	84.4	10.0	90.0
A health-enhancing action	0.0	3.3	48.1	48.6	0.5	1.6	44.9	53.0	4.4	95.7	0.0	100.0	2.1	97.9	2.3	97.7
A wellbeing-enhancing action	0.0	4.9	49.2	45.9	1.1	0.5	40.3	58.1	6.5	93.5	0.0	100.0	1.4	98.6	2.3	97.7
A task that takes up too much valuable time	31.0	47.3	19.0	2.7	35.5	37.2	21.3	6.0	78.4	21.6	77.8	22.2	73.6	27.0	71.4	28.6
A task for which adequate training is given	10.1	51.1	36.0	2.8	4.4	20.0	53.9	21.7	66.2	33.8	45.2	54.8	25.6	74.5	20.9	79.1
A neglected action	29.4	25.6	37.8	7.2	59.6	33.7	4.5	2.3	54.4	45.6	56.8	43.2	93.4	6.6	92.7	7.3
My responsibility	0.0	2.8	42.5	54.8	0.0	1.1	24.2	74.7	2.2	97.8	4.7	95.4	26.7	73.9	2.3	97.7
I am satisfied with the oral/body care acts that I give to geriatric patients.	0.0	10.2	71.2	18.6	0.0	0.0	33.5	66.5	12.1	87.9	4.4	95.6	0.0	100.0	0.0	100.0

1 = strongly disagree; 2 = disagree; 3 = agree; 4 = strongly agree

Table 6: Knowledge, importance and implementation of mouth hygiene

Patients with own teeth	1) Non-geriatric wards 3+4 (%)	1) Geriatric wards 3+4 (%)	2) Non-geriatric wards 3+4 (%)	2) Geriatric wards 3+4 (%)	3) Mouth hygiene (%)						
•Rinsing the mouth with water	91.2	76.7	81.7	93.0	Never 12.3	**After each meal 11.7**	1x/day 39.7	≥1x/week 2.8	<1x/week 1.1	With problems 12.3	On patient's demand 20.1
•Inspecting the oral cavity	84.7	82.2	91.8	95.4	Never 3.3	**Before brushing 13.8**	1x/day 44.7	≥1x/week 4.4	<1x/week 0.6	With problems 27.1	On patient's demand 6.1
•Brushing the teeth	98.6	97.7	97.8	100.0	Never 0.5	**≥2x/day 12.5**	1x/day 77.7	≥1x/week 3.8	<1x/week 0.0	With problems 1.1	On patient's demand 4.4
•Cleaning the mucous membranes and the tongue	82.7	86.7	85.7	90.9	Never 11.1	≥2x/day 7.7	**1x/day 30.4**	≥1x/week 8.3	<1x/week 2.2	With problems 34.8	On patient's demand 5.5
•Cleaning between the teeth	63.3	64.4	53.3	68.2	Never 59.9	At doctors advice 6.6	**1x/day 5.5**	≥1x/week 1.7	<1x/week 0.6	With problems 12.1	On patient's demand 13.7
•Using mouth rinse	94.2	88.6	93.4	91.1	Never 2.3	**At doctors advice 35.6**	1x/day 18.6	≥1x/week 1.1	<1x/week 0.0	With problems 33.3	On patient's demand 9.0
Patients with a prosthesis											
•Rinsing the mouth with water	92.4	88.6	88.6	93.0	Never 11.8	**After each meal 18.5**	1x/day 38.2	≥1x/week 2.8	<1x/week 0.6	With problems 9.0	On patient's demand 19.1
•Rinsing the prosthesis with water (outside the mouth)	97.8	92.7	94.6	90.7	Never 2.8	**After each meal 15.8**	1x/day 71.2	≥1x/week 1.7	<1x/week 0.0	With problems 2.3	On patient's demand 6.2
•Inspecting the oral cavity	87.4	88.6	96.2	97.6	Never 4.6	**Before brushing 14.9**	1x/day 46.6	≥1x/week 4.6	<1x/week 0.6	With problems 24.1	On patient's demand 4.6
•Brushing the prosthesis (outside the mouth)	99.3	67.6	98.5	97.8	Never 0.0	**≥2x/dag 13.7**	1x/day 81.3	≥1x/week 2.8	<1x/week 0.0	With problems 1.7	On patient's demand 0.6
•Cleaning the mucous membranes and the tongue	80.0	88.9	85.6	93.2	Never 12.3	≥2x/dag 8.4	**1x/day 29.6**	≥1x/week 6.7	<1x/week 1.1	With problems 35.8	On patient's demand 6.1
•Removing the prosthesis during the night	93.4	90.7	94.0	93.2	Never 1.1	At doctors advice 0.6	**Always 65.6**	≥1x/week 2.2	<1x/week 0.0	With problems 1.1	On patient's demand 29.5
•Soaking the prosthesis during the night	88.6	75.0	89.4	69.8	Never 14.6	At doctors advice 0.0	Always 55.6	**>1x/week 2.2**	<1x/week 1.1	With problems 1.6	On patient's demand 24.9

1) I have enough knowledge about this care act, 2) I think this care act is important, 3) How often do you perform this care act with a geriatric patient who is dependent for the mouth care? 3 = agree; 4 = strongly agree The bolded items are the recommended frequencies

Table 7: Knowledge, importance and implementation of body hygiene

With geriatric patients, the washing of:	1) Non-geriatric wards 3+4 (%)	1) Geriatric wards 3+4 (%)	2) Non-geriatric wards 3+4 (%)	2) Geriatric wards 3+4 (%)	3) Body hygiene (%)						
•The face and the neck	100.0	100.0	100.0	97.7	Never 0.5	≥ 1x/day 98.4	Every 2 days 0.5	≥ 1x/week 0.0	< 1x/week 0.0	With problems 0.5	On patient's demand 0.0
•The arms	100.0	100.0	100.0	97.7	Never 0.0	≥ 1x/day 98.4	Every 2 days 0.0	≥ 1x/week 0.5	< 1x/week 0.0	With problems 0.5	On patient's demand 0.5
•The hands	100.0	100.0	100.0	100.0	Never 0.0	≥ 1x/day 98.4	Every 2 days 0.5	≥ 1x/week 0.0	< 1x/week 0.0	With problems 0.5	On patient's demand 0.5
•The armpits	100.0	100.0	100.0	100.0	Never 0.5	≥ 1x/day 97.3	Every 2 days 0.5	≥ 1x/week 0.5	< 1x/week 0.0	With problems 0.5	On patient's demand 0.5
•The chest and the abdomen	100.0	97.8	100.0	97.7	Never 0.0	≥ 1x/day 98.4	Every 2 days 0.0	≥ 1x/week 0.5	< 1x/week 0.0	With problems 0.5	On patient's demand 0.5
•The back	100.0	100.0	100.0	100.0	Never 0.0	≥ 1x/day 96.7	Every 2 days 1.1	≥ 1x/week 0.5	< 1x/week 0.0	With problems 0.5	On patient's demand 1.1
•The legs	100.0	100.0	98.6	93.2	Never 0.0	≥ 1x/day 83.6	Every 2 days 11.5	≥ 1x/week 2.7	< 1x/week 0.6	With problems 0.6	On patient's demand 1.1
•The feet	100.0	100.0	98.6	97.7	Never 0.0	≥ 1x/day 58.6	Every 2 days 34.3	≥ 1x/week 5.0	< 1x/week 0.0	With problems 0.6	On patient's demand 1.7
•The intimate toilet	100.0	100.0	100.0	100.0	Never 0.0	≥ 1x/day 98.9	Every 2 days 0.6	≥ 1x/week 0.0	< 1x/week 0.0	With problems 0.6	On patient's demand 0.0
•The rump	100.0	100.0	100.0	100.0	Never 0.0	≥ 1x/day 97.8	Every 2 days 0.0	≥ 1x/week 1.1	< 1x/week 0.0	With problems 1.1	On patient's demand 0.0
Using the 'washing without water'-technique with geriatric patients	32.1	31.8	47.1	37.5	Never 74.9	≥ 1x/day 17.4	Every 2 days 0.0	≥ 1x/week 0.0	< 1x/week 0.6	With problems 3.6	On patient's demand 3.6

