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Mealtime Situations among Surgical Patients

Observation study

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Abstract

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The purpose of this final project was to depict the meal situations of surgical patients. This observation study was conducted in Hospital district of Helsinki and Uusimaa. The aim was to receive knowledge to improve mealtime situations of surgical patients. The study question was: How are the mealtime situations of surgical patients realized?

The final project was conducted as a quantitative structured observation study. The material was collected by employing an observation tool that the authors made for this work. The items observed were patients' hand hygiene, was the patient helped sit up, was help offered during mealtime, was patient enquired if he/she would like to change the side dishes, calmness of the mealtime situation, was the cover removed from the tray and was the patient informed of what the meal was. There were 85 observations made within eight days. The material was gathered from one surgical ward in March 2014.

The results showed that none of the patients' hand hygiene was ensured. The patient received assistance always when he/she required help. The patient was told what the meal was in 9% of the cases. In 38% of the cases patient was enquired if he/she would like to change the side dishes. The cover was removed before serving the meal in all cases, but in 34% of the cases the cover was removed on the food trolley and the meal was carried through the ward without the cover. The environment was calm in 86% of the cases observed. There were interruptions such as nursing procedure and a relative visiting in 14% of the cases.

The final project showed that multiple factors affect the mealtime situation, and the personnel of the ward did not always acknowledge some of them. Mealtime policy should be available. Further training for the staff could possibly eliminate observed flaws and improve the mealtime situations of surgical patients. More patient education on postoperative hand hygiene and nutritional care considerations would enable patients be better included in their postoperative care, thus improve mealtime situations. Patient compliance of their postoperative care could increase, which might decrease postoperative complications and infections.

Keywords	mealtime situation, patient, observation

Tiivistelmä

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Tämän opinnäytetyön tarkoituksena oli kuvailla kirurgisten potilaiden ruokailutilanteita. Havainnointitutkimus tehtiin Helsingin ja Uudenmaan sairaanhoitopiirissä. Tavoitteena oli saada tietoa, jonka avulla voidaan parantaa kirurgisten potilaiden ruokailutilanteita. Tutkimuskysymys oli: Miten kirurgisten potilaiden ruokailutilanteet toteutuvat?

Opinnäytetyö toteutettiin määrällisenä strukturoituna havainnointitutkimuksena. Aineiston keräämiseen käytettiin havainnointilomaketta, joka tehtiin tätä työtä varten. Havainnointikohteina ruokailutilanteissa olivat potilaan käsihygienia, istumaan auttaminen, avustaminen ruokailussa, ruoan lisukkeiden tiedusteleminen, ruokailutilanteen rauhallisuus, poistettiinko kansi tarjottimelta sekä kerrottiinko potilaalle, mitä ruokalistalla on. Kahdeksan päivän aikana kerättiin 85 havaintoa ruokailutilanteista yhdeltä kirurgiselta vuodeosastolta maaliskuussa 2014.

Tulosten mukaan yhdenkään potilaan käsihygieniaa ei varmistettu ruokailutilanteiden aikana. Havaintojemme mukaan apua ruokailussa tarjottiin aina, mikäli potilas sitä tarvitsi. Havainnoistamme 9 %:ssa potilaalle kerrottiin, mitä ruokaa oli tarjolla. Havainnoistamme 38 %:ssa potilaalta tiedusteltiin, haluaako hän muuttaa ruoan lisukkeita. Kaikissa ruokailutilanteissa ruokatarjottimen kansi poistettiin ennen ruoan tarjoilemista, mutta 34 %:ssa ruokailutilanteista kansi poistettiin jo ruokakärryissä, jolloin avoin tarjotin vietiin potilaalle osaston läpi. Ruokailutilanteista 86 % oli rauhallisia. Muutamissa tilanteissa häiriöitä aiheutti muun muassa hoitotoimenpide tai sukulaisen vierailu.

