


Orthopedics and Traumatology Inpatient Satisfaction Survey

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Abstract

Inpatient satisfaction evaluation is essential for orthopedics serves. So the aim of this study was to develop a survey to evaluate the inpatients satisfaction in the orthopedics and traumatology service. The study was conducted with 102 patients (22 females and 80 males), who were hospitalized in an orthopedics and traumatology service. Data collection was performed with face to face interview. The survey development process was carried out in 4 steps: defining the problem and determining the sub-dimensions (1), composition an item pool (2), counselling expert (3), and reformation and implementation the survey (4). The final version of the survey have had 6 subdimensions: physiotherapist (1-3 items), inpatient administration (4,5 items), technical equipment and hygiene (6-8), doctor (9-11 items), nurse (12-14 items), and general satisfaction (15,16 items). In survey development process, internal consistency and item analysis were used for the reliability analysis. Cronbach alpha coefficient was calculated. The mean age of the participants was 41.43 ± 17.85 years, 85 of the patients underwent surgery on the knee, 13 on the hip, 3 on the leg, and 1 on the thigh. Six items were excluded from 22-itemed basic form of the survey as a result of the item analysis. The internal consistency of the final version of the survey was found good reliable (Cronbach alpha: 0.880). So health providers will be able to use it reliably on orthopedic inpatients speaking Turkish. Also it could be translate to other language to widely use.

Keywords

inpatients, patient satisfaction, orthopedics, survey, physiotherapy

Introduction

Patient satisfaction is an important parameter to develop and maintain health service quality (1). Health service quality is associated with physical facilities, reliability, willingness, avoiding danger and risk, and empathy components (2). Owing to the nature of different services it becomes necessary to differentiate between overall patient satisfaction and transaction-specific satisfaction; that is, specific service encounter. Multiple service satisfaction leads to an overall level of patient satisfaction (3). Boshoff and Gray found that satisfaction with specific service dimensions such as staff, fees, and meals were found to exert positive influence on cumulative patient satisfaction. However, satisfaction with administration, reception, and television services were rejected as things that influence patient satisfaction (4). Patient expectations, perceptions, technical assistance, interpersonal relations, and physical environment are another components (5,6). According the studies, patients had high satisfaction were found to have healthier communication with health-care professionals. Also compliance of these patients with the recommendations was found higher than

others (7,8). When the internal and surgical health services are evaluated, the rehabilitation interventions are more widely used in the surgical inpatient services than other inpatient services. In addition to inpatient care before and after the surgery, the physician, physiotherapist, and nurse team work is very effective on inpatient satisfaction as a requirement of the biopsychosocial approach. Generally, in assessment process of the quality of service in hospitals, technical equipment (number of health personnel, quality) and accommodation (hygiene, sound/noise and cafeteria services) dimensions take places at first (9,10).

In Turkey, there aren't any specific inpatient satisfaction evaluations for each department. So a general assessment tool has been used. It is remarkable that the parameters

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related to health personnel, doctor, nurse, and secretary are questioned and the lack of evaluation dimension about physiotherapist. Orthopedics and traumatology services are among the clinical settings where rehabilitation services are also carried out. Also, physiotherapy services are another parameter that should be evaluated in terms of inpatient satisfaction. Inpatient–physiotherapist interaction, which may affect inpatient satisfaction in physiotherapy and rehabilitation that the duration of the session lasts longer than a routine medical visit and includes more physical contact are the factors that make a difference and should be evaluated with different questions (11). Also physiotherapy and rehabilitation is a painful process that requires active inpatient participation. Therefore, a satisfaction scale, which includes only evaluations for other health-care professionals except physiotherapists, may be inadequate to evaluate inpatients receiving physiotherapy and rehabilitation treatment (11). The lack of the related items is a barrier for the correct and reliable evaluation of the satisfaction of inpatients receiving physiotherapy and rehabilitation services. In studies about inpatient satisfaction from physiotherapy, some parameters such as treatment, comfort, patient–therapist interaction, clinical location and cost, courtesy and confidentiality, acceptance efficiency, waiting time, and ease are also included (6).