1) I have enough knowledge about this care act, 2) I think this care act is important, 3) How often do you perform this care act with a geriatric patient who is dependent for the mouth care? 3 = agree; 4 = strongly agree

Table 8: Statements regarding perceptions and attitudes toward the comparison of mouth hygiene versus body hygiene

	Geriatric wards					Non-geriatric wards			
	1 (%)	2 (%)	3 (%)	4 (%)		1 (%)	2 (%)	3 (%)	4 (%)
Performing body hygiene is **mentally** harder than performing mouth hygiene on geriatric patients.	47.8	39.1	8.7	4.3		39.6	42.5	15.1	2.9
Performing body hygiene is **physically** harder than performing mouth hygiene on geriatric patients.	6.5	8.7	43.5	41.3		5.0	7.8	52.5	34.8
With geriatric patients, I consider body hygiene **more import** than oral hygiene.	27.9	51.2	18.6	2.3		10.5	40.6	43.6	5.3
With geriatric patients, I spend in proportion **more time** on body hygiene than on mouth hygiene.	6.7	17.8	35.6	40.0		1.5	6.6	62.0	29.9

1 = strongly disagree; 2 = disagree; 3 = agree; 4 = strongly agree

Appendices

Appendix A: The Personal Hygiene Perceptions and Attitudes Questionnaire (PHPAQ)

Vragenlijst naar de percepties en opvattingen van verpleegkundigen en zorgkundigen over mond- en lichaamshygiëne bij een geriatrische, gehospitaliseerde patiënt die afhankelijk is voor mond- en lichaamshygiëne.

Beste verpleegkundige, zorgkundige,

U bent willekeurig geselecteerd om deel te nemen aan deze studie. Het **doel van de studie** is het ontwikkelen en valideren van een vragenlijst om de percepties en opvattingen van verpleegkundigen en zorgkundigen over mond- en lichaamshygiëne bij een geriatrische, gehospitaliseerde patiënt die afhankelijk is voor mond- en lichaamshygiëne, te bevragen. **AZ Nikolaas is vragende partij** voor deze studie en verwacht dat de resultaten kunnen bijdragen tot haalbare richtlijnen rond basiszorg.

De studie bestaat uit het **invullen** van een **vragenlijst**. De invultijd bedraagt ongeveer 15 minuten. U bent vrij om te beslissen al dan niet deel te nemen. Als u een ingevulde vragenlijst terugstuurt, wordt er aangenomen dat u akkoord gaat met uw deelname. Het invullen van de vragenlijst evenals het verwerken van de gegevens gebeurt volledig **anoniem**. U heeft 10 dagen de tijd om deze vragenlijst in te vullen. **Ten laatste 25 maart 2015** overhandigt u de vragenlijst aan **uw (adjunct)hoofdverpleegkundige**.

U komt in aanmerking voor de deelname aan dit onderzoek indien:
- u een gediplomeerd verpleegkundige of zorgkundige bent ouder dan 18 jaar;
- u werkzaam bent op de hospitalisatieafdelingen inwendige geneeskunde, heelkunde of geriatrie;
- u niet uitsluitend ’s nachts werkt;
- in uw takenpakket de uitvoering van mond- en lichaamshygiëne bij geriatrische personen (>65 jaar) opgenomen is.

Graag willen we u hartelijk danken voor uw medewerking aan dit onderzoek.

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Mede in naam van de promotoren prof. dr. Koen Milisen en dr. Els Steeman

Vragenlijst naar de percepties en opvattingen van verpleegkundigen en zorgkundigen over mond- en lichaamshygiëne bij een geriatrische, gehospitaliseerde patiënt die afhankelijk is voor mond- en lichaamshygiëne.

Het **doel van deze vragenlijst** is inzicht verwerven in de percepties en opvattingen van verpleegkundigen en zorgkundigen over de hygiënische zorgen van de mond en het lichaam bij geriatrische, gehospitaliseerde patiënten. Het gaat om geriatrische patiënten die afhankelijk zijn voor de mond- en lichaamshygiëne en waarbij een zorgverlener dus actief deze zorgen moet uitvoeren. De vragenlijst peilt naar de ervaren barrières, het ervaren belang, de frequentie van uitvoering, …

1) Richtlijnen voor het invullen van de vragenlijst

- Gelieve deze vragenlijst waarheidsgetrouw en volledig in te vullen.
- Gelieve de vragenlijst individueel in te vullen en antwoorden niet met anderen te bespreken. Wij zijn geïnteresseerd in uw mening en percepties. Er zijn geen goede of foute antwoorden. Het gaat over de meerwaarde van de vragen en de antwoorden.
- Volg aandachtig de instructies per vraag. Gelieve bij vergissing het juiste antwoord duidelijk te omcirkelen.

2) Demografische gegevens

2.1 Hoe oud bent u? ……. jaar

2.2 Wat is uw functie binnen het ziekenhuis?

0 Verpleegkundige. Indien ja, welke **opleidingsgraad** heeft u?

0 Gegradueerd A2

0 Bachelor A1

0 Master

0 Zorgkundige

2.3 Wat is uw geslacht?

0 Man

0 Vrouw

2.4 Over hoeveel jaar praktijkervaring beschikt u als professionele zorgverlener? ..... jaar

2.5 Waar bent u momenteel werkzaam als professionele zorgverlener (meerdere antwoorden mogelijk)?

0 Afdeling inwendige geneeskunde

0 Afdeling heelkunde

0 Afdeling geriatrie

0 Support team, specifieer: ……

0 Andere, specifieer: ……..

2.6 Als professionele zorgverlener werkt u voornamelijk (één antwoord aanduiden):

0 Overdag

0 ‘s Nachts

3) De mondhygiëne

De mondhygiëne omvat alle basishandelingen om de mond en slijmvliezen gezond en proper te maken of te houden en het welzijn van de patiënt te bevorderen.

