

## Patient Safety from a Different Perspective: An Evaluation of the Type of Foods and Drinks Visitors Bring for Postoperative Patients

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| ARTICLE INFO  | ABSTRACT  |
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| <p><b>Article type:</b><br/>Original Article</p> <hr/> <p><b>Article history:</b><br/>Received: 02-Feb-2016<br/>Accepted: 23-Feb-2016</p> <hr/> <p><b>Keywords:</b><br/>Drinks<br/>Food<br/>Patient safety<br/>Surgery<br/>Visitors</p> | <p><b>Introduction:</b> To introduce different types of foods and beverages visitors bring for postoperative patients.</p> <p><b>Materials and Methods:</b> This descriptive study was conducted on 96 visitors of postoperative patients at Trakya University Hospital in Edirne, Turkey. Data were collected in face-to-face interviews (15 min) during visiting hours (02:00-04:00 p.m.) between August and September, 2015. The questionnaire included 15 questions on demographic characteristics, patient/visitor relation, visitor's knowledge of the type of patient's surgery, date of surgery, and the onset of patient's oral intake, the selected foods and/or drinks, and cause of such selection.</p> <p><b>Results:</b> Based on the findings, 72.9% of the visitors had brought food for the patients, and soup was the most frequently selected food type (25.7%); also, 41.4% of the visitors had brought the food the patient had requested. In total, 74% of the visitors had brought drinks, with fruit juice accounting for 63.4% of the selected beverages; also, 53.5% of the visitors had brought the drink the patient had requested. By comparing the type of foods and drinks with the type and date of surgery, it was revealed that some visitors had brought pastries and biscuits for patients undergoing gastrectomy on the first postoperative day.</p> <p><b>Conclusion:</b> It is recommended to control and manage the type of food products visitors bring for the patients during visiting hours. Moreover, visitors should be instructed on how to select foods or drinks for the patients.</p> |

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### Introduction

At any healthcare center, patients may be victimized by medical malpractice and safety failures (e.g., medical errors, communication errors, fallings, and wrong-side surgery) (1-3).

It is important for all healthcare workers to be aware of these risk factors and play an active role in ensuring patient care.

Different interesting examples such as small bowel obstruction by phytobezoars have been mentioned in the literature (4).

Consequently, abstinence from high-fiber foods is recommended unless these food products can be well chewed by the patient or mechanically minced before ingestion.

Due to intestinal manipulation and dietary restrictions before and after surgery, ileus and hypoperistalsis may occur in postoperative patients within 24-48 h after abdominal surgery (5).

Therefore, consumption of fruits such as orange may negatively affect the patient; this in fact highlights the importance of this issue after surgery.

In the literature, occurrence of hyperkalemia has been reported after the consumption of tomato juice, orange juice, apple juice, and bananas (6-9).

Evaluation of such conditions in patients undergoing surgery reveals that urinary retention, cellular damage, and electrolyte changes may lead to hyperkalemia if the patient drinks any of the mentioned beverages after surgery (10).

Based on the literature, oral anticoagulants and antiarrhythmic drugs may interact with herbal supplements and induce various side-effects by causing changes in the plasma level (11-16).

For instance, garlic and ginger may interact with cardiovascular agents and impair platelet functions (17-19).

According to previous research, chronic diseases, use of medications, high educational level, advanced age, and female gender are associated with the use of herbal supplements; nevertheless, patients fail to inform physicians in this regard (20-22).

In general, instead of treating patients as recipients of surgical care, it is suggested that healthcare professionals pay attention to patients' visitors, considering their active intermediary role in patient safety.

Based on the literature search, no previous study has focused on the type of foods and drinks visitors bring for the patients.

Therefore, we performed this study in order to identify different types of foods and drinks visitors select for postoperative patients.

By performing such studies, we can identify the associated risk factors with respect to the type and date of surgery.

**Materials and Methods**

*Study setting and design*

This descriptive study was conducted on individuals visiting postoperative patients at General Surgical Services of Trakya University Health Center for Medical Research and Practice in Edirne, Turkey between August and September, 2015.

Since the exact number of visitors was not identifiable and no similar research was found in the literature, the frequency of bringing foods and drinks by was predicted to be 50%, and the sample size was calculated as 96 (95% confidence interval and tolerance of 0.1% .

*Ethical considerations*

Permission was obtained from the Research Ethics Committee of the Faculty of Medicine at Trakya University (No: 2015/130). Moreover, permission to conduct the study was obtained from the authorities of Trakya University Health Center for Medical Research and Practice.

The study objectives were explained to all the participants, and informed consent forms were verbally gathered.

*Participants*

All the subjects voluntarily participated in this study. The inclusion criteria were as follows: 1) age range of 18-65 years, 2) lack of mental problems, 3) visiting a postoperative patient, and 4) bringing foods and/or drinks to the patient.