Patient satisfaction starts from the first coming to the inpatient service. This evaluation continues throughout treatment and postoperative period. The inpatient satisfaction is very important in treatment process. This period varies depending on the inpatients' complaints and the different treatments they receive. For example, whether or not the health center is selected in an emergency situation or according to the inpatient's own wish, whether the unit is a surgical service and some objective measurements related to surgical quality have an effect on inpatient satisfaction (12–14). Patients who report a serious condition at admission have higher satisfaction in terms of care (12). Also, patients have higher satisfaction when they choose teaching and nonprofit hospitals (13). Therefore, the clinical situation and environment should be taken into consideration in the evaluation of inpatient satisfaction. Evaluating the inpatient satisfaction in different health services such as orthopedics and traumatology, endocrinology and so on with the same measurement tool will not give accurate and reliable results. In addition, hospital procedures were found to be effective in terms of satisfaction as well as care, cleaning, physician's approach, and service in orthopedic services preferences and service quality (15). Reducing waiting time may increase patient satisfaction also (16).

The level of satisfaction of inpatients hospitalized in the orthopedics and traumatology service needs to be assessed using more objective measurement tools that include criteria specific to the unit and the interdisciplinary teamwork. However, in Turkey, there is no measurement tool specific to the inpatients in orthopedics and traumatology unit. Turkish speaking researchers couldn't use any specific assessment tool. So the pragmatic aim of this study was to develop a

Turkish reliable and easily applicable inpatient satisfaction survey for orthopedics and traumatology inpatient services.

Methods

This study was conducted between July 2018 and December 2019 at Karadeniz Technical University, Health Practice and Research Center, Orthopedics and Traumatology inpatient service.

One hundred and two volunteer inpatients (22 females and 80 males) who were hospitalized in an orthopedics and traumatology service were included in the study. All participants read and signed the written informed volunteer consent form. Sociodemographic data form and Orthopedics and Traumatology Inpatient Satisfaction Survey (OTISS) were used for data collection. Data collection was performed with face-to-face interview. Inclusion criteria were to be older than 18 years, hospitalized in the orthopedic and traumatology service at least 3 days, be able to communicate verbally and in writing. Exclusion criteria were having major psychiatric illness. The study was approved by the Karadeniz Technical University Faculty of Medicine Scientific Research Ethics Committee (Date: June 11, 2018, Protocol number: 2018/124).

Study Design and Procedure

Anderson's (17) survey development process was used for the survey development steps. The survey development process was carried out in 4 steps: defining the problem and determining the categories (step 1), composition an item pool (step 2), counselling experts (step 3) reformation, and implementation the survey (step 4).

Step 1 (defining the problem and determining the categories): As a result of literature research, 6 different categories were created: inpatient admission, technical equipment/hygiene, doctor, physiotherapist, nurse, and general satisfaction.

Stage 2 (composition an item pool): The suggestion pool was prepared. The suggestions were written at this step. Twenty-two items were selected. Scoring of survey was made with 5-point Likert (0: never, 1: very poor, 2: poor, 3: often, 4: always).

Stage 3 (counselling experts): At this stage, firstly main question was searched: "To what extent are the items included in the survey sufficient to cover and collect the phenomenal and/or questionable data needed?" The items and statements in the survey were organized by taking the opinions of two experts.

Stage 4 (reformation and implementation the survey): The final version of the survey was filled by the inpatients. A 16-itemed survey was finalized according to validity analysis performed. The total score was determined as 0 to 64. Accordingly, the percentage of the survey is calculated using the formula $[(\text{Total score} \times 100) / 64]$. High score means high satisfaction. Subdimensions of the items were 1-3:

Table 1. Item Analysis of the OTISS.

