ANALYSIS OF FACTORS INFLUENCING PATIENT SATISFACTION WITH HOSPITAL TREATMENT AT THE SURGICAL DEPARTMENT

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The aim of the study was to determine factors responsible for patient satisfaction after treatment at the surgical department.

Material and methods. The study was conducted in six health care units, which were divided into two groups: Group I: 3 hospitals with the number of beds exceeding 400, and Group II: 3 hospitals with the number of beds below 400. The study group comprised 180 patients, 30 from each of the hospitals. The authors’ used the Servqual method and questionnaire with 30 questions relating to five areas characteristic of medical service. Apart from the above-mentioned we also took into consideration hospital personnel: their qualifications and salary, hospital equipment, patient hospitalization costs, and indicated by the patient – the reason for his/her satisfaction or dissatisfaction with hospitalization. Results were subject to statistical analysis.

Results. The results indicated that the factors pertaining to costs, especially those related to living conditions and also those related to empathy, personnel competence, and their communication with the patient had very significant influence on patient satisfaction with his/her hospitalization. Fulfilling the patient’s needs considering the functional quality increases the patient’s comfort, and as a consequence translates into satisfaction with the hospitalization.

Conclusions. Considering both groups of hospitals the surgical departments did not entirely fulfill the patient’s expectations, and there is a need for improvement in this area. The main reason for the negative feelings of patients included worse than expected living conditions, sporadic contact with physicians and lack of information concerning the course of therapy.

Key words: patient satisfaction, surgical department, quality of hospitalization

The patients’ satisfaction with hospital treatment positively influences the image of the medical facility. Many factors affecting the assessment of the quality of the medical service is associated with the rapid solution of the reported problem, staff empathy and attitude, as well as the understanding and precise information. One should not forget that the hospitalized patient might conclude that he/she is dealing with high-quality services, when his/hers expectations are satisfied or surpassed. This not only translates to patient satisfaction but also to the success of hospital staff, and the costs and effectiveness of treatment (1-4). There is the need to satisfy the health needs of patients by the medical facilities, but also to strive to meet these expectations, which leads to increased satisfaction considering the quality of medical services. The authors’ conducted a study which determined patient satisfaction. The introduction of such a requirement as mandatory by the European Commission and the National Committee for Quality Assurance (NCQA) further underscores the importance of the problem and indicates that patient satisfaction is extremely important for the healthcare provider. The above-mentioned
performed routinely, show, whether the hospital met the patients’ requirements, fulfilled his expectations, which factors had an impact on the assessment made by the patient, as well as which fields of medicine should be improved in order to achieve success in the medical market.

The aim of the study was to determine which subjective and objective factors have influence on patient satisfaction considering therapy at the department of surgery.

MATERIAL AND METHODS

The study group comprised six health care units, which depending on the number of beds were divided into two groups. Group I comprised 3 hospitals with the number of beds exceeding 400, while group II- three hospitals with the number of beds below 400. The study was a survey comprising 180 patients, 30 from each hospital. The study group comprised patients subject to elective laparoscopic cholecystectomy. The above-mentioned constitute the largest patient group treated in surgical departments, and therefore, their opinion might have significant impact on the image of surgical departments, and indirectly the hospital. The study was approved by the Bioethics Committee, Collegium Medicum UMK and consent was obtained from the management of the health care units participating in the survey.

The study was performed on the basis of Servqual’s method. In order to achieve the desired aim a questionnaire was elaborated containing 30 questions relating to each of the five areas characteristic of medical services: A – the financial dimension (medical equipment, the appearance of the health care unit, functionality of patient rooms, cleanliness, visual attractiveness of advertising material); B – the reliability dimension (staff reaction to patient needs, fulfillment of medical services, solution of patient problems, service organization, proper medical care during the initial visit); C – patient expectations (current information concerning treatment, explanation concerning the effects and side-effects of medication, recommendations after hospital discharge, respect and understanding by the staff, willingness to help, culture, and friendliness); D – competence (exhaustive answers to patient questions, staff politeness and friendliness, individual patient treatment, staff discretion, sense of security, desire to recommend the health care unit to friends and family members); E – empathy (guarantee a sense of intimacy and respect for human dignity during treatment, information concerning patient rights, personnel availability throughout the day, staff involvement in undertaking decisions related to medical care, devoting special attention to the patient during the therapeutic process, communication with the patient, staff efforts towards avoiding stressful situations for the patient).