Opinnäytetyössämme havaitsimme, että ruokailutilanteisiin vaikuttavat monet tekijät, joita osaston henkilökunta ei aina huomioinut tarpeeksi. Ruokailutilanteissa pitäisi olla selkeät ruoanjako-ohjeet saatavilla. Henkilökunnan koulutus voisi mahdollisesti poistaa havaittuja epäkohtia ja parantaa kirurgisen osaston potilaiden ruokailutilanteita. Potilaat voisivat päästä paremmin osalliseksi leikkauksen jälkeiseen hoitoonsa, jos heille tarjottaisiin enemmän potilasohjausta käsihygieniasta sekä ravitsemushoidosta. Tämä voisi parantaa ruokailutilanteita. Potilaiden sitoutuminen leikkauksen jälkeiseen hoitoon voisi lisääntyä, mikä saattaisi vähentää leikkauksen jälkeisiä komplikaatioita ja tulehduksia.

Avainsanat	ruokailutilanne, potilas, havainnointi

Contents

1 Introduction

For many years it has been known that many hospital patients receive inadequate amount of nutrition. Everybody knows that proper nutritional care is essential for patients' health and recovery. (Food and Nutritional Care in Hospitals 2003: 15.) Surgical patients' nutritional needs are increased by physiological and psychological stress, and furthermore, patients who have undergone a surgery or are undergoing a surgery, are more at risk to develop deficiencies, which might result in grave complications and malnutrition (Nix 2005: 412). Nix (2005: 412) provides a list of possible consequences of inadequate nutrition on surgical patients: "impaired wound healing, increased risk of postoperative infection, reduced quality of life, impaired function of gastrointestinal tract, impaired immune system, impaired function of cardiovascular and respiratory systems, increased hospital stay, increased cost and increased rate of mortality".

There are several barriers for good nutritional care in hospitals and many of these barriers exist within food service practices and mealtime situations. For example, lack of individuality in regard to menu choices, and not having assistance in eating if needed, has been found to be associated with undernutrition of patients. (Food and Nutritional Care in Hospitals 2003: 15, 57-77.)

One definition of a good mealtime in hospital includes "eating in a proper environment, having choices, friendly staff, good information about meal options, and the possibility to eat with relatives or other patients" (Food and Nutritional Care in Hospitals 2003: 15). Nurses' responsibilities are promoting health, preventing illness, restoring health and alleviating suffering (The ICN Code of Ethics for Nurses 2006). Ensuring comfortable mealtime situations, providing good nutrition and preventing health risks is part of nurses' duties in a clinical setting.

The purpose of our final project was to describe the mealtime situations of surgical patients. Our aim was to receive knowledge to improve mealtime situations of surgical patients.

2 Previous literature

The first search was conducted to find general knowledge on nutrition and mealtime situations in CINAHL and Medline. The limitation for the first search was articles published within 2003-2013. The second search was conducted to find articles related to nutrition of surgical patients in CINAHL and Medline. The limitation for the second searches was articles published between 2003 and 2013. (Table 1.)

Table 1. Database search

Databases	Keywords	Hits	Selected based on title	Selected based on abstract	Selected based on full text
CINAHL 5.12.2013	nutrition AND observation AND nursing	59	4	4	4
Medline 5.12.2013	nutrition AND observation AND nursing	89	0	0	0
CINAHL 9.1.2014	nutrition AND surgical AND patient AND nursing	69	0	0	0
CINAHL 9.1.2014	nutrition AND surgery AND patients	728	2	2	2
CINAHL 9.1.2014	nutritional AND surgical AND patient	206	3	3	3
Medline 9.1.2014	nutritional AND surgical AND patient	771			
Medline 9.1.2014	nutrition AND surgical AND patient AND nursing	46	1	1	1
Medline 9.1.2014	nutrition AND surgery AND patients	2073			
Total			10	10	10
Manual search through reference list			4	4	4
Total			14	14	14

2.1 Nutritional care

Nutritional care is an undervalued part of patient care. 13% of the registered nurses were unsure if their ward had guidelines concerning inadequate nutrition, and 66% of the head nurses and registered nurses stated that there were no nutrition guidelines on their wards. There is a minimal application of nutritional guidelines and screening in the field which results in certain patients' nutritional issues to remain unknown. (Persenius et al. 2008: 2130, 2134.) Documentation on issues related to nutrition and the weight of patients were increased as a result of using a screening tool for nutrition (Jordan et al. 2003: 16). It has been shown that malnutrition is a common problem among hospital patients in many countries, but despite the strong evidence of the harmful effects of malnutrition, this is still underdiagnosed (Bavelaar et al. 2008: 436).