3.1 Wat houdt u tegen tot het uitvoeren van de mondhygiëne? (min. 1 en max. 3 antwoorden aanduiden)

0 Weerstand van de patiënt

0 Te weinig tijd

0 Afkeer voor tanden, kunstgebit van de patiënt

0 De slechte mondhygiëne, slechte adem van de patiënt

0 Onvoldoende deskundigheid

0 Geen geschikt materiaal op de afdeling

0 Angst om letsels of pijn te veroorzaken bij de patiënt

0 Het niet uitvoeren van de mondhygiëne door collega's

0 De gewoonten van de patiënt

0 Gebrek aan een duidelijk afdelingsbeleid

0 Te moeilijke handeling(en)

0 De registraties in het patiëntendossier

0 Geen

0 Andere(n), specifieer: …….

3.2 Wat stimuleert u tot het uitvoeren van mondhygiëne? (min. 1 en max. 3 antwoorden aanduiden)

0 Het eigen tevredenheidsgevoel na het uitvoeren van de mondhygiëne

0 Het belang van de mondhygiëne voor de patiënt (bv. voor de voedselinname, de frisheid, het algemeen welzijn van de patiënt, …)

0 Het vermijden van mondproblemen zoals infecties

0 Mijn eigen mondhygiënegewoonten (ik acht dit belangrijk)

0 Ik wil aanzien worden als een goede zorgverlener

0 De gewoonten van de patiënt

0 De druk die ik ervaar van collega's

0 De druk die ik ervaar van de familie van de patiënt

0 De dankbaarheid van de patiënt

0 Andere(n), specifieer: …….

3.3 Geef weer in welke mate u akkoord bent met volgende uitspraken (één antwoord aanduiden per item).

Ik beschouw de mondhygiëne bij geriatrische patiënten als:	**Helemaal niet akkoord**	**Eerder niet akkoord**	**Eerder wel akkoord**	**Helemaal wel akkoord**
een prioriteit				
een deel van de elementaire basiszorg				
een stressvolle taak voor de hulpverlener				
een moment van observatie				
een taak die inspraak vereist van de patiënt				
een gezondheidsbevorderende handeling				
een welzijnsbevorderende handeling				
een taak die te veel kostbare tijd in beslag neemt				
een taak waarrond voldoende educatie wordt gegeven				
een verwaarloosde handeling				
mijn verantwoordelijkheid				

Globaal gezien ben ik tevreden met de mondhygiëne die ik geef aan geriatrische patiënten.				

3.4 Hieronder vindt u drie vragen. In onderstaande tabel moet u voor elke handeling apart de drie vragen beantwoorden. Lees eerst aandachtig de drie vragen. Vul nadien de tabel volledig in door uw antwoorden te omcirkelen (bij elke handeling slechts één antwoord per vraag aanduiden).

	1) Ik heb hier voldoende kennis over				**2) Ik vind deze zorg belangrijk**				**3) Hoe vaak voert u deze zorg ook werkelijk zelf uit bij een geriatrische patiënt die afhankelijk is voor de mondverzorging?** Slechts één antwoord aanduiden!						
	Helemaal niet akkoord	Eerder niet akkoord	Eerder wel akkoord	Helemaal wel akkoord	Helemaal niet akkoord	Eerder niet akkoord	Eerder wel akkoord	Helemaal wel akkoord							
Geriatrische patiënten met EIGEN TANDEN:															
•Mond spoelen met water	1	2	3	4	1	2	3	4	Nooit	Na elke maaltijd	1x/dag	≥ 1x/week	< 1x/week	Bij problemen	Op vraag patiënt
•Mondholte inspecteren	1	2	3	4	1	2	3	4	Nooit	Voor het poetsen	1x/dag	≥ 1x/week	< 1x/week	Bij problemen	Op vraag patiënt
•Tanden poetsen	1	2	3	4	1	2	3	4	Nooit	≥ 2x/dag	1x/dag	≥ 1x/week	< 1x/week	Bij problemen	Op vraag patiënt
•Slijmvliezen en tong reinigen	1	2	3	4	1	2	3	4	Nooit	≥ 2x/dag	1x/dag	≥ 1x/week	< 1x/week	Bij problemen	Op vraag patiënt
•Tussen de tanden reinigen (bv. met tandenstoker, flosdraad, …)	1	2	3	4	1	2	3	4	Nooit	Op advies arts	1x/dag	≥ 1x/week	< 1x/week	Bij problemen	Op vraag patiënt
•Mondspoeling gebruiken	1	2	3	4	1	2	3	4	Nooit	Op advies arts	1x/dag	≥ 1x/week	< 1x/week	Bij problemen	Op vraag patiënt
Geriatrische patiënten met een GEBITSPROTHESE:															
•Mond spoelen met water	1	2	3	4	1	2	3	4	Nooit	Na elke maaltijd	1x/dag	≥ 1x/week	< 1x/week	Bij problemen	Op vraag patiënt
•Prothese spoelen met water (buiten de mond)	1	2	3	4	1	2	3	4	Nooit	Na elke maaltijd	1x/dag	≥ 1x/week	< 1x/week	Bij problemen	Op vraag patiënt
•Mondholte inspecteren	1	2	3	4	1	2	3	4	Nooit	Voor het poetsen	1x/dag	≥ 1x/week	< 1x/week	Bij problemen	Op vraag patiënt
•Prothese poetsen (buiten de mond)	1	2	3	4	1	2	3	4	Nooit	≥ 2x/dag	1x/dag	≥ 1x/week	< 1x/week	Bij problemen	Op vraag patiënt
•Slijmvliezen en tong reinigen	1	2	3	4	1	2	3	4	Nooit	≥ 2x/dag	1x/dag	≥ 1x/week	< 1x/week	Bij problemen	Op vraag patiënt
•'s Nachts prothese verwijderen	1	2	3	4	1	2	3	4	Nooit	Op advies arts	Altijd	≥ 1x/week	< 1x/week	Bij problemen	Op vraag patiënt
•'s Nachts prothese schoonweken	1	2	3	4	1	2	3	4	Nooit	Op advies arts	Altijd	≥ 1x/week	< 1x/week	Bij problemen	Op vraag patiënt

4) De lichaamshygiëne

De lichaamshygiëne omvat alle basishandelingen om de huid en de genitaliën gezond en proper te maken of te houden en het welzijn van de patiënt te bevorderen.