*The Questionnaire*

A questionnaire, consisting of 15 questions, was developed to collect information on demographic characteristics (e.g., age, gender, educational status, and occupation), patient/visitor relation (e.g., relative, neighbor, friend, family member, and others), visitor's

knowledge of the type of patient's surgery, date of surgery, and the onset of patient's oral intake, the selected foods and/or drinks, and cause of such selection.

This questionnaire was completed by the visitors between visiting hours of the hospital (02:00-04:00 p.m.) after obtaining an oral permission, which showed the subject's agreement to participate in this study.

*Data analysis*

Data coding and statistical analysis were performed, using SPSS Version 21.

Mean, standard deviation, percentage, and frequency were calculated for statistical analysis.

**Results**

In total, 71.9% (n=69) of the visitors were female and 47.9% (n=46) were housewives. The mean age of the participants was 46.94±13.92 years and 31.3% (n=30) of the visitors were patients' relatives Table 1.

**Table1: Demographic characteristics of the visitors**

| Demographics        |                 | N (%)       |
|---------------------|-----------------|-------------|
| Gender              | Female          | 69 (71.9%)  |
|                     | Male            | 27 (28.1%)  |
| Educational status  | Primary school  | 64 (66.7%)  |
|                     | High school     | 19 (19.8%)  |
|                     | University      | 13 (13.5%)  |
| Occupational status | Housewife       | 46 (47.9%)  |
|                     | Worker          | 25 (26%)    |
|                     | Retired         | 19 (19.8%)  |
|                     | Unemployed      | 6 (6.3%)    |
| Relationship status | Relative        | 30 (31.3%)  |
|                     | Neighbor/friend | 17 (17.7%)  |
|                     | Family member   | 49 (51%)    |
| Manage              |                 | 46.94±13.92 |

By examining the visitors' responses with regard to the foods and drinks they brought for the patients, it was revealed that 72.9% (n=70) of the participants had selected different types of foods.

In total, soup was the most frequently selected food type (n=18, 25.7%), followed by fruits (n=16, 22.9%); also, 41.4% of the visitors had brought the food the patient had requested.

Moreover, 74% (n=71) of the visitors had brought drinks.

In total, fruit juice was the most frequently selected drink (n=45, 63.4%), followed by Ayran (n=12, 16.9%); also, 53.5% of the subjects had brought the drink the patient had requested Table 2.

**Table 2: Evaluation of foods and drinks brought by the visitors, the selected types of foods/drinks, and cause of such selection**

| Foods  |                               | N (%)      | Drinks   |                           | N (%)      |
|--|-------------------------------|------------|--|---------------------------|------------|
| <b>Did you bring any food for the patient?</b> | Yes                           | 70 (72.9%) | <b>Did you bring any drinks for the patient?</b> | Yes                       | 71 (74%)   |
|  | No                            | 26 (27.1%) |  | No                        | 25 (26%)   |
| <b>What did you bring for the patient?</b>     | Soup                          | 18 (25.7%) | <b>What did you bring for the patient?</b>       | Fruit juice               | 45 (63.4%) |
|  | Fruits                        | 16 (22.9%) |  | Ayran                     | 12 (16.9%) |
|  | Pastries                      | 13 (18.5%) |  | Soda                      | 7 (9.8%)   |
|  | Home-made food                | 11 (15.7%) |  | Coffee/tea                | 6 (8.4%)   |
|  | Biscuits/cakes                | 11 (15.7%) |  | Milk                      | 1 (1.4%)   |
| <b>Cause of such selection</b>                 | Honey                         | 1 (1.4%)   | <b>Cause of such selection</b>                   | Patient's request         | 38 (53.5%) |
|  | Patient's request             | 29 (41.4%) |  | No reason                 | 15 (21.1%) |
|  | No reason                     | 11 (15.7%) |  | For intestinal motility   | 9 (12.6%)  |
|  | Home-made food                | 7 (10%)    |  | Physician's suggestion    | 4 (5.6%)   |
|  | Poor quality of hospital food | 5 (7.1%)   |  | For the caregiver         | 4 (5.6%)   |
|  | Physician's suggestion        | 5 (7.1%)   |  | For blood cell production | 1 (1.4%)   |
| Energy boost for the patient                   | 4 (5.7%)                      |            |  |                           |            |

Based on the findings, 96.2% of the visitors, who had brought food to the hospital, had knowledge of the date of patient's surgery, 92.8% knew if the patient's oral intake had been commenced, and 98.5% had information about the type of patient's surgery. Also,

95.7% of the visitors who brought drinks for the patients had knowledge of the date of surgery, 92.9% knew if the patient's oral intake had been commenced, and 97.1% were aware of the type of surgery Table 3.