Nurses lack a deep understanding of nutritional care and they require more than short-term training to grasp the concept thoroughly. Nurses do not consider nutrition as important a part of patient care as hygiene or medication. After receiving training on nutrition, the nurses made it their priority to include patients in nutritional care. (Bjerrum, Tewes & Pedersen 2011: 85-88.) A literature review by Jeffries, Johnson and Ravens (2011: 322) claims there are eight standards which ensure patients' good nutritional care.

1. All patients are required to have a nutritional screening completed on admission
2. All patients are required to have an individualized nutritional care plan as required
3. Nurses are required to assess each patient's ability to eat within 24 hours of admission
4. Nurses are required to ensure there is a focus on the patient's mealtime in every clinical setting
5. Adequate nursing or other support, such as volunteers, relatives and carers, should be available to ensure that assistance required by patients at mealtime is provided
6. Nurses are required to encourage and assist patients to maintain their oral care
7. There is to be a dedicated nutritional care resource nurse in every clinical setting
8. Nurses, in conjunction with medical and allied health staff, are required to manage periods of prolonged and/or repeated fasting effectively

2.2 Mealtime situation and environment

Good nurse patient relationship is the key to a better nutritional status for the patients. When there is a good nurse patient relationship the nurses are aware of the patient's abilities and limitations since patient can express their needs to the nurse. Thus patients receive an adequate amount of nutritional assistance. (Pearson, Fitzgerald & Nay 2003: 46.) Nurses' tasks include guaranteeing the patient a comfortable mealtime by adjusting their table and their position. Nurses also have to provide assistance to patients with dysphagia or other disabilities hindering them from eating. Nurses should minimize interruptions at mealtimes, document food intake and promote social interaction. (Xia & McCutcheon 2005: 1223.)

Good mealtime environment does not include nursing procedures, toilet visits, noise from television or radio. The availability of the food needs to be ensured by assisting if needed, removing the cover from the tray and guaranteeing a good mealtime position. Patients' food preferences need to be considered by telling them about the menu and offering a choice of beverage, dressing, bread etc. In the hospital environment, hygiene is important especially during mealtimes. Hand hygiene should be ensured and there should not be any procedures or toilet visits at mealtimes. (Nuutinen et al. 2010: 47, 52, 55.) Creating a peaceful meal atmosphere, improving communication between cuisine and nursing staff as well as working as a team improves the treatment of the patients eating an insufficient amount of nutrition (Ullrich, McCutcheon and Parker 2011: 1343-1345). Furthermore, there is evidence that the condition of those patients who are already inadequately nourished on admission, often worsen during the stay. This owes partly to the inappropriateness of current feeding practises in hospitals such as limited choice of food, the way it is served and lack of assistance. (Schenker 2003: 112.)

2.3 Nutritional status

The most common features which might have a negative effect on the nutritional status of patients are depression, social isolation, dementia, mobility and substance abuse. In addition to these, turgor, skin integrity, body mass index, weight, general appearance, albumin levels of the blood and biochemical markers are the best indicators of nutritional status. (Adams et al. 2008: 147.) Nurses should assess every patient's nutritional status carefully to discover possible issues which might affect it, such as the patient's cognitive state, mobility and mental health. There are multiple consequences

of inadequate nutrition. It can increase the number of deaths, complications, days in hospital and cost of health care. The whole multidisciplinary team is required to decrease the prevalence of malnourished patients. (Jeffries, Johnson & Ravens 2011: 317,322.) The nutrition status of patients going to a surgery is challenging due to physiological and metabolic changes. Patients confront anorexia, pain, postoperative nausea and vomiting after small surgeries. After major surgeries patients face other challenges such as infection, healing of the wound and catabolism. (Huckleberry 2004: 671.) Post-operative protein intake should be twice as much as normal to promote healing. The calorie intake of a patient should increase by 50% to treat the hyper metabolic state after surgery. (Whitman & Hogle 2004: 217-218.)

