ORIGINAL ARTICLE

Older people's involvement in activities related to meals in nursing homes

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Aims and objectives. To explore how residents in nursing homes perceive their participation in activities related to food and meals, and possible factors influencing their involvement.

Background. Eating and drinking are fundamental human needs and consequently essential parts of nursing and nursing care. Therefore and as part of nursing care, encouraging older people in nursing homes to engage in different mealtime activities could be one way to increase participation in activities of daily living and more optimal nutrition status among older people.

Design. A cross-sectional survey design was used.

Methods. A total of 204 residents (88%) in one Norwegian county agreed to participate and completed a face-to-face interview questionnaire about food and meal experiences. Descriptive and comparative statistics was used.

Results. Close to 30% of the residents were vulnerable to malnourishment. None of the residents were involved in menu planning, and more than 90% did not participate in food preparation or setting/clearing tables. Ten per cent were able to choose where they could eat and 5% when they could eat. Older persons living in nursing homes with more than 80 residents and those younger than 65 years of age participated the most, while older people with poor appetites were able to choose more often where they wanted to eat, compared to those with a healthy appetite.

Conclusion. The residents in this study appeared to be vulnerable to malnourishment. The results indicated that they only to a limited extent were involved in activities concerning food and meals at the nursing homes.

Implications for practice. Management and nurses should focus on residents' eating and drinking, which are essentials of nursing care. The residents should be asked whether they would like to participate in different mealtime activities. Further, a person-centred care approach that facilitates activities concerning food and meals should be promoted.

Key words: essentials of nursing care, food and meals, involvement, nursing homes, older people

What does this research add to existing knowledge in gerontology?

- Residents in nursing homes appear to be vulnerable to malnourishment, and even the most resourceful residents seem only to a limited extent to be involved in activities related to meals.
- The residents perceive that they can rarely choose when they want to eat, and that they seldom get food outside of ordinary mealtimes.
- Residents with a healthy appetite seem to seldom be able to choose whom they sit next to while eating.

What are the implications of this new knowledge for nursing care with older people?

- Managers and health personnel at nursing homes should focus on person-centred care to enhance the quality of care and to meet the fundamental human needs of eating and drinking, which are essential parts of nursing care.
- Nurses should strive to involve the residents in activities related to food and meals as this could be one way of gaining a more optimal nutrition status among older people in nursing homes.

How could the findings be used to influence policy or practice or research or education?

- The results indicate that nursing practice should focus on the nutritional status of older people in nursing homes.
- The education of nurses should stress the importance of a person-centred care approach to engage the older people in different mealtime activities as one possible way of increasing their participation in activities of daily living.
- Further studies should explore whether the residents' active participation in food and meals leads to more optimal nutrition status among older people.

Introduction

Eating and drinking are fundamental human needs and essential areas for nursing care and nurses, therefore, play an important role in nutritional care (Henderson, 1969; Hofstad & Norvoll, 2003; Pedersen, 2005; Kuosma *et al.*, 2008). Approximately 14% of the population of Norway is aged 67 years and older (Statistics Norway, 2015b), and about 34 000 people live in nursing homes (Statistics Norway, 2015a). Therefore, a large number of people in Norway eat their meals in nursing homes (Aagaard, 2010a). Surveys from a number of European countries, including Norway, indicate that residents of nursing homes are vulnerable to malnourishment. The reported incidence varies from 10% to 60% (Saletti *et al.*, 2000; Damkjær & Bech, 2007; Saletti, 2007; Lelovics *et al.*, 2009; Norwegian Directorate of Health, 2009; Papparotto *et al.*, 2013; Sortland *et al.*, 2013).