Question evaluation considered a point scale where 1 means very bad and 5 – very good, both the expected and actual degree of satisfaction with the quality of medical care. The patients evaluated the difference between the expected medical service and actually received care. A negative result was evidence of patient dissatisfaction and determined his/hers expectations in relationship to the actual condition. A positive result demonstrated the actual condition exceeding the expectations, being evidence of the patients’ satisfaction. Analysis considered the amount of personnel, staff qualifications and salaries, available medical equipment, hospitalization costs, and patient satisfaction or dissatisfaction with the hospitalization.

Results were subject to statistical analysis by means of the non-parametric Spearman’s test with Spearman’s correlation coefficient, as well as the U Mann-Whitney and Kruskal–Wallis tests. p < 0.05 was considered as statistically significant.

RESULTS

Data concerning patient age, gender, place of residence, education, and employment were presented in table 1. Statistically significant differences between both groups concerned the place of residence. Group I patients were mostly urban inhabitants, while group II-rural. The remaining group differences were statistically insignificant (tab. 1).

Analysis of data considering the financial dimension demonstrated that in case of group I patients the expectations exceeded the actual condition, while in case of group II patients the actual condition exceeded the expectations. Differences between groups were statistically significant. Considering reliability, group II patients showed greater expecta-
tions. However, in both groups the actual condition exceeded patient expectations. Differences between both groups were statistically insignificant. Slightly higher expectations in relation to patient expectations were observed in group II. The difference between both groups was statistically insignificant. Slightly higher expectations considering the competence dimension were observed in group II patients. In case of group I the actual condition exceeded patient expectations, while in case of group II patient expectations were not fulfilled. However, considering the competence dimension no statistically significant differences were observed between both groups. Group II patients showed greater expectations considering empathy, as compared to group I patients. On the other hand, the actual condition exceeded the expectations in case of group I patients. No statistically significant differences were observed between both groups, considering empathy. Table 2 presented the mean values of selected dimensions.

Table 3 presented results regarding the number of surgical beds, amount of personnel, staff qualifications and salaries, and hospitalization costs, operating room excluded.

Analysis for the reasons of patient satisfaction or dissatisfaction with their hospitalization demonstrated that both in groups I and II the major reason for patient satisfaction was as follows: 1) good, professional, and friendly nursing care, 2) good, friendly, professional care, 3) friendly, sympathetic and efficient care. Furthermore, in case of group I patients-

**DISCUSSION**

The reform of the health care system in Poland was aimed at improving the financial situation of health care, as well as improvement in the access and quality of medical services. An important weakness of the system in question was the treatment of patients, and lack of connection between the salaries of health care workers and number, type and quality of medical services provided. The new economic situation which included health care facilities in Poland resulted in the fact that the patient began to be seen as an entity, which in case of economic terms is the source of funds for medical costs and hospitalization. Therefore, it became essential to strive for the patient who decides where and by whom he will be treated.

Detailed analysis of factors influencing patient satisfaction after treatment in surgical departments enables too evaluate, whether the facility satisfies the needs and expectations, which factors influence the assessment made by the patient, and what medical areas should be improved (5). Patients in the analyzed health care units paid particular attention to the financial dimension, especially to available medical equipment, visual appearance and functionality of patient rooms. Patient expectations considering the above-mentioned were
Table 2. Comparison of mean point values considering different dimensions in both study groups