The patients receiving the required amount of nutrition will in almost all cases heal rapidly after a major operation, and their gastrointestinal tract function will be restored quickly. On the other hand, patients that have not received adequate amount of nutrition are more at risk for complications such as infection, break between the anastomoses and their situation declining into multiorgan failure. (Howard & Ashley 2003: 263.) Wound healing can be disrupted by nutritional deficiencies. Tissue repair process requires zinc, arginine, glutamine, glucosamine and vitamins A, C and E. An important part of good wound healing is sufficient protein intake. (MacKay & Miller 2003: 359-367.)

3 Purpose, aim and study question

The purpose of this final project was to describe the mealtime situations of surgical patients. The aim was to receive knowledge to improve mealtime situations of surgical patients. The study question was: “How are the mealtime situations of surgical patients realized?”.

4 Data collection and data analysis

4.1 Data collection method

The way used to conduct the study is a structured observation. An observational method is a practical technique within nursing research, especially in clinical settings due to the excellent position of the nurses to witness activities and behavior.

Observation is a suitable method to collect data such as characteristics and conditions of individuals, actions and environmental circumstances and communication and interaction between individuals. (Polit & Beck 2006: 303; Burns & Grove 2005: 365.)

The observational method can be used for a qualitative as well as for a quantitative study. The quantitative research method enables one to describe the observed phenomena in numeric formation. It answers the questions how much or how often, and gives a general picture of the differences and relations between the variables or the measurable features. (Burns & Grove 2005: 23.) Quantitative observation is usually done with a structured technique. In a structured technique the phenomena of interest are thoroughly examined already before the observation. The activities and behaviors of the phenomena chosen for observation are systematically categorized or rated and the sampling method is decided already before the observation. The use of a structured technique requires previous information about the observed phenomena. (Polit & Beck 2006: 308-310.)

4.2 Data collection instrument

The structured observation tool ensures receiving direct information of how the mealtime situations of surgical patients are realized. Since there was no suitable instrument available, the instrument was constructed for this final project. The instrument requirement was ability to collect the data in a systematic and quantitative way. Previous literature formed the basis for the observational tool. Eight items were chosen for the data collection instrument based on previous literature. This tool was used as a checklist, to record the particular behaviors during mealtimes. Every observation was checked with a tick on the tool. The observation tool is not an appendix in this work, since it will be further used to collect new data.

The first item of the checklist recorded who served the food. The options were nurse, hospital cleaner and other. The second item observed was if the staff ensured that the patients' hand hygiene was taken care of by offering hand gel, or asking if the patient had taken care of it by himself/herself. The third item observed was if the mealtime environment was calm. The fourth item observed was if the staff helped the patients to sit up. The fifth item observed was if the patient was informed of what the meal was. The sixth item observed was if the patient was asked if he/she would like to change the side dishes. The seventh item observed was if the meal tray's cover was removed by the staff. The eighth item observed was if help was offered during mealtime.

For items 2 to 8 the answer options were “Yes”, “No”, “N/A” (not applicable) and “Other comments”. The option “Other comments” included clarifications to the items. Item 2, explanation “Patient independently” suggested that the patient took care of hand hygiene himself/herself. In items 4 to 6 and 8 the explanation “Patient asked” indicated that the patient enquired for the activities that were mentioned in the items. The explanation “Beforehand” in “Other comments” in item 7 suggested that the cover was removed from the tray before the meal was taken to the patient.

4.3 Data collection

The structured observation was conducted in the HUCS postoperative surgical ward. The patients’ average stay at the ward was 2.5 days. Each patient had filled the nutrition questionnaire form before coming to the hospital. The questionnaire inquired the patients’ diet, meal preferences and food allergies. This ward did not have any policies on how food should be delivered to the patients. There were two observers who observed the mealtime situations during lunch times on the same ward and collected the data using the structured observational tool. The ward was divided into two sections, A section and B section. There were usually six nurses in the morning shift, three on each section. The first observer observed only the A section of the ward and the second observer the B section. The ward had 28 beds, both sections had one large room with 12-13 beds and there were also three single rooms. There were curtains separating each patient’s bed in the large rooms. The data was collected on eight days during two weeks’ time in March 2014.

4.4 Data analysis

The quantitative data was analyzed by using an appropriate descriptive statistical analysis method (Polit & Beck 2006: 350-352). The frequency (f) and percentage (%) of each observation (Yes, No, N/A) marked on the checklists were calculated (Table 2).