Malnutrition in older people can be described as insufficient dietary intake to meet the body's requirements for energy and protein, muscle wasting, weight loss of about 5% over 6–12 months, poor appetite due to advanced ageing, and by an increased negative effect on physical health and psycho-social well-being (Chia-Hui *et al.*, 2001). Malnutrition, unintentional weight loss and low body mass index (BMI) are risk factors for increased mortality among older people (Beck *et al.*, 2005). BMI of <18.5 kg/m^2 is used to describe people at increased nutritional risk regardless of age. To identify older persons at risk, a BMI of <24 kg/m^2 is suggested (Beck & Ovesen, 1998), and a BMI of 24.0–25.9 was recommended for older Caucasian people (Mowé *et al.*, 2008). Malnourishment in older patients is poorly recognised at healthcare institutions (Flodin *et al.*, 2000; Suominen *et al.*, 2009). Therefore, nutrition and meals are essential areas for nursing care and quality improvement work in nursing care among older people in nursing homes (Suominen *et al.*, 2009).

Residents in nursing homes generally have functional impairments and may require a high level of assistance (The Norwegian Medical Association, 2001; Hofstad & Norvoll, 2003). They also score lower on health-related quality of life than older people living at home (Drageset *et al.*, 2008). However, current legislation, ethics and public recommendations in many western countries (Ministry of Health and Care Services, 1999; International Council for Nurses, 2006; Wetzels *et al.*, 2007), stress the importance of involving residents in decision-making processes that often arise in the daily life of the residents. Moving to a nursing home is difficult for most people, and involvement in decision-making might help the older people to find the nursing home more homelike (Nakrem *et al.*, 2013). Activities related to meals occur every day, and making their own decisions concerning food and meals is something most people outside nursing homes take for granted. The ability to participate in decision-making concerning meals may contribute to the residents' perception of autonomy and control (McKinley & Adler, 2006; Wikström & Emilsson, 2014), while at the same time maintaining their perception of identity (Sidenvall *et al.*,

2001). In an evaluation aimed at identifying the types of activity that older people in nursing homes find meaningful and would like to participate in themselves, almost seven of ten chose baking (Haugland, 2012). It is also assumed that the participation of older people in nursing homes in activities related to food and meals can prevent malnourishment (Carrier *et al.*, 2007).

The concept of person-centred care has been introduced as an essential approach in the delivery of nursing care. A person-centred approach to nursing may provide a more therapeutic relationship between nurses and residents, by seeing the older person as an equal partner in planning, developing and assessing nursing care (McCormack & McCance, 2006; McCormack *et al.*, 2011). Person-centred care, as understood by the staff in residential aged care, constituted five areas central to its provision: 'the importance of knowing the person and using this information to meet their needs, welcoming the family, and providing meaningful activities, a personalised environment, and flexibility and continuity' (Edvardsson *et al.*, 2010, p;. 2611). A review of mealtime care practices in nursing homes and how that care can be made more person-centred, revealed four aspects related to person-centred care during mealtimes: 'providing choices and preferences, supporting independence, showing respect and promoting social interaction' (Reimer & Keller, 2009, p. 327). Being aware of the older persons' preferences and independence is emphasised in person-centred care.

Research shows that residents appear to have limited opportunities to influence meal situations (Sydner, 2002), and seem to have limited control over and choice in respect of food and meals (Winterburn, 2009). Studies show that the organisation of meals, available equipment and the nursing staff's own belief in what the residents themselves can manage, impose limitations on what is possible (Sydner, 2002; Carrier *et al.*, 2007; Melheim, 2008; Winterburn, 2009). Large wards also have a negative impact on the opportunities for residents to become involved in their day-to-day lives (Chou *et al.*, 2003). It has been found that meals play an important social and cultural role, beyond the fact that they provide essential nutrition (Melheim, 2008). In a study, older person's perception of the quality of food and service was strongly linked to their quality of life. Good food symbolises well-being and evokes memories of happy moments in life (Evans & Crogan, 2005). The results also indicate that regular evaluation of the residents' dietary requirements, including special diets, as a basis for quality development, has a direct bearing on quality of life. The quality of life of nursing home residents has also been shown to improve when they are able to be self-reliant in relation to food and meals (Carrier *et al.*, 2009).