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Group I</th>
<th>Group II</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mean SD</td>
<td>mean SD</td>
<td></td>
</tr>
<tr>
<td>Financial dimension</td>
<td>-2.06 4,3842</td>
<td>-0.30 3.0333</td>
<td>(p &lt; 0.05)</td>
</tr>
<tr>
<td>Reliability dimension</td>
<td>0.59 3.7891</td>
<td>0.24 2.3142</td>
<td>(p &gt; 0.05)</td>
</tr>
<tr>
<td>Reaction to patient expectations</td>
<td>-0.36 4.3065</td>
<td>0.21 2.9010</td>
<td>(p &gt; 0.05)</td>
</tr>
<tr>
<td>Competence, reliability</td>
<td>0.54 4.1817</td>
<td>-0.08 2.8373</td>
<td>(p &gt; 0.05)</td>
</tr>
<tr>
<td>Empathy</td>
<td>0.33 5.6747</td>
<td>-0.32 4.4339</td>
<td>(p &gt; 0.05)</td>
</tr>
<tr>
<td>Total</td>
<td>-0.19 3.9351</td>
<td>-0.05 2.6557</td>
<td>(p &gt; 0.05)</td>
</tr>
</tbody>
</table>

Table 3. Data about staffing, education and salary of medical personnel in both groups

<table>
<thead>
<tr>
<th></th>
<th>Group I</th>
<th>Group II</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of hospital beds in surgical departments</td>
<td>110</td>
<td>87</td>
<td>(&lt;0.05)</td>
</tr>
<tr>
<td>Number of physicians in surgical departments/mean</td>
<td>33/11</td>
<td>17/6</td>
<td>(&lt;0.05)</td>
</tr>
<tr>
<td>Number of nurses in surgical departments/mean</td>
<td>61/20</td>
<td>49/16</td>
<td>(&lt;0.05)</td>
</tr>
<tr>
<td>Mean salary-physicians (PLN)</td>
<td>11 077,00</td>
<td>11 653,00</td>
<td>(&gt;0.05)</td>
</tr>
<tr>
<td>Mean salary-nurses (PLN)</td>
<td>3 918,00</td>
<td>3 230,00</td>
<td>(&lt;0.05)</td>
</tr>
<tr>
<td>Mean number of patients per physician</td>
<td>1.5</td>
<td>4.5</td>
<td>(&gt;0.05)</td>
</tr>
<tr>
<td>Mean number of patients per nurse</td>
<td>0.8</td>
<td>1.2</td>
<td>(&gt;0.05)</td>
</tr>
<tr>
<td>Mean number of physicians per 1 bed</td>
<td>0.3</td>
<td>0.2</td>
<td>(&gt;0.05)</td>
</tr>
<tr>
<td>Mean number of nurses per 1 bed</td>
<td>0.6</td>
<td>0.5</td>
<td>(&gt;0.05)</td>
</tr>
<tr>
<td>Mean number of physicians with phd</td>
<td>5</td>
<td>1</td>
<td>(&gt;0.05)</td>
</tr>
<tr>
<td>Higher nursing education (mean number)</td>
<td>4</td>
<td>2</td>
<td>(&gt;0.05)</td>
</tr>
<tr>
<td>Mean number of nurses with surgical specialization</td>
<td>3</td>
<td>1</td>
<td>(&gt;0.05)</td>
</tr>
<tr>
<td>Mean number of personnel, excluding nurses and physicians</td>
<td>9</td>
<td>10</td>
<td>(&gt;0.05)</td>
</tr>
<tr>
<td>Cleaning crew (average hours per day)</td>
<td>24</td>
<td>11</td>
<td>(&gt;0.05)</td>
</tr>
<tr>
<td>Average cost of hospitalization per day (excluding operating room)</td>
<td>361,60</td>
<td>326,70</td>
<td>(&gt;0.05)</td>
</tr>
</tbody>
</table>

High in both groups. Mean results considering questions concerning the financial dimension show that in none of the analyzed groups did the institutions fulfill patient expectations. It is noteworthy that there was a significant correlation between education and place of residence, and evaluation of the financial possibilities. Patients with higher education had lower expectations, as compared to those with lower education. Rural inhabitants presented higher expectations as compared to patients living in cities.

