

# RESIDENTS' SATISFACTION WITH FOOD AND FOOD SERVICE IN LONG TERM CARE NURSING HOME (PILOT SURVEY)

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## Annotation

*Residents of a long-term care nursing homes, can lose an ability to exercise their choice of food and it can lead to undernutrition and lower quality of life. There is a lack of studies in Lithuania, investigating a satisfaction with food and food service in long term care nursing homes and there was none using a FoodEx-LTC questionnaire.*

**Key words:** food, food service, satisfaction, long term care, nursing home.

**Presentation of a problem:** statistical data in Lithuania showed that there were 6484 residents in long term care facilities for adults with disabilities and 5809 residents in long term care homes for elderly in 2017 (latest available data)[1]. Though satisfaction with food is an important determinant of a life quality [2], there is a lack of scientific research on this topic. Many hospitals in Lithuania include patient's satisfaction surveys in their annual reports, but these surveys analyse satisfaction with medical procedures and staff services, but not food satisfaction. There was a report in 2018 presenting evaluation of food service in 10 health care institutions (only one of them was long term care institution) in Lithuania. This report showed, that satisfaction with food and reported food quality was better in institutions with their own kitchen, compared to those ordering food elsewhere (it was not a scientific research, so statistical significance of these differences is unknown) [3].

**Research goals** were to estimate residents' satisfaction with food and food services in long term care nursing home and to estimate the internal consistency reliability of a FoodEx-LTC questionnaire.

## Objectives:

1. To measure how important is for residents to exercise food choice.
2. To find out the residents' perceptions toward nursing home kitchen staff.
3. To compare satisfaction with food and food service between male and female residents of the nursing home.

**Methodology.** This pilot survey was conducted in long term care nursing home in Klaipėda district, Lithuania in 2018 October. There are 186 residents in this nursing home, but only 75 of them (60 % of them women, n=45) participated in this survey, because 75 is a recommended pilot sample size for standardised effect sizes that are extra small ( $\leq 0.1$ ) [4]. To be included in the study, residents had to have lived at nursing home for at least 1 year, be able to make themselves understood, and have adequate cognitive skills for daily decision-making (this information was provided by social worker, who participated in questioning, ensuring that ethical principles (voluntary participation, information for subjects, privacy and data protection) were applied during the survey). The mean of age of participants was 53.65 (9.549) years. A researcher met with each resident, observed by a social worker, obtained informed consent, and administered the FoodEx-LTC questionnaire, a 44-item, 5-subscale questionnaire that measures resident food and food service satisfaction (5 subscales are: 1. Enjoying Food and Food Service, 2. Exercising Choice (subsubscale estimates an importance of choice), 3. Cooking Good Food, 4. Providing Good Food Service (the Negative View) and 5. Providing Good Food Service (the Positive View)). Questionnaire Items 1–16. 20–26 scored 1 - true. 2 - somewhat true. 3 – somewhat false. 4 - false; items 17–19 scored 1 - important. 2 - somewhat important. 3 - somewhat not important. 4 - not important. The FoodEx-LTC may be self-administered or interviewer administered and can be used across long-term care settings. Literal translation (not tested) of the questionnaire was used in this study. [5] The researcher read each item to the resident and scored it based on the resident's response. IBM SPSS version 20.0 was used to generate descriptive statistics, estimate the internal consistency reliability of a questionnaire (Cronbach's alpha) and compare means (Student's t test), p values  $< 0.05$  were estimated as statistically significant.

**Background.** Adults living in long term care nursing homes are nutritionally vulnerable, often consuming insufficient energy, macro - and micronutrients to sustain their health and function. Multiple factors are proposed to influence food intake, yet our understanding of these diverse factors and their interactions are limited [6]. Research has demonstrated the importance of physical environments at mealtimes for residents in long term care [7]. It is also very important for a long term care nursing home residents to be able to have a choice. Nutritional interventions that encourages resident decision making facilitates overall satisfaction with care and improved health [8]. Long-term care institutions have gone through revolutionary culture change from hospital-like facilities based on a medical model of care, toward more home-like facilities, with a focus on the quality of life of residents, and providing real choices and individualized care [9]. There are many factors that can influence the satisfaction with food and food services [10]. Study conducted in long term care homes in Australia between October 2015 and March 2016 showed that participant preferences were influenced by food taste, choice in relation to serving size, timing of meal selection, visual appeal, and additional cost. The study found that respondents were willing to pay a premium to receive food that met their expectations of taste, and for a high level of control over serving sizes [11]. Food not only provides the physical nutritional requirements of the body, but can also be a part of social occasions, emotions, and provide a source of enjoyment, socialisation [12]. Studies have shown differences in what staff consider to be important to create a quality dining experience for residents, and the factors that residents themselves consider important [13]. Staff may rank some aspects which were highly important to residents (such as: feeling at home, having a varied menu) of lower importance than residents rank these aspects themselves. That is the reason why it is important to not only rely on staff, but also include the residents of a long term care nursing homes when it comes to a decision making about changes in food service.