A search of the literature revealed a scarcity of research on residents' perceptions of involvement concerning meals, and no Norwegian studies have been identified that describe the perceptions of residents in nursing homes concerning participation in food preparation, during the meal itself or following the meal, or factors that may influence the extent to which residents participate in activities related to meals. The factors we wanted to explore in this study were: residents' age, gender and length of stay, as well as residents' appetites, the number of residents in the nursing home, and lastly, whether or not the nursing home had its own main kitchen. It is important to gain a greater understanding of older people's preferences in relation to food and mealtime activities, and to use this information to meet their needs by applying a person-centred care approach.

The aim of this article is therefore to explore how residents in nursing homes perceive their participation in activities in relation to food and meals, and to identify possible factors that influence their involvement.

Method

The design of the study is descriptive, and it was performed as a cross-sectional survey among residents in nursing homes. Structured interviews were carried out.

Context and participants

The participants are residents in nursing homes from a county comprising 18 municipalities and with a total of 33 public nursing homes. All public nursing homes were invited to take part in the cross-sectional survey and 32 of them replied in the affirmative. A total of 89% of the residents were living in single rooms. In nursing homes housed in old buildings, the meals were served in one main dining room, while in newer, more modern nursing homes meals were served in smaller unit-based dining rooms. Person-centred care was no component of care delivery in any of the participating nursing homes. Residents who met the following inclusion criteria were invited to participate: (i) the physical health and psychological well-being of the older person provided ethical justification for invitation to participate; (ii) the older person had to be capable of giving consent; (iii) the older person had to be able to express themselves verbally and (iv) the older person had to be able to consume food and drink. Residents were excluded if (i) they had been diagnosed with different types of dementia and (ii) they were in receipt of tube nutrition and/or intravenous nutrition. A total of 233 residents met the inclusion criteria and were asked to participate in the study, and 204 (88%) residents replied in

the affirmative. Each nursing home also appointed a contact person [Registered Nurse (RN)] who answered questions about the nursing home.

The questionnaire

A structured questionnaire was developed based on results from a previous study that dealt with food and meals in nursing homes (Aagaard, 2008), as well as a thorough literature review of research in the field. The questions in the questionnaire were intended to describe three important areas for nursing concerning the fundamental human needs of eating and drinking. The questionnaire consisted of 43 questions to be answered by the residents, and six questions to be answered by the nursing home's contact person. The questions for the residents were structured in accordance with the following three areas: the older person's assessment of the food, the eating environment and the older person's involvement. Only the answers from the older person's involvement (10 items) were used in this article, because we wanted to focus on older persons' participation in an ordinary daily activity that is of essential for nursing care. Examples of questions were as follows: 'How often do you take part in some form of food preparation?' and 'Are you given sufficient time to eat?' The residents' answers were registered on a scale from 1 ('Never') to 4 ('Always'). Each question also had the response category 'Don't know/Not applicable'. The background variables included questions on the older person's appetite, two questions on whether the older person had problems chewing or swallowing, and two questions about the time of the first and last meals each day. To strengthen validity, the questionnaire was reviewed by an expert group consisting of RNs and nutritionists who work with food and nutrition issues among older people. Subsequently, a pilot study was undertaken with four respondents who were randomly selected from the same population. These answers have been excluded from the main study. Based on the responses to the pilot study, the questions in the questionnaire were changed from statements to questions, as these were perceived to be easier for the older person to answer. Questions regarding the number of residents at the nursing home, whether or not the nursing home had its own kitchen, the older person's BMI, age, gender and how long each resident had been at the nursing home were answered by the contact persons at the nursing homes.

Procedure

Data collection took place during the period February–May 2009. The head nurse appointed a contact person from among the RNs, and this RN then assessed which residents should be asked to participate in the survey based on the inclusion and exclusion criteria. The majority of residents were older persons and in poor health, therefor the data collection was conducted as structured interviews. The interviews were mainly conducted in the residents' room. A few interviews were conducted in a quiet part of the nursing home at the request of the resident. The second author and three student nurses trained by the second author conducted the interviews by reading out the questions in the questionnaire. If the resident did not wish to answer a question, the interviewer moved on to the next question. The interviews lasted around 30 minutes.