Living conditions were rated as highest by pensioners, especially in smaller hospitals, and lowest by the unemployed. This is consistent with the worldwide tendency, confirmed by studies where the above-mentioned group most often expresses satisfaction from the health care unit conditions by giving the highest marks for the financial dimension (6, 7, 8). In the analyzed hospital groups no significant correlation was observed considering patient age and gender. The obtained results indicate that in terms of the patient treated in the surgical department, hotel conditions, the appearance of the hospital rooms, room equipment, and esthetics also proved important (2, 3). These factors should be subject to continuous evaluation as they have significant impact on the determination of the implementation of medical benefits in the surgical department, and indirectly for the entire health care facility (4). To some extent this translates to the competitiveness of the department, health care unit, and its prestige, which was confirmed by numerous authors (9-13).

Study results point to the overall patient satisfaction considering both hospital groups in the dimension of reliability. However, patients treated in large hospitals with the number of beds exceeding 400 were more satisfied. Positive ratings concerned the aspects related to the timing of the service and staff response...
to patient needs, especially summoning of the nurse to the ring of the bell. Additionally, in case of smaller hospitals lack of patient satisfaction was connected with the smaller number of hospital personnel. This is probably connected with the fact that medical staff, considering surgical departments is more abundant in large hospitals. Analysis of staffing demonstrated that in case of hospitals with more than 400 beds medical personnel was nearly twice as abundant, as compared to smaller hospitals (14). Similar studies performed worldwide demonstrated that the reduction of medical personnel in health care units negatively affected the perception of the facility by the patients. The availability of medical personnel is decreased, extending the time to service, thus, the efficiency of medical care in a surgical department is reduced (13, 15, 16).

Therefore, according to some authors it is desirable to seek to increase employment of physicians and nurses to a level that will not impair the smooth functioning of the department, and at the same time improve the quality of hospital services. The number of physicians and nurses per patient, their behavior, and shortest therapy, significantly influence patient satisfaction with services received (17, 18). In consequence, the above-mentioned have significant impact on patient satisfaction and affect the overall assessment of the quality of medical care, which is often the basis of recommendations of the department by the patient and can decide whether he will return for treatment when the need arises (4, 19, 20, 21).

It is noteworthy that in large hospitals patient expectations were much higher, as compared to the actual possibilities, considering the process of treatment. The above-mentioned factor had significant impact on satisfaction and consequently decided upon the fact that the patients’ expectations were not fulfilled. Medical staff should therefore ensure greater care in passing information to the patients and engage them in the therapeutic process by providing intelligible communication throughout the entire treatment. Previous investigations conducted in the mentioned field indicated that the hospitalized patient when left without information concerning the diagnosis and proposed treatment had a negative impact on the perception of the health care unit, influencing the lack of satisfaction with treatment. Improved accessibility and transparency of information to the patient can significantly reduce the cost of hospitalization and increase the efficacy of treatment (8, 22, 23, 24).

Result analysis considering empathy showed that patients treated in surgical departments in both hospital groups recognized the lack of adequate information on the patients’ rights card as a negative factor. The expectations of patients in both groups exceeded the actual facts and were not fulfilled. The patients were unsatisfied with the information and communication, and expected from the medical staff exhaustive verbal communication, which had a definite impact on the overall assessment of the dimension of empathy. Study results demonstrated that patient satisfaction with hospital treatment, including surgery was connected with interpersonal relationships (doctor-patient, nurse-patient) and proper communication, which has a strong and positive impact on the overall experience of patient-related treatment and hospitalization. Thus, active involvement of patients in the therapeutic process has a positive effect on their satisfaction with the hospitalization (8, 12, 22, 25-30). Study results concerning the dimension of competence demonstrate that patient expectations in case of large hospitals were higher than the actual condition, which reflected in the overall assessment of the dimension, and was mainly associated with the problem of ensuring confidentiality and individual treatment of patients by hospital personnel.