#### Analysis of the results

The Lithuanian version of FoodEx-LTC questionnaire showed high reliability scores, except for a subscale 5: Providing Good Food Service (the Positive View) (Table 1).

Table 1

Internal consistency reliability of the FoodEx-LTC questionnaire Lithuanian version

Scale/subscale	Cronbach's alpha
All questionnaire	0.826
1 subscale: Enjoying Food and Food Service	0.928
2 subscale: Exercising Choice	0.812
3 subscale: Cooking Good Food	0.718
4 subscale: Providing Good Food Service (the Negative View)	0.907
5 subscale: Providing Good Food Service (the Positive View)	0.688

Research showed that there was no significant difference in importance of choice between male (2.1667) and female (2.4111) residents ( $p > 0.05$ ), they both reported average scores of an importance of choice (Table 2). Women showed bigger satisfaction with exercising choice (2.4000) than men (2.6333),  $p < 0.01$ , but men reported bigger satisfaction with food and food service (3.7000) compared to women (3.4889),  $p < 0.05$  (Table 2). This can be explained, because 24.3 percent of women in Lithuania reported food benefits to their health as food choice criteria, compared to 15.3 percent of men ( $p < 0.05$ ) and men preferred taste as one of the main choice criteria (38.8 %), compared to women (24.9 %),  $p < 0.05$  [14]. It can be a reason for men to be less satisfied with a healthy diet provided in long term care nursing home. Further research is needed to find out their food preferences. Qualitative research methods could be applied for this goal.

Table 2

Residents' satisfaction with food and food services by subscales according to a gender. Lower scores represent better satisfaction, except subscales marked \*

Scale/subscale	Gender		p
	Male N=30 M (SD)	Female N=45 M (SD)	
1 subscale: Enjoying Food and Food Service*	3.7000 (0.000)	3.4889 (0.43548)	<b>0.01</b>
2 subscale: Exercising Choice Subsubscale: Importance of choise	2.6333 (0.29750)	2.4000 (0.25226)	<b>0.000</b>
	2.1667 (1.3668)	2.4111 (1.14559)	0.405
3 subscale: Cooking Good Food	1.5333 (0.23973)	1.5111 (0.26304)	0.712
4 subscale: Providing Good Food Service * (the Negative View)	3.9000 (0.22743)	3.7111 (0.75745)	0.190
5 subscale: Providing Good Food Service (the Positive View)	1.2500 (0.11371)	1.3000 (0.14302)	0.113

\* - bigger scores represent better satisfaction.

Table 3 lists individual item means of both genders. Most responses indicated that residents generally enjoyed the food served in the nursing home. 100% reported to have never been served food that looked or smelled bad. However, 5 residents (6.7 %) reported to have lost their appetite since they began to live in this nursing home. This loss of an appetite can lead to an undernutrition and loss of body mass. There was a research in Lithuanian long term nursing homes in 2010 that showed a significant loss of body mass (10 % in 180 days) in 7.4 percent of men and 5.1 percent of women [15]. Also 5 residents (6.5 %) reported they had to wait to go back to their rooms, presenting a quality of life issue. None of them reported to have received a food they hated. Comparing this data with an initial questionnaire testing study [5] data we can see some differences: 44% had to wait to go back to their rooms in the initial study, compared to only 6.5 % in this study. Fifty-two percent received food they hated in the initial study and nobody complained about that in this study.