**Table3: Visitors' knowledge of the type of patient's surgery, date of surgery, and onset of oral food intake**

| Questions  |     | Bringing foods<br>N (%) | Bringing drinks<br>N (%) |
|--|-----|-------------------------|--------------------------|
| <b>Do you know the date of the surgery?</b>                    | Yes | 67 (96.2%)              | 68 (95.7%)               |
|  | No  | 3 (3.8%)                | 3 (4.3%)                 |
| <b>Do you know if oral intake has started for the patient?</b> | Yes | 65 (92.8%)              | 66 (92.9%)               |
|  | No  | 5 (7.2%)                | 3 (7.1%)                 |
| <b>Do you know the type of surgery?</b>                        | Yes | 69 (98.5%)              | 70 (97.1%)               |
|  | No  | 1 (1.5%)                | 1 (2.9%)                 |

Comparison of foods and drinks with the type and date of surgery showed that visitors had brought pastries, biscuits, and cake on the first postoperative day for patients who had undergone gastrectomy. On

the other hand, some had brought home-made food, biscuits, pastries, and coffee/tea for patients undergoing surgical intervention for multinodular goiter on the exact day of the operation Table 4.

**Table4: Comparison of foods and drinks with the type and date of surgery**

| Food                  | Type of surgery |    |    |             |    |    |           |   |    |             |   |    |                                |    |    |
|-----------------------|-----------------|----|----|-------------|----|----|-----------|---|----|-------------|---|----|--------------------------------|----|----|
|                       | Thyroidectomy   |    |    | Gastrectomy |    |    | Ileostomi |   |    | Hemorrhoids |   |    | Pancreatectomy/Cholecystectomy |    |    |
|                       | 0               | 1  | 2↑ | 0           | 1  | 2↑ | 0         | 1 | 2↑ | 0           | 1 | 2↑ | 0                              | 1  | 2↑ |
| <b>Soup</b>           | 3v              | -  | -  | -           | -  | 4v | -         | - | 1v | -           | - | 2v | -                              | 1v | 1v |
| <b>Fruit</b>          | 1v              | 2v | -  | -           | -  | 1v | -         | - | -  | -           | - | -  | -                              | 1v | 1v |
| <b>Pastries</b>       | 1v              | 1v | -  | -           | 1v | -  | -         | - | -  | -           | - | 1v | -                              | -  | 1v |
| <b>Home-made food</b> | 3v              | -  | -  | -           | -  | -  | -         | - | -  | -           | - | -  | 1v                             | -  | 1v |
| <b>Biscuits</b>       | 4v              | 1v | -  | -           | -  | 2v | -         | - | -  | -           | - | -  | -                              | -  | 1v |
| <b>Drinks</b>         | 0               | 1  | 2↑ | 0           | 1  | 2↑ | 0         | 1 | 2↑ | 0           | 1 | 2↑ | 0                              | 1  | 2↑ |
| <b>Fruit juice</b>    | 3v              | 2v | -  | -           | -  | 7v | -         | - | 2v | -           | - | -  | 2v                             | -  | 5v |
| <b>Ayran</b>          | 1v              | 1v | -  | -           | -  | 2v | -         | - | -  | -           | - | -  | -                              | -  | 2v |
| <b>Soda</b>           | 1v              | -  | -  | -           | -  | 2v | -         | - | -  | -           | - | -  | -                              | -  | -  |
| <b>Coffee/tea</b>     | 2v              | -  | -  | -           | -  | -  | -         | - | 1v | -           | - | -  | -                              | -  | -  |

V: visitor

**Discussion**

Consumption of foods and drinks without the supervision of healthcare professionals may be risky for the patients. As presented in Table 4, visitors

brought different types of foods and drinks for postoperative patients whether or not they had knowledge of the type or date of the surgery.

According to the literature, liquid diets, starting two days after distal gastrectomy, are well tolerated by the patients (23, 24). On the other hand, anastomotic leak may occur with early oral intake of foods after gastrointestinal surgery. Based on the Enhanced Recovery after Surgery (ERAS) protocol, patients with gastric cancer are allowed to start using clear liquids on the first postoperative day, liquid diets on the second day and soft meals on the third day (25, 26).

In the present study, on the first day of gastrectomy, visitors brought pastries for the patients. Expectedly, the patient might feel tempted to eat the food, which can be a risky behavior since the food may not be well tolerated by the patient or the physician might not allow it. To the best of our knowledge, consumption of liquids on the first day after surgery is highly recommended. Also, levothyroxine (L-T4) level is of great significance after thyroidectomy (27, 28).

According to the literature, absorption of L-T4 is reduced when it is ingested concomitantly with other drugs or coffee (29, 30).

In the present study, it was observed that visitors brought pastries and coffee/tea for the patients who had undergone surgical intervention for multinodular goiter on the day of the operation. Therefore, visitors should

not be allowed to bring unsafe foods or drinks for the patients. In our literature search, we found no similar studies on this subject. Therefore, the present findings are limited to the risks of food consumption after surgery.

### Conclusion

According to the present findings, although the visitors had knowledge of the time and type of patient's surgery, they did not pay attention to the type of foods or drinks they selected; also, they did not know if the patient could tolerate such foods after surgery.

Therefore, it is recommended to control and manage the type of food products visitors bring for the patients in clinics during visiting hours in countries such as Turkey where people are free to bring different types of food to the hospital. Moreover, it is suggested that healthcare professionals instruct visitors on how to select foods or drinks for the patients.

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