Data analysis

Analyses were performed using the statistics programme IBM SPSS Statistics for Windows, version 22 (Field, 2013). Statistical significance was set at $P < 0.05$. Descriptive analyses were performed to describe the older persons' perceptions of participation in activities related to food and meals at the nursing home. The Mann–Whitney *U*-test (Greene & D'Oliveira, 2006) was used to examine the possible differences in participation between males and females, and at nursing homes with or without a main kitchen. The Kruskal–Wallis test (Greene & D'Oliveira, 2006) was used to examine the differences in participation between the age groups (≤65, 66–75, 76–85 and ≥85 years), between degrees of appetite (Poor, Good, Very good), between duration of stay (<1, 1–3, 4–6, 7–12 and >12 months) and between the different sizes of the nursing homes (≤30 residents, 31–80 residents and ≥81 residents). In the event of statistically significant differences, the Mann–Whitney *U*-test was used to examine multiple comparisons. This concerned the older person's age, degree of appetite and size of nursing home. The Bonferroni correction was used to eliminate type 1 errors (Tabachnick & Fidell, 2007). This was achieved by dividing the estimated significance level by the number of comparisons performed ($P = 0.05/3$). In these instances, the significance level used was $P = 0.0167$.

Ethical considerations

The contact person RN at each nursing home assessed whether the resident's physical health and psychological well-being provided ethical justification for an invitation to participate. The residents who agreed to take part in the study were provided with verbal and written information about the study by the RN. It was emphasised that participation in the study was voluntary, that they could withdraw from the project whenever they wanted without any consequences, and

that data would be made anonymous. The resident's written informed consent was obtained by the RN. The information was repeated by the interviewers before the interviews were conducted. Confidentiality was secured according to the ICN's ethical guidelines for nursing research (International Council for Nurses, 2003). The Norwegian Social Science Data Services approved the study (reference number 21083). The study was submitted to the secretary of The Regional Committee for Medical Research Ethics in East Norway, who determined that it was not subject to reporting requirements.

Results

The results were based on answers given by 204 residents living in nursing homes. See Table 1 for a description of the residents and the nursing homes.

Table 1 shows that 83.3% of the respondents were 76 years of age or older, and 59.2% of the respondents had lived at the nursing home for more than 6 months. Further, 85.6% had a good or a very good appetite. Problems with chewing were experienced by 16.5%, and 12.1% reported having experienced problems with swallowing. The BMI of 173 respondents was registered. Among the respondents, 30.7% had a BMI of 21 or lower.

The residents' participation in activities related to food preparation and meals is described in Table 2. The questions varied from whether residents were involved in planning meals, to the actual eating situation. Answers were given on a scale from 1 ('Never') to 4 ('Always').

All residents stated that they never took part in planning the menu, and over 90% did not take part in food preparation, setting the table or clearing up afterwards. One in ten residents said that they were able to choose whom they sat next to while they were eating, and 4% felt that they could choose when they wanted to eat. Furthermore, 25% said that they could get food outside of ordinary mealtimes.

The size of the nursing home had a statistically significant bearing on whether residents participated in any form of food preparation. Residents in medium-sized nursing homes (31–80 residents) participated the least, while those in the largest nursing homes (more than 80 residents) participated the most ($z = -2.85$, $P = 0.004$). However, no statistically significant differences were found regarding whether or not the nursing home had a main kitchen. The residents' ages also indicated a connection with how often they participated in setting and decorating the table. A comparison was made between the youngest residents up to 65 years of age and the oldest residents from 86 years of age and older. The results indicated that the youngest residents took part more frequently than the oldest residents. The residents' appetites affected whether they were able to choose to eat alone or together with others. Those with a very good appetite were rarely able to choose to eat alone or together with others ($z = -2.612$, $P = 0.009$). No statistically significant differences were found between males and females or between different lengths of stay at the nursing home in respect of the residents' participation before, during and after meals.