4.1 Wat houdt u tegen tot het uitvoeren van de lichaamshygiëne? (min. 1 en max. 3 antwoorden aanduiden)

0 Weerstand van de patiënt

0 Te weinig tijd

0 Afkeer voor het wassen van het intiem toilet

0 De slechte lichaamshygiëne, slechte geuren van de patiënt

0 Onvoldoende deskundigheid

0 Geen geschikt materiaal op de afdeling

0 Angst om letsels of pijn te veroorzaken bij de patiënt

0 Het niet uitvoeren van de lichaamshygiëne door collega's

0 De gewoonten van de patiënt

0 Gebrek aan een duidelijk afdelingsbeleid

0 Te moeilijke handeling(en)

0 De registraties in het patiëntendossier

0 Geen

0 Andere(n), specifieer: …….

4.2 Wat stimuleert u tot het uitvoeren van lichaamshygiëne? (min. 1 en max. 3 antwoorden aanduiden)

0 Het eigen tevredenheidsgevoel na het uitvoeren van de lichaamshygiëne

0 Het belang van de lichaamshygiëne voor de patiënt (bv. voor het gemoed, de frisheid, het algemeen welzijn van de patiënt, …)

0 Het vermijden van huidproblemen zoals infecties

0 Mijn eigen lichaamshygiënegewoonten (ik acht deze belangrijk)

0 Ik wil aanzien worden als een goed zorgverlener

0 De gewoonten van de patiënt

0 De druk die ik ervaar van collega's

0 De druk die ik ervaar van de familie van de patiënt

0 De dankbaarheid van de patiënt

0 Andere(n), specifieer: …….

4.3 Geef weer in welke mate u akkoord bent met volgende uitspraken (één antwoord aanduiden per item).

Ik beschouw de lichaamshygiëne bij geriatrische patiënten als:	**Helemaal niet akkoord**	**Eerder niet akkoord**	**Eerder wel akkoord**	**Helemaal wel akkoord**
een prioriteit				
een deel van de elementaire basiszorg				
een stressvolle taak voor de hulpverlener				
een moment van observatie				
een taak die inspraak vereist van de patiënt				
een gezondheidsbevorderende handeling				
een welzijnsbevorderende handeling				
een taak die te veel kostbare tijd in beslag neemt				
een taak waarrond voldoende educatie wordt gegeven				
een verwaarloosde handeling				
mijn verantwoordelijkheid				

Globaal gezien ben ik tevreden met de lichaamshygiëne die ik geef aan geriatrische patiënten.				

4.4 Hieronder vindt u drie vragen. In onderstaande tabel moet u voor elke handeling apart de drie vragen beantwoorden. Lees eerst aandachtig de drie vragen. Vul nadien de tabel volledig in door uw antwoorden te omcirkelen (bij elke handeling slechts één antwoord per vraag aanduiden).

	1) Ik heb hier voldoende kennis over				**2) Ik vind deze zorg belangrijk**				**3) Hoe vaak voert u deze zorg ook werkelijk zelf uit bij een geriatrische patiënt die afhankelijk is voor de lichaamshygiëne?** Slechts één antwoord aanduiden!						
	Helemaal niet akkoord	Eerder niet akkoord	Eerder wel akkoord	Helemaal wel akkoord	Helemaal niet akkoord	Eerder niet akkoord	Eerder wel akkoord	Helemaal wel akkoord							
Bij geriatrische patiënten wassen van:															
•Het aangezicht en de hals	1	2	3	4	1	2	3	4	Nooit	≥ 1x/dag	om de 2 dagen	≥ 1x/week	< 1x/week	Bij problemen	Op vraag patiënt
•De armen	1	2	3	4	1	2	3	4	Nooit	≥ 1x/dag	om de 2 dagen	≥ 1x/week	< 1x/week	Bij problemen	Op vraag patiënt
•De handen	1	2	3	4	1	2	3	4	Nooit	≥ 1x/dag	om de 2 dagen	≥ 1x/week	< 1x/week	Bij problemen	Op vraag patiënt
•De oksels	1	2	3	4	1	2	3	4	Nooit	≥ 1x/dag	om de 2 dagen	≥ 1x/week	< 1x/week	Bij problemen	Op vraag patiënt
•De borstkas en de buik	1	2	3	4	1	2	3	4	Nooit	≥ 1x/dag	om de 2 dagen	≥ 1x/week	< 1x/week	Bij problemen	Op vraag patiënt
•De rug	1	2	3	4	1	2	3	4	Nooit	≥ 1x/dag	om de 2 dagen	≥ 1x/week	< 1x/week	Bij problemen	Op vraag patiënt
•De benen	1	2	3	4	1	2	3	4	Nooit	≥ 1x/dag	om de 2 dagen	≥ 1x/week	< 1x/week	Bij problemen	Op vraag patiënt
•De voeten	1	2	3	4	1	2	3	4	Nooit	≥ 1x/dag	om de 2 dagen	≥ 1x/week	< 1x/week	Bij problemen	Op vraag patiënt
•Het intiem toilet	1	2	3	4	1	2	3	4	Nooit	≥ 1x/dag	om de 2 dagen	≥ 1x/week	< 1x/week	Bij problemen	Op vraag patiënt
•De stuit	1	2	3	4	1	2	3	4	Nooit	≥ 1x/dag	om de 2 dagen	≥ 1x/week	< 1x/week	Bij problemen	Op vraag patiënt
Techniek 'Wassen zonder water' uitvoeren bij geriatrische patiënten [1]	1	2	3	4	1	2	3	4	Nooit	≥ 1x/dag	om de 2 dagen	≥ 1x/week	< 1x/week	bij problemen	op vraag patiënt

[1] Bij deze nieuwe methode wordt gebruik gemaakt van kant-en-klare wegwerpwashandjes of -doekjes met hierin een speciale waslotion om het lichaam te wassen zonder water.

5) Vergelijken mondhygiëne en lichaamshygiëne

5.1 Geef weer in welke mate u akkoord bent met volgende uitspraken (één antwoord aanduiden per item).

	Helemaal niet akkoord	Eerder niet akkoord	Eerder wel akkoord	Helemaal wel akkoord
Het uitvoeren van de lichaamshygiëne is **mentaal** zwaarder dan het uitvoeren van de mondhygiëne bij geriatrische patiënten.				
Het uitvoeren van de lichaamshygiëne is **fysiek** zwaarder dan het uitvoeren van de mondhygiëne bij geriatrische patiënten.				
In de zorg aan geriatrische patiënten acht ik de lichaamshygiëne **belangrijker** dan de mondhygiëne.				
In de zorg aan geriatrische patiënten spendeer ik in verhouding **meer tijd** aan de lichaamshygiëne dan aan de mondhygiëne.				

Hartelijk dank voor uw medewerking!