Items	X ± SD	If the item is deleted, alpha	Item total correlation coefficient
1. My physiotherapist showed my exercises before my surgery	0.02 ± 0.29	0.875^a	0.081
2. My physiotherapist followed up my current health status with tests and measurements	3.39 ± 1.11	0.874^a	0.379
3. My physiotherapist was kind	3.93 ± 0.29	0.872	0.347
4. Physiotherapist explanations about my treatment was sufficient	3.88 ± 0.32	0.874^a	0.278
5. My physiotherapist took care of my privacy	3.93 ± 0.29	0.872	0.340
6. My physiotherapist listened to me and answered my questions	3.93 ± 0.29	0.874^a	0.147
7. My physiotherapist gave me enough time	3.89 ± 0.34	0.872	0.358
8. My physiotherapist gave me advice about the post-op period	3.70 ± 0.81	0.874^a	0.320
9. Service secretary was helpful	3.26 ± 1.06	0.868	0.483
10. I completed my secretarial procedures easily and early	3.32 ± 1.04	0.859	0.689
11. The tools in the room (television, nurse call bell, lamp, bed, etc) were intact	2.59 ± 1.45	0.874^a	0.473
12. The room was properly prepared, and it was warm sufficiently	3.52 ± 0.86	0.864	0.563
13. The room, bed linen, and pillow cases were clean	3.58 ± 0.78	0.869	0.425
14. Hospital staff obeyed the hygiene rules	3.55 ± 0.71	0.864	0.597
15. I was able to contact my doctor easily	3.21 ± 0.94	0.869	0.441
16. My doctors' explanations were sufficient and understandable	3.64 ± 0.66	0.866	0.520
17. My doctor listened to me and answered my questions at enough time	3.60 ± 0.74	0.862	0.641
18. My nurses were friendly during my treatment	3.65 ± 0.63	0.862	0.681
19. My nurses' follow-up and interventions were sufficient and on time.	3.77 ± 0.50	0.866	0.618
20. My nurses took care to use protective equipment such as gloves and masks	3.67 ± 0.78	0.870	0.406
21. Hospital service was generally good	3.25 ± 1.05	0.858	0.712
22. I prefer the hospital again and recommend it to others	3.27 ± 0.98	0.858	0.720

Abbreviations: OTISS, Orthopedics and Traumatology Inpatient Satisfaction Survey; SD, standard deviation; X, mean.

^aExcluded items were showed in bold.

physiotherapist, 4-5: patient admission services, 6-8: technical equipment and hygiene, 9-11: doctor, 12-14: nurse, 15-16: general satisfaction (Supplement 1).

Statistical Analysis

Statistical Package for Social Science (SPSS version 21.0, SPSS Inc, Chicago IL, USA) package program was used for data analysis. Mean (X), standard deviation, number (n), and percentage (%) were calculated for descriptive statistics. The significance level was taken as $P < .05$. Cronbach alpha reliability coefficient was used for internal consistency and item analysis. Cronbach alpha internal consistency coefficient calculated in the reliability analysis of Likert type scales is preferred to be above 0.80 (18). In calculating the number of participants, the criteria used for the development of the questionnaire were considered (19).

Results

The study was conducted with 102 (female/male: 22/80) inpatients. The mean age of the participants was 41.43 ± 17.85 years, mean height: 171.49 ± 18.34 cm, and mean body weight: 81.60 ± 11.70 kg. Thirty-five of the inpatients were at primary education level, 29 at secondary education level, 38 at university level. Forty-three of the patients had a meniscopathy, 25 anterior cruciate ligament rupture, 13

coxarthrosis, 9 gonarthrosis, 2 fractures, 2 cysticmeniscus, 2 synovitis, 2 knee joint degeneration, 1 septic arthritis, 1 benign bone tumor, 1 circulatory disorder, and 1 pseudoarthrosis. Eighty-five of the inpatients underwent surgery on the knee, 13 on the hip, 3 on the lower leg, and 1 on the upper leg region. All participants who agreed to participate in the study filled the survey.