Table 1 Characteristics of the residents and a description of the nursing homes

Variable	*N* (%)
Gender	
Male	53 (26.0)
Female	151 (74.0)
Age	
≤65 years	11 (5.4)
66–75 years	23 (11.3)
76–85 years	69 (33.8)
≥86 years	101 (49.5)
Body mass index (BMI)*	
13–19	24 (13.9)
20–21	29 (16.8)
22–27	84 (48.6)
28–29	7 (4.0)
30–39	29 (16.8)
Length of stay at the nursing home	
<1 month	32 (15.9)
1–3 months	36 (17.9)
4–6 months	14 (7.0)
7–12 months	29 (14.4)
>12 months	90 (44.8)
Residents' appetite	
Poor	29 (14.4)
Good	122 (60.4)
Very good	51 (25.2)
Problems with chewing	
Yes	33 (16.5)
No	167 (81.9)
Problems with swallowing	
Yes	24 (12.1)
No	175 (85.8)
Number of residents at the nursing home	
≤30 (small)	13 (6.5)
31–80 (medium)	127 (63.5)
≥81 (large)	60 (30)
Dinner from own main kitchen	
Yes	73 (36.5)
No	127 (63.5)

*$N = 173$.

Discussion

The aim of this article was to explore how residents in nursing homes perceive their participation in activities in

Table 2 The residents' participation in activities related to food and meals

	1 Never *n* (%)	2 Now and then *n* (%)	3 Often *n* (%)	4 Always *n* (%)
I can have food outside of normal mealtimes (*n* = 119)	28 (23.5)	11 (9.2)	30 (25.2)	50 (42.0)
I take part in planning menus (*n* = 199)	197 (99.0)	2 (1.0)	0	0
I take part in food preparation (*n* = 156)	146 (93.6)	4 (2.6)	4 (2.6)	2 (1.3)
I take part in setting the table (*n* = 145)	140 (96.6)	2 (1.4)	3 (2.1)	0
I take part in clearing up after the meal (*n* = 144)	138 (95.8)	2 (1.4)	3 (2.1)	1 (0.7)
I decide when I want to eat (*n* = 139)	106 (76.3)	15 (10.8)	10 (7.2)	8 (5.8)
I decide whom to sit with at mealtimes (*n* = 146)	93 (63.7)	11 (7.5)	25 (17.1)	17 (11.6)
I decide whether to eat alone or together with others (*n* = 162)	10 (6.2)	5 (3.1)	21 (13)	126 (77.8)
I am given sufficient time to eat (*n* = 199)	1 (0.5)	2 (1.0)	11 (5.5)	185 (93.0)
I receive the help I need from the staff at mealtimes (*n* = 127)	0	5 (3.9)	9 (7.1)	113 (89.0)

relation to food and meals, and possible factors influencing their involvement. Around 30% of the residents in this study seemed to be vulnerable to malnourishment, and the residents appeared only to a limited extent to be involved in activities in relation to meals. Residents living in nursing homes with more than 80 residents participated the most, and residents up to 65 years of age participated more frequently than the oldest residents from 86 years of age and older.

The results of this study showed that 30.7% of the residents had a BMI of 21 or lower. This was an indication that they were at risk of becoming, or were already, malnourished. When screening the nutritional status of older persons, BMI is one of the indicators of malnutrition (Beck *et al.*, 2005). The results of this study says nothing about weight loss, but 14.4% of the residents report poor appetite which also might be an indicator of malnourishment (Chia-Hui *et al.*, 2001). On the other hand, results from this study showed that nine of ten residents reported that they were given sufficient time to eat, and almost 70% appeared to receive the help they needed from the nursing staff at mealtimes, which might enhance their nutritional status. Previous research has found that older persons in nursing homes are at risk of being malnourished (Papparotto *et al.*, 2013; Sortland *et al.*, 2013). Furthermore, 15.2% of the respondents in this study had not had their BMI registered. This might indicate that nutrition is an area that can be neglected at busy times in nursing homes (Flodin *et al.*, 2000). It might also indicate a lack of knowledge among nurses about the nutritional needs of the residents, as indicated by recent research results (Suominen *et al.*, 2009; Merrell *et al.*, 2012; Beattie *et al.*, 2014).