Appendix B: Evaluation of the content validity of PHPAQ and the adjustments

Item	Question	Number of experts	Score 3 or 4	I-CVI[1]	P_c[2]	k*[3]	Evaluation for k*[4]	Adjustments after rating by the experts and after face validity
	Titel: 'Vragenlijst naar de percepties en opvattingen van verpleegkundigen en zorgkundigen over mond- en lichaamsverzorging bij een geriatrische, gehospitaliseerde patiënt'							***'Vragenlijst naar de percepties en opvattingen van verpleegkundigen en zorgkundigen over mond- en lichaamshygiëne bij een geriatrische, gehospitaliseerde patiënt die afhankelijk is voor mond- en lichaamshygiëne.'***
1	**2.1 Wat is uw geslacht?** 0 Man 0 Vrouw	8	6	0,75	0,109	0,719	Goed	Behouden
2	**2.2 Welke functie oefent u uit in het ziekenhuis?** 0 Verpleegkundige. Indien ja, welk opleidingsgraad heeft u? 0 Bachelor A1 0 Gegradueerd A2 0 Master 0 Zorgkundige	8	8	1	0,004	1	Uitstekend	***Wat is uw functie binnen het ziekenhuis?***
3	**2.3 Hoe oud bent u?**	8	7	0,88	0,031	0,876	Uitstekend	
4	**2.4 Over hoeveel jaren praktijkervaring beschikt u als professionele zorgverlener?...** jaar	8	8	1	0,004	1	Uitstekend	
5	**2.5 Op welke eenheid werkt u momenteel?** 0 Inwendige geneeskunde 0 Heelkunde 0 Geriatrie 0 Andere, specifieer: ……..	8	8	1	0,004	1	Uitstekend	***Waar bent u momenteel werkzaam als professionele zorgverlener (meerdere antwoorden mogelijk)?*** *0 Afdeling inwendige geneeskunde* *0 Afdeling heelkunde* *0 Afdeling geriatrie* *0 Support team, specifieer:* *0 Andere, specifieer:…*
6	**2.6 Wat is uw huidig percentage tewerkstelling?**	8	6	0,75	0,109	0,719	Goed	Verwijderd
7	**2.7 Werkt u voornamelijk overdag of 's nachts?** 0 Overdag 0 's Nachts	8	6	0,75	0,109	0,719	Goed	Behouden ***Als professionele zorgverlener werkt u voornamelijk (één antwoord aanduiden):*** *0 Overdag 0 's Nachts*
		S-CVI$_{Ave}$[5]	**0,88**					
		S-CVIU$_{UA}$[6]	**0.43**					

8	**3.1 Welke <u>barrières</u> ervaart u het meest bij de uitvoering van de mondverzorging? (min. 1 en <u>max. 3</u> antwoorden aanduiden)**	8	8	1	0,004	1	Uitstekend	***Wat houdt u tegen tot het uitvoeren van de mondhygiëne? (min. 1 en <u>max. 3</u> antwoorden aanduiden)*** *Toegevoegd item: *'De slechte mondhygiëne, slechte adem van de patiënt'*
9	0 Fysieke weerstand van de patiënt	8	8	1	0,004	1	Uitstekend	*Weerstand van de patiënt*
10	0 Te weinig tijd	8	8	1	0,004	1	Uitstekend	
11	0 Afkeer voor het wassen van het intiem toilet, slechte geuren,…	8	8	1	0,004	1	Uitstekend	*Afkeer voor tanden, kunstgebitten van de patiënt*
12	0 Te weinig kennis	8	8	1	0,004	1	Uitstekend	*Onvoldoende deskundigheid*
13	0 Te weinig materiaal	8	8	1	0,004	1	Uitstekend	*Geen geschikt materiaal op de afdeling*
14	0 Angst om schade of pijn te veroorzaken bij de patiënt	8	7	0,88	0,031	0,876	Uitstekend	*Angst om letsels of pijn te veroorzaken bij de patiënt*
15	0 Onvoldoende steun van collega's	7	6	0,86	0,055	0,852	Uitstekend	*Het niet uitvoeren van de mondhygiëne door collega's*
16	0 De attitude van patiënten	8	8	1	0,004	1	Uitstekend	*De gewoonten van de patiënt*
17	0 Gebrek aan een duidelijk afdelingsbeleid	8	7	0,88	0,031	0,876	Uitstekend	
18	0 Te complexe handeling(en)	7	7	1	0,008	1	Uitstekend	*Te moeilijke handeling(en)*
19	0 De bijhorende administratieve taken	8	8	1	0,004	1	Uitstekend	*De registraties in het patiëntendossier*
20	0 Anderen(n), specifieer: ……	7	7	1	0,008	1	Uitstekend	
21	0 Geen	7	7	1	0,008	1	Uitstekend	
22	**3.2 Wat <u>stimuleert</u> u het meest tot het uitvoeren van mondverzorging? (min. 1 en <u>max. 3</u> antwoorden aanduiden)**	8	8	1	0,004	1	Uitstekend	
23	0 Het eigen tevredenheidgevoel door het kunnen zorgen voor mensen	8	8	1	0,004	1	Uitstekend	*Het eigen tevredenheidsgevoel na het uitvoeren van de mondverzorging*
24	0 Het belang van de mondhygiëne voor de voedselinname, de communicatie, het gemoed, de frisheid (geur), het algemeen welzijn van de patiënt,…	8	8	1	0,004	1	Uitstekend	*Het belang van de mondverzorging voor de patiënt (bv. voor de voedselinname, de frisheid, het algemeen welzijn van de patiënt,…)*
25	0 Het vermijden van mondproblemen zoals infecties	8	8	1	0,004	1	Uitstekend	
26	0 Mijn eigen mondhygiëne (ik acht deze belangrijk)	8	7	0,88	0,031	0,876	Uitstekend	*Mijn eigen mondhygiënegewoonten (ik acht deze belangrijk)*
27	0 Het is een deel van de holistische kijk op de geriatrische patiënt	8	8	1	0,004	1	Uitstekend	Verwijderd na facevaliditeit