Many residents (40%) reported that they felt comfortable refusing food that they did not like (female more than male,  $p < 0.01$ ) (Table 3). Most (73.3%) residents wanted to choose what to eat, but only 40% believed that choosing when to eat was important. In contrary to a first subscale, subscale 2 data is similar to an initial study data: Most residents (75%) felt comfortable refusing food they did not like, but 65% did not complain. Most (79%) wanted to choose what to eat, but only 54% believed that choosing when to eat was important [5].

Most residents described kitchen staff positively. For example, 100% reported that it was true or somewhat true that staff knew how to prepare a meal, made food look presentable, came up with clever ideas and had experience in food service. 100% reported that it was true or somewhat true that foods looked appetizing (female more than male,  $p < 0.05$ ) (Table 3).

93.3% of residents agreed that staff ordered or fixed sufficient food for meals. 86.7% agreed that staff did not have trouble cooking for large groups. Only 6.7% of residents reported that staff sometimes had trouble getting the meal ready on time (women more than men,  $p < 0,05$ ) (Table 3), and that food was poorly prepared or served because of equipment problems.

Most residents believed in receiving freshly cooked foods, fresh fruits and vegetables, and the right amount of food, all served at the right time. 86.7% reported that nursing home staff kept a close eye on what they ate (male more than female,  $p < 0.05$ ). Residents reported that kitchen staff worked hard to serve food everyone liked, cared about the food they served, and were friendly and courteous (female more than male,  $p < 0.05$ ) (Table 3). Overall, 93.3% of residents were satisfied or somewhat satisfied with the food service in this study, compared to 89 % of satisfied or somewhat satisfied residents in the initial questionnaire testing study [5].

Table 3

Residents' satisfaction with food and food services according to a gender. Note: Items 1–16. 20–26 scored 1 - true. 2 - somewhat true. 3 – somewhat false. 4 - false; items 17–19 scored 1 - important. 2 - somewhat important. 3 - somewhat not important. 4 - not important.

<b>Subscale One: Enjoying Food and Food Service</b>	<b>Gender</b>	<b>Mean</b>	<b>SD</b>	<b>p</b>
<i>Since I came to the nursing home:</i>				
1. I have lost my appetite.	Male	4.00	0	<b>0.014</b>
	Female	3.56	0.967	
2. I am forced to eat with other people.	Male	1.00	0	-
	Female	1.00	0	
3. I have to eat things I just hate.	Male	4.00	0	0.06
	Female	3.89	0.318	
4. I am taken to the dining room too soon.	Male	4.00	0	<b>0.005</b>
	Female	3.78	0.420	
5. I have to wait to go back to my room.	Male	4.00	0	<b>0.014</b>
	Female	3.56	0.967	
6. I have food in front of me that I cannot get at.	Male	4.00	0	<b>0.009</b>
	Female	3.67	0.674	
<i>Over the past week, during mealtime, I have received:</i>				
7. Food I dislike.	Male	4.00	0	<b>0.005</b>
	Female	3.78	0.420	
8. Food that looks or smells bad.	Male	4.00	0	-
	Female	4.00	0	
9. Foods cooked wrong.	Male	4.00	0	0.06
	Female	3.78	0.636	
10. Foods always cooked the same way.	Male	4.00	0	0.06
	Female	3.78	0.636	
11. The same food too often.	Male	4.00	0	0.06
	Female	3.78	0.636	
<b>Subscale Two: Exercising Choice</b>				
<i>Since I came to the nursing home:</i>				
12. I worry that I will not get the food I ask for.	Male	4.00	0	<b>0.000</b>
	Female	3.22	0.927	
13. I feel powerless to change the food or food service.	Male	4.00	0	<b>0.000</b>
	Female	3.44	0.693	
<i>I enhance my satisfaction with the food and food service at the nursing home by:</i>				
14. Complaining about the food.	Male	3.67	0.758	0.495
	Female	3.78	0.636	
<i>Here at the nursing home:</i>				
15. I have refused food I don't like.	Male	3.50	0.777	<b>0.000</b>
	Female	2.33	1.348	
16. I eat because I am hungry.	Male	4.00	0	<b>0.000</b>
	Female	2.56	1.358	
<i>How important to you is:</i>				
17. Choosing what to eat.	Male	2.17	1.367	0.574
	Female	2.00	1.168	
18. Choosing when to eat.	Male	2.33	1.398	0.169
	Female	2.78	1.330	
19. Sending outside the nursing home for food.	Male	2.00	1.438	0.179
	Female	2.44	1.358	
<b>Subscale Three: Cooking Good Food</b>				
<i>The staff here at the nursing home:</i>				
20. Know how to prepare a meal.	Male	1.00	0	0.06
	Female	1.11	0.318	
21. Make food look presentable.	Male	1.00	0	-
	Female	1.00	0	
22. Come up with clever ideas.	Male	1.17	0.379	<b>0.000</b>
	Female	1.00	0	