5 Results

There were 85 observations in total. The food was served by a nurse in 35 (41%) cases, by a hospital cleaner in 46 (54%) cases and by a nursing student in 7 (8%) cases.

Table 2. Observed mealtime situations (n=85)

Questions	**Yes** *f / %*	**No** *f / %*	**N/A** *f / %*	**Other comments**
1. Did the staff ensure patients' hand hygiene?	0 / 0%	85/ 100%	0 / 0%	
2. Was the mealtime environment calm?	73/ 86%	12/ 14%	0 / 0%	**No** : Surrounding environment noisy: 5 Relative came to visit: 1 Other patient on the phone: 2 New patient came to the ward with stretchers: 1 Food was delivered in the middle of treatment: 1 Urine bottle was emptied and bowel movements were enquired: 1 Nurse and student had a discussion with the patient: 1
3. Did the staff help the patient to sit up?	23/ 27%	3/ 4%	59/ 69%	**N/A** : Nurse was unaware of patient's limitations after surgery and asked him/her to sit up. The patient told the nurse he/she was told by the doctor not to sit this soon after surgery in 2 (2%) of the cases.
4. Was the patient informed of what the meal was?	8/ 9%	66/ 78%	11/ 13%	**N/A**: Patients themselves enquired what was on the menu in 11 (13%) cases.
5. Was the patient enquired if he/she would like to change the side dishes?	32/ 38%	47/ 55%	6 / 7%	**N/A**: Patient asked to change the side dishes in 6 (7 %) cases.
6. Was the cover removed from the tray?	60/ 71%	0/ 0%	25/ 29%	**Yes**: The cover was removed on the food trolley in 29 (34%) and next to the bedside in 31 (36%) **N/A**: Liquid meal plates were left on top of the bowl in 25 (29%) cases.
7. Was help offered during the mealtime?	13/ 16%	0/ 0%	72/ 85%	

The patient's hand hygiene was not ensured of in any of the 85 (100%) observed cases. The mealtime environment was calm in 73 (86%) cases. In 12 (14%) cases there were different types of disturbances. These disturbances were for example: relative coming for a visit, another patient on the phone, food delivered in the middle of treatment, discussion with the nurse and student, urine bottle emptied and bowel

movements enquired, and a new patient coming to the ward. In 59 (69%) cases the patient did not require help to sit up. In 23 (27%) cases the patient was helped to sit up but in three (4%) cases the patient did not receive any help even though he/she could not sit up on his/her own. In two cases the nurse was unaware of the patient's limitations and encouraged the patient to sit up even though the patient was not allowed to do so. The patient told the nurse in both cases that the doctor had told him/her he/she was not allowed to sit up yet.

The patient was informed of what the meal was in eight (9%) cases. The patient enquired what the meal was in 11 (13%) cases. The patient was enquired if he/she would like to change the side dishes in 32 (38%) cases. The patient asked to change the side dishes in six (7%) cases and in 47 (55%) cases the patient was not enquired if he/she would like to change the side dishes. The cover was removed from the tray on the food trolley in 29 (34%) cases and the meal was transported through the ward without the cover. In 31 (36%) observed cases the cover was removed next to the bedside. The patient was offered help during the mealtime in 13 (16%) cases. However, 72 (85%) patients did not require help during the mealtime.

6 Validity

To ensure the validity of the study, several issues have to be considered. The instrument used to collect the data must be chosen carefully. It should measure the phenomenon it is supposed to measure and it should be easily administered. (Burns & Grove 2005: 412.) The observation tool used in this final project was based on previous research and nutritional recommendations for a hospitalized patient. According to Kankkunen and Vehviläinen-Julkunen (2009: 154), it is important to pilot test a tool especially if it is new and developed for the study in question. To ensure the validity of this work a pilot test was conducted with the observation tool on the same surgical ward where the observations were made later. As a result of this test, clarifications were made to the Other comments column to simplify the use of the observation tool.