28	0 Ik wil aanzien worden als een goede verpleegkundige	8	7	0,88	0,031	0,876	Uitstekend	*Ik wil aanzien worden als een goede zorgverlener*
29	0 De steun van mijn collega's die ik ervaar	8	8	1	0,004	1	Uitstekend	*De druk die ik ervaar van collega's*
30	0 De druk die ik ervaar van patiënten en hun familie	8	8	1	0,004	1	Uitstekend	Na facevaliditeit item opgesplitst in: *'De gewoonten van de patiënt*' en *'De druk die ik ervaar van de familie van de patiënt'*
31	0 De dankbaarheid van de patiënten	8	8	1	0,004	1	Uitstekend	
32	0 Anderen(n), specifieer ……	7	7	1	0,008	1	Uitstekend	
33	0 Niets	7	6	0,86	0,055	0,852	Uitstekend	Verwijderd
34	**3.3 De mondverzorging bij geriatrische patiënten is de verantwoordelijkheid van (u mag meerdere antwoordmogelijkheden aanduiden):** 0 De verpleegkundige 0 De geriatrische patiënt zelf 0 De (tand)arts 0 De zorgkundige 0 De familie van de patiënt 0 De student 0 Andere(n), specifieer: …….	8	7	0,88	0,031	0,876	Uitstekend	Verwijderd en geïntegreerd in vraag 3.4 *('Mijn verantwoordelijkheid)*
35	**3.4 Geef weer in welke mate u al dan niet akkoord bent met volgende uitspraken. Ik beschouw de mondverzorging bij geriatrische patiënten als:** **(Likertschaal: Helemaal niet akkoord, eerder niet akkoord, eerder wel akkoord, helemaal wel akkoord)**	8	8	1	0,004	1	Uitstekend	***Toegevoegd aan vraagstelling*: *één antwoord aanduiden per item*** *Toegevoegde items: *-Een moment van observatie* *-een welzijnsbevorderende handeling* *-mijn verantwoordelijkheid* *-een taak waarrond voldoende educatie wordt gegeven* [44] *-een verwaarloosde handeling* [44]
36	een prioriteit	8	8	1	0,004	1	Uitstekend	
37	een deel van de elementaire basiszorg	8	8	1	0,004	1	Uitstekend	
38	een traditie	8	5	0,63	0,219	0,526	Behoorlijk	Verwijderd
39	een stressvolle taak voor de patiënt	8	6	0,75	0,109	0,719	Goed	Verwijderd
40	een stressvolle taak voor de hulpverlener	8	8	1	0,004	1	Uitstekend	
41	een taak die inspraak vereist van de patiënt	8	8	1	0,004	1	Uitstekend	
42	een doeltreffende handeling	8	8	1	0,004	1	Uitstekend	Verwijderd na facevaliditeit
43	een gezondheidsbevorderende handeling	8	8	1	0,004	1	Uitstekend	
44	een taak die teveel kostbare tijd in beslag neemt	8	8	1	0,004	1	Uitstekend	

45	een taak die de mogelijkheid biedt om een diepere relatie op te bouwen met de geriatrische patiënt.	8	5	0,63	0,219	0,526	Behoorlijk	Verwijderd
46	**Globaal gezien ben ik tevreden met de mondverzorging die ik geef aan de geriatrische patiënten**	8	7	0,88	0,031	0,876	Uitstekend	
	3.5 Hieronder vindt u drie vragen. In onderstaand antwoordschema moet u voor elke mondverzorgingshandeling apart de drie vragen beantwoorden. Lees eerst aandachtig de verschillende vragen en de bijhorende instructies. Vul nadien het antwoordschema volledig in.							***Hieronder vindt u drie vragen. In onderstaande tabel moet u voor elke handeling apart de drie vragen beantwoorden. Lees eerst aandachtig de drie vragen. Vul nadien de tabel volledig in door uw antwoorden te omcirkelen (bij elke handeling slechts één antwoord per vraag aanduiden).***
47	**3.5 *Vraag 1: Ik heb hier kennis over en ik voel me bekwaam om deze zorg uit te voeren bij geriatrische patiënten (ja/nee)**	9	9	1	0,002	1	Uitstekend	***1) Ik heb hier voldoende kennis over (Likertschaal)***
	Patiënten met eigen tanden							*Geriatrische patiënten met eigen tanden*
48	De mond spoelen met water	8	8	1	0,004	1	Uitstekend	
49	Inspectie mondholte	8	8	1	0,004	1	Uitstekend	*Mondholte inspecteren*
50	Poetsen van tanden	8	8	1	0,004	1	Uitstekend	*Tanden poetsen*
51	Flossen	8	8	1	0,004	1	Uitstekend	*Tussen de tanden reinigen (bv. met tandenstoker, flosdraad,…)*
52	Gehemelte en tong reinigen	8	8	1	0,004	1	Uitstekend	*Slijmvliezen en tong reinigen*
53	Gebruik van mondspoeling	8	8	1	0,004	1	Uitstekend	*Mondspoeling gebruiken*
	Patiënten met een gebitsprothese							**Geriatrische patiënten met een gebitsprothese* *Na facevaliditeit item toegevoegd: *'Mond spoelen met water'*
54	's Nachts prothese verwijderen	8	8	1	0,004	1	Uitstekend	
55	Inspectie mondholte	8	8	1	0,004	1	Uitstekend	*Mondholte inspecteren*
56	Poetsen mondholte	8	8	1	0,004	1	Uitstekend	*Slijmvliezen en tong reinigen*
57	Spoelen van prothese met water	8	8	1	0,004	1	Uitstekend	*Prothese spoelen met water (buiten de mond)*
58	Schoonmaken prothese met zeep	8	8	1	0,004	1	Uitstekend	*Prothese poetsen (buiten de mond)*
59	Prothese laten schoonweken in azijn	8	8	1	0,004	1	Uitstekend	*'s Nachts prothese schoonweken*

60	**3.5 *Vraag 2: Ik vind deze zorg belangrijk bij geriatrische patiënten (Likertschaal)**	9	9	1	0,002	1	Uitstekend	***2) Ik vind deze zorg <u>belangrijk</u>***
61	De mond spoelen met water	8	8	1	0,004	1	Uitstekend	
62	Inspectie mondholte	8	8	1	0,004	1	Uitstekend	
63	Poetsen van tanden	8	8	1	0,004	1	Uitstekend	
64	Flossen	8	8	1	0,004	1	Uitstekend	
65	Gehemelte en tong reinigen	8	8	1	0,004	1	Uitstekend	
66	Gebruik van mondspoeling	8	8	1	0,004	1	Uitstekend	
67	’s Nachts prothese verwijderen	8	8	1	0,004	1	Uitstekend	
68	Inspectie mondholte	8	8	1	0,004	1	Uitstekend	
69	Poetsen mondholte	8	8	1	0,004	1	Uitstekend	
70	Spoelen van prothese met water	8	8	1	0,004	1	Uitstekend	
71	Schoonmaken prothese met zeep	8	8	1	0,004	1	Uitstekend	
72	Prothese laten schoonweken in azijn	8	8	1	0,004	1	Uitstekend	
73	**3.5 *Vraag 3: Ik voer deze zorg ook werkelijk uit bij geriatrische patiënten (of ik spoor de patiënt aan om het zelf te doen en ik controleer het).**	9	9	1	0,002	1	Uitstekend	***3) Hoe vaak <u>voert u deze zorg ook werkelijk zelf uit</u> bij een geriatrische patiënt die afhankelijk is voor de mondhygiëne?*** *Slechts één antwoord aanduiden!*
74	De mond spoelen met water	8	8	1	0,004	1	Uitstekend	
75	Inspectie mondholte	8	8	1	0,004	1	Uitstekend	
76	Poetsen van tanden	8	8	1	0,004	1	Uitstekend	
77	Flossen	8	8	1	0,004	1	Uitstekend	
78	Gehemelte en tong reinigen	8	8	1	0,004	1	Uitstekend	
79	Gebruik van mondspoeling	8	8	1	0,004	1	Uitstekend	
80	’s Nachts prothese verwijderen	8	8	1	0,004	1	Uitstekend	
81	Inspectie mondholte	8	8	1	0,004	1	Uitstekend	
82	Poetsen mondholte	8	8	1	0,004	1	Uitstekend	
83	Spoelen van prothese met water	8	8	1	0,004	1	Uitstekend	
84	Schoonmaken prothese met zeep	8	8	1	0,004	1	Uitstekend	
		S-CVI$_{Ave}$[5] 0.97						
		S-CVIU$_{UA}$[6] 0.86						