None of the residents participated in planning the menu, and only 3% of the residents appeared to always, or often, participate in food preparation. Furthermore, almost one in four residents said that they did not know that they could participate, or that this was not applicable. This could be due to scarcity of information about the opportunity to participate. Residents might also be considered by nurses to be too frail to participate. Nursing homes with more than 80 residents most frequently permitted residents to participate in various types of food preparation. This indicates a positive change from the study by Chou *et al.* (2003), which found that large wards had a negative impact on opportunities for residents to become involved in their own day-to-day lives. Findings from another study indicated that regular revision of the menu based on the residents' wishes would increase their satisfaction and perceived quality of life (Carrier *et al.*, 2009). Lack of perceived choices in menus can be a potential barrier to achieving optimum nutrition. More choices concerning meals may enhance the autonomy of residents, and in turn improve residents' appetite and positively influence their nutritional status (Chisholm *et al.*, 2011; Wikström & Emilsson, 2014; Divert *et al.*, 2015).

Around 70% never participated in setting tables or clearing up after meals, and around 28% answered that they did not know, or that this was not applicable. The youngest residents, up to 65 years of age, participated more frequently in setting and decorating tables than the oldest residents, from 86 years of age and older. The findings were not surprising, as the physical health of most nursing home residents is poor (The Norwegian Medical Association, 2001). Nevertheless, studies into activities among nursing home residents found a discrepancy between the residents' and the staff's approaches to activity (Haugland, 2012). The residents themselves were very keen to participate in activities that allowed them to remain active, while nursing staff believed the residents would prefer to be entertained. It might be presumed that the residents in our study had the same wishes to participate. A study among nursing home managers confirms that little emphasis is placed on involving residents

in activities related to food and meals (Aagaard, 2008, 2010b). Even if nursing home residents generally have reduced functional capacity, it is important that they are energised to the extent that it is possible to maintain their skills even when living in a nursing home (Sidenvall *et al.*, 2001). A study showed that whether or not nursing staff believed that the older persons could participate had a significant impact on whether arrangements were made to involve residents in activities at the nursing home (Norheim & Vinsnes, 2012).

Furthermore, the results showed that one in five residents perceived that they were always or often allowed to decide themselves when they could eat, and around 40% of residents perceived that they could have food outside normal mealtimes. One previous study indicated that there was a risk that meals could become a routine in which the residents' needs were not met (Sydner, 2002). Times between meals in a nursing home have been shown to be quite long (Sortland *et al.*, 2009, 2013; Aagaard, 2010a,b; Eide *et al.*, 2013) and that this negatively impacts on the health-related aspects of quality of life (Ebrahimi & Wijk, 2009). Where residents themselves determine when they eat, the time between meals might be shorter. Easier access to fridges has also been shown to increase the opportunity for residents to buy their own food and drink (Winterburn, 2009). This may raise questions as to whether the residents' poor health or the passive acceptance of institutional care results in residents feeling that they have no control over the choice of food.

Only one in ten residents perceived that they could always choose themselves whom they could sit with during meals. Moreover, those residents with a very good appetite were rarely able to choose whether to eat alone or together with others. The eating environment and communal dining are factors that are found to affect appetite (Wikby & Fägerskiöld, 2004). The residents wanted to eat in dignified circumstances, and their appetite was affected negatively when they became more dependent and felt that they had less control of the situation. Residents in nursing homes perceived communal dining as something they had to endure, and they wanted to choose their own company (Saletti, 2007). Their own identity was also found to be strongly associated with whom they ate with (Kofod, 2000). One study showed that nurses in nursing homes had a higher tolerance in respect of acceptable table manners than the residents themselves (Sidenvall *et al.*, 2001). A study among persons not living in nursing homes showed that the physical environment during meals had a significant bearing on how much food a person would consume (Weber *et al.*, 2004). It must be assumed that this is unlikely to change, even if a person becomes a resident at a nursing home. Thus, the nursing staff should permit residents with good appetites to determine where, and with whom, they would like to eat, so that their appetites do not diminish due to discontentment during meals.