This contributed to the reduced assessment when recommending a hospital to friends or family members. It is noteworthy that patients with higher education comprised the group of hospitalized with lower expectations, considering each of the analyzed dimensions of quality medical services. This is probably connected with the fact that these patients are more aware of the need to undergo surgery, have greater awareness in the fight with the disease, and consider treatment primarily in terms of improving health and restoring normal bodily functions. A similar position on this issue was presented by other authors who argue that patient satisfaction with treatment depends on individual characteristics such as age, gender, education, as well as the physical and mental condition (6, 7, 8, 17, 31, 32). Our study found no relation between patient age and gender, and satisfaction with treatment. The obtained result confirms the global trend indi-
cating that the size of the center treating the patient affects the level of satisfaction. Patients from smaller hospitals declare higher satisfaction, as compared to patients from large hospitals (2, 4, 32). When assessing the overall quality of medical services they pay attention to all the elements of the services including the organizational and aesthetic values, which they were able to observe while being hospitalized. The general impression appeared to be extremely important for the patients, which was confirmed by our study. Similar dependencies between the perception of medical services and general patient satisfaction were also observed by other authors. Their study results revealed that the overall impression referenced by the patient, as well as empathy and staff reaction to their expectations are similarly important as strict medical benefits (2, 10, 19, 22).

Currently in Poland, there is no single standard determining costs in health care units. Thus, significant discrepancies in the classification of expenses and the ability to assign costs to different centers, is responsible for the fact that actual analysis of surgical department patients shows differences. Given the difference in assessing the overall quality of services provided by public health care and the condition of medical personnel in both hospital groups, one may come to the conclusion that costs incurred by large hospitals (those with more than 400 beds) are disproportionately high, in comparison to the costs observed in smaller hospitals. This is probably connected with the significant disproportions in medical staffing, considering both hospital groups.

The higher cost of medical care is directly related to the number of employed physicians and nurses, and their salaries. The average rate of employed physicians and nurses in surgical departments of smaller hospitals (less than 400 beds) was significantly lower. It should be noted that the analysis of small hospitals excluded operating room costs and anesthesia costs are low, significantly differing from those observed in case of large hospitals. Studies concerning the issue confirmed the fact that large hospitals with many beds and greater number of personnel located in large agglomerations have greater costs. This is associated with the fact that large hospitals in large cities have a greater degree of occupancy of hospital beds, which is directly related to the greater number of employees, higher staff qualifications and salaries. Thus, greater costs in case of the above-mentioned are economically justified (12, 33-37).

Studies indicate that the expression of empathy, medical competence, communication with the patient, sharing information about the patients’ disease, and patient involvement in the therapeutic process are factors which significantly influence satisfaction. Other Authors’ presented a similar position on the issue. They observed that the more empathy from the medical personnel the better the patients’ assess their competence, and consequently are more satisfied with the hospitalization and treatment (13, 26, 28, 38-42). Satisfying the patients’ emotional needs is an important element of medical care provided to patients subject to surgical treatment.

Studies conducted throughout the world confirmed the fact that the size of the hospital where the patient is hospitalized influences the level of his satisfaction. Patients hospitalized in smaller hospitals declare greater satisfaction, as compared to those from large centers (2, 4, 32). Patients when assessing the overall quality of medical services pay attention to all aspects of therapy, including the organizational and esthetic values, which they were able to observe during the hospitalization. The study confirmed that the general impression of the hospitalization in conjunction with the patients’ emotional reaction influence his satisfaction concerning hospitalization and therapy. Similar dependencies between the perception of medical services and general satisfaction were subject to publica-

When analyzing study results one can come to the conclusions that none of the analyzed hospital groups fulfilled the patient expectations. However, significantly higher scores were obtained by hospitals with less than 400 beds. The decisive influence on patient satisfaction in both patient groups was associated with the financial dimension, followed by empathy, medical competence, staff response to patient expectations, and proper information concerning the disease and proposed therapy. The main reason for the negative feelings connected with the hospitalization were associated with worse than expected living condi-

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It is believed that a well-managed hospital, constantly wanting to improve its image should pay attention to the quality of medical services and effective functioning, maximizing efforts to obtain full patient satisfaction. Such management leads towards a positive image of the health care unit by the quality of proposed medical services. At the same time it is the guarantee of loyalty of the patient who should be treated as a reliable partner. In order to support the growing competition in the world the patient should be sought after, simultaneously creating a positive image of the medical facility.

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