85	**4.1 Welke <u>barrières</u> ervaart u het meest bij de uitvoering van de lichaamsverzorging? (min. 1 en <u>max. 3</u> antwoorden aanduiden)**	8	8	1	0,004	1	Uitstekend	***Wat <u>houdt u tegen</u> tot het uitvoeren van de lichaamshygiëne? (min. 1 en <u>max. 3</u> antwoorden aanduiden)*** **Toegevoegd item: 'De slechte lichaamshygiëne, slechte geuren van de patiënt'*
86	0 Fysieke weerstand van de patiënt	7	7	1	0,008	1	Uitstekend	*Weerstand van de patiënt*
87	0 Te weinig tijd	8	8	1	0,004	1	Uitstekend	
88	0 Afkeer voor het wassen van het intiem toilet, slechte geuren,…	8	7	0,88	0,031	0,876	Uitstekend	*Afkeer voor het wassen van het intiem toilet*
89	0 Te weinig kennis	8	7	0,88	0,031	0,876	Uitstekend	*Onvoldoende deskundigheid*
90	0 Te weinig materiaal	8	7	0,88	0,031	0,876	Uitstekend	*Geen geschikt materiaal op de afdeling*
91	0 Angst om schade of pijn te veroorzaken bij de patiënt	8	7	0,88	0,031	0,876	Uitstekend	*Angst om letsels of pijn te veroorzaken bij de patiënt*
92	0 Onvoldoende steun van collega's	8	7	0,88	0,031	0,876	Uitstekend	*Het niet uitvoeren van de lichaamshygiëne door collega's*
93	0 De attitude van patiënten	7	7	1	0,008	1	Uitstekend	*De gewoonten van de patiënt*
94	0 Gebrek aan een duidelijk afdelingsbeleid	8	8	1	0,004	1	Uitstekend	
95	0 Te complexe handeling(en)	8	7	0,88	0,031	0,876	Uitstekend	*Te moeilijke handeling(en)*
96	0 De bijhorende administratieve taken	8	7	0,88	0,031	0,876	Uitstekend	*De registraties in het patiëntendossier*
97	0 Anderen(n), specifieer: ……	7	7	1	0,008	1	Uitstekend	
98	0 Geen	7	7	1	0,008	1	Uitstekend	
99	**4.2 Wat <u>stimuleert</u> u het meest tot het uitvoeren van lichaamsverzorging? (min. 1 en <u>max. 3</u> antwoorden aanduiden)**	8	8	1	0,004	1	Uitstekend	
100	0 Het eigen tevredenheidgevoel door het kunnen zorgen voor mensen	8	8	1	0,004	1	Uitstekend	*Het eigen tevredenheidsgevoel na het uitvoeren van de lichaamsverzorging*
101	0 Het belang van de lichaamshygiëne voor het gemoed, de frisheid (geur), het algemeen welzijn van de patiënt,…	8	8	1	0,004	1	Uitstekend	*Het belang van de lichaamsverzorging voor de patiënt (bv. voor het gemoed, de frisheid, het algemeen welzijn van de patiënt,…)*
102	0 Het vermijden van huidproblemen zoals infecties	8	8	1	0,004	1	Uitstekend	
103	0 Mijn eigen lichaamshygiëne (ik acht deze belangrijk)	8	8	1	0,004	1	Uitstekend	*Mijn eigen lichaamshygiënegewoonten (ik acht deze belangrijk)*

104	0 Het is een deel van de holistische kijk op de geriatrische patiënt	8	8	1	0,004	1	Uitstekend	Verwijderd na facevaliditeit
105	0 Ik wil aanzien worden als een goede verpleegkundige	7	7	1	0.008	1	Uitstekend	*Ik wil aanzien worden als een goede zorgverlener*
106	0 De steun van mijn collega's die ik ervaar	8	8	1	0,004	1	Uitstekend	*De druk die ik ervaar van collega's*
107	0 De druk die ik ervaar van patiënten en hun familie	8	8	1	0,004	1	Uitstekend	Na facevaliditeit item opgesplitst in: '*De gewoonten van de patiënt '* en '*De druk die ik ervaar van de familie van de patiënt*'
108	0 De dankbaarheid van de patiënten	8	8	1	0,004	1	Uitstekend	
109	0 Anderen(n), specifieer ……	8	8	1	0,004	1	Uitstekend	
110	0 Niets	8	6	0,75	0,109	0,719	Goed	Verwijderd
111	**4.3 De lichaamsverzorging bij geriatrische patiënten is de verantwoordelijkheid van (u mag meerdere antwoordmogelijkheden aanduiden):** 0 De verpleegkundige 0 De geriatrische patiënt zelf 0 De student 0 De zorgkundige 0 De familie van de patiënt 0 Andere(n), specifieer: …….	8	7	0,88	0,031	0,876	Uitstekend	Verwijderd en geïntegreerd in vraag 4.4 *('Mijn verantwoordelijkheid')*
112	**4.4 Geef weer in welke mate u al dan niet akkoord bent met volgende uitspraken.** **Ik beschouw de lichaamsverzorging bij geriatrische patiënten als:**	8	8	1	0,004	1	Uitstekend	*Toegevoegd aan vraagstelling**: (één antwoord aanduiden per item)*** *Toegevoegde items: *-Een moment van observatie* *-een welzijnsbevorderende handeling* *-mijn verantwoordelijkheid* *-een taak waarrond voldoende educatie wordt gegeven* [44] *-een verwaarloosde handeling* [44]
113	een prioriteit	8	8	1	0,004	1	Uitstekend	
114	een deel van de elementaire basiszorg	8	8	1	0,004	1	Uitstekend	
115	een traditie	8	7	0,88	0,031	0,876	Uitstekend	Verwijderd
116	een stressvolle taak voor de patiënt	8	7	0,88	0,031	0,876	Uitstekend	Verwijderd
117	een stressvolle taak voor de hulpverlener	8	7	0,88	0,031	0,876	Uitstekend	
118	een taak die inspraak vereist van de patiënt	8	8	1	0,004	1	Uitstekend	