Residents' nutritional status and their involvement in mealtime activities are essential areas for nursing care (Henderson, 1969; Pedersen, 2005), as eating and drinking are fundamental human needs. Participation by older people in relation to meals might be seen as one possible way to prevent malnourishment (Carrier *et al.*, 2003). Malnutrition is regarded as a common and complex issue in nursing homes (Reimer & Keller, 2009). The results of our study have produced an important understanding of how older people in nursing homes perceive their activities in relation to mealtime activities. Rodgers *et al.* (2012) emphasise the importance of listening to the wishes and needs of individual residents and of cooperating with both residents and their next of kin in order to obtain knowledge of the residents' personal history, and thus identify what is important to that particular resident. A person-centred approach means focusing on those elements of care, support and treatment that matter most to the patient, their family and careers (Reimer & Keller, 2009;. Rules and procedures at nursing homes may prevent residents from being involved in activities related to meals. Therefore, to avoid this, nurses should focus on person-centred care and listen to what residents feel is most important concerning involvement in mealtime activities (Nakrem *et al.*, 2013).

Methodological considerations

The response rate among residents included in the study was high (88%) but was equivalent to only around 12% of the total number of nursing home residents in the county. In addition, data was collected 6 years ago, so the results must be interpreted with care. The number of people aged 67 years and older has increased by 24% since 2009. However, the number of persons living in nursing homes has remained stable as more people receive home health care (Statistics Norway, 2015b). The National guidelines on preventing malnutrition and treatment of malnutrition developed in 2009 state that all nursing home residents will be screened for nutritional risk at the outset, and then monthly (Norwegian Directorate of Health, 2010). Nevertheless, results from recent research appear to show the same indications that residents are vulnerable to malnourishment (Papparotto *et al.*, 2013; Sortland *et al.*, 2013), despite the fact that this is a basic human need that is essential to nursing (Henderson, 1969). Residents included in the survey were assessed by the RN (contact person) as having no cognitive impairments and

able to express themselves verbally. The RN had good knowledge of the respondents. This assessment may constitute a weakness insofar as it excludes the largest group of nursing home residents, that is residents with varying degrees of dementia or Alzheimer's diagnoses. Up to 80% of residents in nursing homes have one of these diagnoses (Ministry of Health and Care Services, 2007). On the other hand, choosing a survey design and using structured interviews might increase the number of older persons able to participate, despite frail health. And when more than 200 complete answers were collected, comparative analysis could be run (Greene & D'Oliveira, 2006). Another weakness which could threaten both validity and reliability was that four persons conducted the interviews with the residents, three of whom were students who were unfamiliar with the interviewing process. An attempt was made to reduce as much as possible any potential disparities in the approach to and understanding of the questions and answers by the second author arranging a joint meeting at which the questionnaire and interview as methods were reviewed. One of the questions in the questionnaire was answered by only 177 residents without requiring clarification. This question was last in the questionnaire, which might indicate that the residents were tired of answering due to frail health.

Conclusion

The residents in this study appeared to be vulnerable to malnourishment. The results indicated that they were involved only to a limited extent in activities relating to food and meals at nursing homes. Residents living in nursing homes with more than 80 beds, residents who were younger than 65 years, and residents who had a poor appetite participated most, to a degree that was statistically significant. Eating and drinking are fundamental human needs and consequently essential parts of nursing care. A person-centred approach to care might encourage residents to participate and be involved in different mealtime activities. This could be one way in which to increase participation in activities of daily living and, furthermore, to promote a more optimal nutrition status among older people.

Implications for practice

- Management and nurses should focus on residents' eating and drinking, which are essentials of nursing care.
- The residents should be asked whether they would like to participate in various mealtime activities.
- Furthermore, a person-centred care approach should be promoted that facilitates activities in relation to food and meals.

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Contributions

Study design: VAG, HAa; data collection and analysis: VAG, HAa and manuscript preparation: VAG, HAa.

Conflict of interest

No conflict of interest has been declared by the authors.

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