Further, the sample size should be large enough for the data to be comparable to achieve the validity (Burns & Grove 2005: 365). For example according to Nunnally (1978: 276), the sample size in a quantitative research should be at least 10 times as many as there are variables in the study. There were 85 observations in this final project, which is a good sample size for this type of a descriptive work. All mealtime

situations were not observed during each lunch since there were several persons delivering the meal simultaneously. One observer could only observe one mealtime situation at a time. It was not possible to observe all lunches in two weeks since the permit allowed only six to eight visits to the ward.

One of the most common reasons why the validity of the study might be compromised is the observers' bias. This is why the observers need to be trained carefully to minimize the effect of partiality on the validity of the study. (Polit & Beck 2006: 310-311.) In addition, the observer's presence might affect the validity. This effect, called the Hawthorn's effect means that the observed person changes his/her behaviour when he/she knows he/she is the target of observation. (Kankkunen & Vehviläinen-Julkunen 2009: 158.) The personnel on the ward were aware of the nature of the two observers' presence during the mealtime situations. Although the staff were not informed of the specific issues which were observed, the observers' presence might have influenced the staff's behaviour and action.

7 Ethical considerations

There are multiple ethical issues to ponder when conducting a quantitative structured observational study. First of all, the subject of the study has to be beneficial for the study participants, and the anonymity of the participants has to be secured. Collecting the data should not harm or cause damage to the target group, and data gathering and processing data has to be conducted confidentially. The study also needs to have a permit. (Burns & Grove 2005: 181-193, 199.)

In this final project the ethical considerations were ensured by acquiring a study permit from the hospital and by signing a confidentiality form. The hospital was also sent an information letter describing the final project and what was going to be observed. The patients were informed of the work, but the patients' permission was not necessary since the mealtime situations were only observed, not the patients. Anonymity and confidentiality of the patients and personnel was also ensured by not identifying anyone in this work; the personnel involved in the mealtime situations were only referred to as "nurse", "hospital cleaner" or "other", for example student nurse. No information of the patients was mentioned in the final project.

8 Discussion

Hygiene is important in hospital environment especially during mealtimes. Hand hygiene of patients should be ensured by nurses. (Nuutinen et al. 2010: 52.) The patients' hand hygiene was not ensured in any of the 85 (100%) observed cases. This can lead to spreading of infections, problems with the healing of the wound etc. Hand hygiene was lacking and none of the patients' hand hygiene was taken care of during our observed meal deliveries. This behavior increases infection risk on a surgical ward.

Nurses should minimize interruptions at mealtimes avoiding nursing procedures, toilet visits and extra noise (Xia & McCutcheon 2005: 1223; Nuutinen et al. 2010: 52). Mealtime was not calm in 12 (14%) cases observed. The disturbances were caused by food delivery in the middle of treatment, relative coming for a visit, another patient on the phone, new patient coming to the ward with stretchers, urine bottle emptied and bowel movements enquired, nurse and student nurse having a discussion with the patient, and other noise.

Nurses' duties include guaranteeing pleasant mealtime to the patients by helping them to adjust their tables and their positions (Xia & McCutcheon 2005: 1223; Nuutinen et al. 2010: 52). In three cases (4%) observed, the patient did not receive any help even though he/she could not sit up on his/her own. In two cases (2%) the nurse was unaware of the patient's limitations and told him/her to sit up even though the doctor had told him/her not to sit up this soon after surgery.

In only eight (9%) cases the patient was informed of what the meal was. The patient enquired what there was on the menu in 11(13%) cases observed. The patients were not told what the meal was in 66 (86%) cases, which is an important part of ensuring a comfortable mealtime. Patients' food preferences should be considered by staff delivering the food on wards (Nuutinen et al. 2010: 52; Schenker 2003: 112). In only 32 (38%) cases observed the patient was enquired if he/she would like to change the side dishes. In six (7%) cases the patient asked to change the side dishes. One of the most important issues was minimal patient effect on side dishes. If the patient is not asked about his/her preference at each mealtime, he/she might receive side dishes he/she is either unable to or feels he/she is unable to eat. This should not happen on a postoperative ward since the patient's meal preferences can change postoperatively.