<b>Subscale One: Enjoying Food and Food Service</b>	<b>Gender</b>	<b>Mean</b>	<b>SD</b>	<b>p</b>
23. Have experience in food service.	Male	1.00	0	-
	Female	1.00	0	
<i>Here at the nursing home. I get:</i>				
24. A variety of foods.	Male	1.50	0.777	0.049
	Female	1.22	0.420	
25. Foods that are appetizing.	Male	1.33	0.479	<b>0.018</b>
	Female	1.11	0.318	
<i>(Over the past week) The kitchen staff here at the nursing home:</i>				
26. Do not order or fix enough food.	Male	4.00	0	0.06
	Female	3.78	0.636	
<b>Subscale Four: Providing Good Food Service—Negative View</b>				
<i>The kitchen staff here at the nursing home:</i>				
27. Do not order or fix enough food.	Male	4.00	0	0.06
	Female	3.89	0.318	
28. Have trouble cooking for large groups.	Male	3.50	1.137	0.495
	Female	3.67	0.953	
29. Sometimes have trouble getting the meal ready.	Male	4.00	0	<b>0.014</b>
	Female	3.56	0.967	
30. Serve food so late that it affects the next meal.	Male	4.00	0	0.06
	Female	3.78	0.636	
<i>Since I came to the nursing home:</i>				
31. Food is poorly prepared or served because of equipment problems.	Male	4.00	0	0.06
	Female	3.67	0.953	
<b>Subscale Five: Providing Good Food Service—Positive View</b>				
<i>Over the past week, during mealtime. I have received:</i>				
32. Foods served at the proper temperature.	Male	1.00	0	0.06
	Female	1.11	0.318	
33. Food freshly cooked and served on time.	Male	1.00	0	0.06
	Female	1.22	0.636	
34. Plenty of fresh fruits and vegetables.	Male	1.00	0	0.06
	Female	1.11	0.318	
<i>Here at the nursing home. I get:</i>				
35. Food that is healthy for me.	Male	1.00	0	-
	Female	1.00	0	
36. The right amount of food.	Male	1.00	0	0.06
	Female	1.11	0.318	
<i>The staff here at the nursing home:</i>				
37. Keep a close eye on what I eat.	Male	1.00	0	<b>0.014</b>
	Female	1.44	0.967	
<i>The kitchen staff here at the nursing home:</i>				
38. Work hard to serve food everyone likes.	Male	1.17	0.379	0.495
	Female	1.11	0.318	
39. Care about the food they serve.	Male	1.00	0	-
	Female	1.00	0	
40. Are concerned about my health.	Male	1.00	0	-
	Female	1.00	0	
41. Are friendly and courteous.	Male	1.17	0.379	<b>0.004</b>
	Female	1.00	0	
<i>The nursing home staff here at the nursing home:</i>				
42. Get take-out food for me, if I want it.	Male	4.00	0	0.06
	Female	3.67	0.953	
43. Provide help in cutting-up my food.	Male	1.00	0	0.06
	Female	1.11	0.318	
<i>Since I came to the nursing home:</i>				
44. I have been satisfied with the food service.	Male	1.17	0.379	0.36
	Female	1.33	0.953	

## Conclusions

1. FoodEx-LTC Lithuanian version showed high internal consistency reliability (Cronbach's alpha - 0.826), so it can be used as an instrument researching satisfaction with food and food services in long term care nursing homes in Lithuania.
2. Men and women reported the same level of importance of food choice (between somewhat important and somewhat not important,  $p > 0.05$ ), but women were more satisfied with exercising choice than men ( $p < 0.01$ ) and had less trouble than men to refuse the meals they didn't like ( $p < 0.05$ ).
3. None of the residents complained about kitchen staff. All reported that it was true or somewhat true that staff knew how to prepare a meal, made food look presentable and appetizing (women more than men,  $p < 0.05$ ), came up with clever ideas and had experience in food service.

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