119	een doeltreffende handeling	8	8	1	0,004	1	Uitstekend	Verwijderd na facevaliditeit
120	een gezondheidsbevorderende handeling	8	8	1	0,004	1	Uitstekend	
121	een taak die teveel kostbare tijd in beslag neemt	8	8	1	0,004	1	Uitstekend	
122	een taak die de mogelijkheid biedt om een diepere relatie op te bouwen met de geriatrische patiënt.	8	7	0,88	0,031	0,876	Uitstekend	Verwijderd
123	**Globaal gezien ben ik tevreden met de lichaamsverzorging die ik geef aan de geriatrische patiënten.**	7	7	1	0,008	1	Uitstekend	
	4.5 Hieronder vindt u drie vragen. In onderstaand antwoordschema moet u voor elke lichaamsverzorgingshandeling apart de drie vragen beantwoorden. Lees eerst aandachtig de verschillende vragen en de bijhorende instructies. Vul nadien het antwoordschema volledig in.							***Hieronder vindt u drie vragen. In onderstaande tabel moet u voor elke handeling apart de drie vragen beantwoorden. Lees eerst aandachtig de drie vragen. Vul nadien de tabel volledig in door uw antwoorden te omcirkelen (bij elke handeling slechts één antwoord per vraag aanduiden).***
124	**4.5 *Vraag 1: Ik heb hier kennis over en ik voel me bekwaam om deze zorg uit te voeren bij geriatrische patiënten (ja/nee).**	8	7	0,88	0,031	0,876	Uitstekend	***1) Ik heb hier voldoende kennis over (Likertschaal)***
	Wassen van:							*Bij geriatrische patiënten wassen van:*
125	Het aangezicht en de hals	8	7	0,88	0,031	0,876	Uitstekend	
126	De armen	8	7	0,88	0,031	0,876	Uitstekend	
127	De handen	8	7	0,88	0,031	0,876	Uitstekend	
128	De oksels	8	7	0,88	0,031	0,876	Uitstekend	
129	De borstkas	8	7	0,88	0,031	0,876	Uitstekend	*De borstkas en de buik*
130	De benen	8	7	0,88	0,031	0,876	Uitstekend	
131	De voeten	8	7	0,88	0,031	0,876	Uitstekend	
132	Het intiem toilet	8	7	0,88	0,031	0,876	Uitstekend	
133	De rug	8	7	0,88	0,031	0,876	Uitstekend	
134	De stuit	8	7	0,88	0,031	0,876	Uitstekend	
135	Techniek 'Wassen zonder water'	8	8	1	0,004	1	Uitstekend	*Techniek 'Wassen zonder water' uitvoeren bij geriatrische patiënten*
136	**4.5 *Vraag 2: Ik vind deze zorg belangrijk bij geriatrische patiënten (Likertschaal).**	8	8	1	0,004	1	Uitstekend	***2) Ik vind deze zorg belangrijk***
137	Het aangezicht en de hals	8	8	1	0,004	1	Uitstekend	
138	De armen	8	8	1	0,004	1	Uitstekend	

139	De handen	8	8	1	0,004	1	Uitstekend	
140	De oksels	8	8	1	0,004	1	Uitstekend	
141	De borstkas	8	8	1	0,004	1	Uitstekend	
142	De benen	8	8	1	0,004	1	Uitstekend	
143	De voeten	8	8	1	0,004	1	Uitstekend	
144	Het intiem toilet	8	8	1	0,004	1	Uitstekend	
145	De rug	8	8	1	0,004	1	Uitstekend	
146	De stuit	8	8	1	0,004	1	Uitstekend	
147	Techniek 'Wassen zonder water'	8	8	1	0,004	1	Uitstekend	
148	**4.5 *Vraag 3: Ik voer deze zorg ook werkelijk uit bij geriatrische patiënten (of ik spoor de patiënt aan om het zelf te doen en ik controleer het).**	8	8	1	0,004	1	Uitstekend	***3) Hoe vaak <u>voert u deze zorg ook werkelijk zelf uit</u> bij een geriatrische patiënt die afhankelijk is voor de lichaamshygiëne?*** *Slechts één antwoord aanduiden!*
149	Het aangezicht en de hals	8	8	1	0,004	1	Uitstekend	
150	De armen	8	8	1	0,004	1	Uitstekend	
151	De handen	8	8	1	0,004	1	Uitstekend	
152	De oksels	8	8	1	0,004	1	Uitstekend	
153	De borstkas	8	8	1	0,004	1	Uitstekend	
154	De benen	8	8	1	0,004	1	Uitstekend	
155	De voeten	8	8	1	0,004	1	Uitstekend	
156	Het intiem toilet	8	8	1	0,004	1	Uitstekend	
157	De rug	8	8	1	0,004	1	Uitstekend	
158	De stuit	8	8	1	0,004	1	Uitstekend	
159	Techniek 'Wassen zonder water'	8	8	1	0,004	1	Uitstekend	
		S-CVI$_{Ave}$[5]	**0.96**					
		S-CVIU$_{UA}$[6]	**<u>0.68</u>**					
160	**5.1 Geef weer in welke mate u al dan niet akkoord bent met volgende uitspraken**	8	8	1	0,004	1	Uitstekend	Toegevoegd aan vraagstelling**: (*één antwoord aanduiden per item)***
161	Het uitvoeren van de lichaamsverzorging is mentaal zwaarder dan het uitvoeren van de mondverzorging bij geriatrische patiënten.	7	7	1	0,008	1	Uitstekend	
162	Het uitvoeren van de lichaamsverzorging is fysiek zwaarder dan het uitvoeren van de mondverzorging bij geriatrische patiënten.	7	7	1	0,008	1	Uitstekend	

163	In de zorg aan geriatrische patiënten acht ik de lichaamsverzorging belangrijker dan de mondverzorging.	7	7	1	0,008	1	Uitstekend	
164	In de zorg aan geriatrische patiënten spendeer ik in verhouding meer tijd aan de lichaamsverzorging dan aan de mondverzorging.	7	7	1	0,008	1	Uitstekend	
		S-CVI$_{Ave}$[5]	**1.00**					
		S-CVIU$_{UA}$[6]	**1.00**					
	Totaal	**S-CVI$_{Ave}$[5]**	**0,96**					
		S-CVIU$_{UA}$[6]	**<u>0,76</u>**					

[1] I-CVI (item content validity index) = number of experts who scored 3 or 4/number of experts. Cut-off: 78 $\leq$ I-CVI

[2] P_c (probability of a chance occurrence) = [N!/A!(N-A)!]*0,5N (N = number of experts and A = number agreeing on good relevance).

[3] k* (kappa designating agreement on relevance) = (I-CVI- P_c)/(1- P_c).

[4] Evaluation criteria for k*: fair = 0.40 $\leq$ k* $\leq$ 0.59, good = 0.60 $\leq$ k* $\leq$ 0.74 and excellent = 0.74 < k*.

[5] S-CVI$_{ave}$ (average scale content validity index) = mean of I-CVI. Cut-off: 0,90 $\leq$ S-CVI$_{ave}$.

[6] S-CVI$_{ua}$ (scale content validity index universal agreement) = number of items that were assigned 3 or 4 by all experts/number of items. Cut-off: 0.80 $\leq$ S-CVI$_{ua}$.

The underlined values show the items with I-CVI < 0,78 and the scales with S-CVI$_{UA}$ < 0.80.

[21,22]