The importance of postoperative nutrition should be emphasized on the wards. It is obvious that the importance of nutritional care is underappreciated according to these observations. If the patient receives inadequate nutrition due to the fact that the staff on the ward has insufficient knowledge of the patient's food preferences, the patient is more at risk for complications, such as infections (Howard & Ashley 2003: 263). The healing of a surgical wound can be disrupted by nutritional deficiencies (MacKay & Miller 2003: 359-367). Patients may face challenges such as catabolism, infection and problematic wound healing (Huckleberry 2004: 671). The prevalence of these complications prolonging the healing process can be reduced by ensuring all the patients are able to receive adequate amount of nutrition and nutrients.

The availability of food needs to be ensured by removing the cover from the tray (Nuutinen et al. 2010: 52). The cover was removed from the tray in 60 (71%) cases observed. In 25 (29 %) cases the meal had no cover, since the liquid meals had plates on top of the bowl. In 29 (34%) cases the cover was removed next to the food trolley before the meal was taken through the room to the patient. The patient, who is already compromised due to a surgical operation can receive infection bacteria directly from the food if it is taken through the ward. The staff clearly does not consider the consequences of removing the cover beforehand. Thus there should be a mealtime policy on the ward.

All 13 (16%) patients in need of help during mealtime received assistance. The nurses' duty is to provide assistance to those patients who need it (Xia & McCutcheon 2005: 1223; Pearson, Fitzgerald & Nay 2003: 46; Nuutinen et al. 2010: 52; Schenker 2003: 112). According to these observations, giving assistance to patients in need was the only observed item in this final project that was completed flawlessly. The staff should consider all the other items observed more carefully during food delivery. Ensuring hand hygiene, informing the patient of what the meal is and asking for meal preferences were the items which required most improvement according to the observations.

Ethical considerations have been made to ensure the privacy of the patients and the staff. The patients' privacy has been acknowledged, their surgery and their identity have been masked and they are not essential for the results of this final project. The

surgical ward's name, staff members name have been omitted and its location and the type of patients are admitted to the ward have also been masked.

Validity of the results can be compromised by multiple factors. The most common factor is observer's bias which the observer's attempted to minimize by constructing a clear observation tool, pilot testing it and determining how each observed case should be marked on the observation tool. The sample size was only 85. This is sufficient size for a quantitative research, even though it was gathered during eight mealtimes from one postoperative ward. The size of the sample might affect the results and since the data was collected only from one postoperative ward further research should be conducted to receive more conclusive results. The staff might have changed their behaviour because of Hawthorne's effect, knowledge of being observed and the presence of observers. The staff's awareness of observer's presence and that they were observing mealtime situations might have influenced their behaviour and consequently the results of this final project.

9 Implications for nursing practice and suggestions for further research

Mealtime policy should be established and enforced on every ward, especially on postoperative wards. This policy should provide the personnel with direct guidelines on food delivery including its each phase. It would also improve nursing practice by guiding each staff member of all the factors he/she should consider during mealtime situations. In addition, the staff should be provided with further training on mealtime duties especially on postoperative wards. The importance of appropriate patient care during mealtimes should be highlighted in nursing education, and there should be a nurse responsible for nutritional care on each ward.

The patients and their relatives should be given more information on postoperative care including nutritional care and hygiene both preoperatively and postoperatively. Receiving further information would help the patient and their close relatives to be aware of important factors of postoperative care thus the close relatives can support and assist the patients in postoperative care. Nowadays postoperative care is mostly conducted at the patients' homes or in rehabilitation wards since patients spend fewer days in the postoperative wards.

The importance of hygiene should be highlighted. Hand hygiene and proper wound care are essential to prevent problems in wound healing, postoperative infections and other complications. Patients should be advised to ask for assistance to go to the bathroom to wash their hands or ask for disinfectant to clean their hands before a meal. The patients should be aware that they can suffer from postoperative nausea and vomiting (PONV) postoperatively. PONV can change their meal preferences. All the patients are allowed ask for changes to the side dishes, drinks and in some cases even the meal. Patient education on all of these factors could help the nurse's job and decrease the prevalence of postoperative infections thus decreasing the number of days in hospital, reducing complications and costs of healthcare.

Further research should be conducted on surgical wards to increase the knowledge of mealtime situations of surgical patients. Increased knowledge of mealtime situations could demonstrate current errors easily made in nutritional care. Knowledge received from new studies can help to develop the mealtime policy further.

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