Reliability Analysis

The Cronbach alpha reliability coefficient of the 22-itemed survey was calculated as 0.873. In the item analysis, it was found that 1, 2, 4, 6, 8 and 11th items decreased the reliability of the survey and when these items were removed, the Cronbach alpha coefficient increased to 0.880 (Table 1). Finally 16 item were included in the original form of the survey.

Discussion

The OTISS is specific to orthopedics inpatients, which is one of the strength aspects of our study. The results of our study showed that the OTISS is reliable in accordance with the reliability analysis. As a result of the item analysis, 16-item survey could be used as a reliable tool in the orthopedics and traumatology inpatient service. It could be translated to other languages for wider use.

In the literature there are some measurement tools to evaluate inpatient satisfaction level (20–25). However, they were not specific to orthopedics and traumatology inpatient service. In addition, none of them have items about physiotherapist. Some researchers used the Visual Analog Scale, which was rated between 0 and 10 without questionnaire in satisfaction evaluation (26). In another study, two questions were used to evaluate inpatient satisfaction after the surgery: “Would you repeat the same surgery under the same conditions?” and “What is your satisfaction with the surgical results?” (27). In the present survey we developed in this study, there are items related with physiotherapy service. It is thought that it will be fill an important lack of the literature with additional items with other factors. The measurement tool to be used in the evaluation of inpatient satisfaction should be comprehensive but not overwhelm the inpatient. In the international literature, Visit Satisfaction Scale (VSQ-9), Patient Satisfaction Questionnaire, Consumer Assessment of The Hospital Consumer Assessment of Healthcare Providers and Systems, the Hong Kong Inpatient Experience Questionnaire have been using. In national literature, only General Inpatient Experience Survey, developed by the Ministry of Health in Turkey, has been used. These assessment tools include subdimensions as logistics, waiting time, communication with the nurse and doctor, giving information, pain management, hygiene, food services, hospital environment, kindness and patient privacy, and general evaluation (20–25). In our study, the present survey had a physiotherapist subdimension unlike others. This is a strength aspect of the survey.

There are many tools which include physiotherapist and rehabilitation dimensions in evaluating patient satisfaction. However, in surgical services such as orthopedics service, there is no measurement tool specific to the inpatients. Monnin and Perneger (14) developed a satisfaction questionnaire for both inpatients and outpatients in physiotherapy clinics, cardiorespiratory and neurological rehabilitation besides orthopedic rehabilitation. Goldstein et al (28) developed a survey to evaluate the patient satisfaction from physiotherapy service. There were different suggestions such as environmental factors, transportation, expense, and park were included, but statements about the doctor and nurse were not included. So, it wasn't enough specific suggestions for the surgical services. Tüzün et al (29) developed a questionnaire for physical therapy outpatient clinics and made Turkish validity and reliability. However, this questionnaire could be used for outpatients. At the same time, there weren't any suggestions about nurses in their survey. In the survey which was developed in our study, there was physiotherapist and nurse subdimensions.

There are 3 limitations of our study. Firstly, there is no reliable Turkish orthopedic and traumatology inpatient satisfaction survey to compare with the OTISS. Secondly, we did not take the opinions of the inpatients while developing the survey, since it's a patient-oriented satisfaction survey.

Thirdly, the sample size was small and gender ratio wasn't equivalent.

Conclusion

The fact that the general patient measurement tools were widely used to evaluate the patient satisfaction mostly, there is a need for clinic-specific satisfaction measurement tools. The OTISS is specific for the inpatients in orthopedics and traumatology clinics. So it is an important contribution to the literature. Our study leads to using the Turkish survey widen in Turkish speaking countries. Also this study encourages the researchers and clinicians to use the OTISS and make its translation to their own languages. Namely, it gives also strengths to widely use. Other strengths of the survey were including interdisciplinary parameters, being easily applicable, and having comprehensive content.

Authors' Note

The study was approved by the Karadeniz Technical University, Faculty of Medicine Scientific Research Ethics Committee (Date: June 11, 2018, Protocol number: 2018/124).


Declaration of Conflicting Interests

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Supplemental Material

Supplemental material for this article is available online.

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