Evaluation of the perceived quality in the Orthopedics/Traumatology Unit at Carlo Poma Hospital in Mantova

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Abstract. The background and the aim of the work: The Department of Orthopedics and Traumatology of the “Carlo Poma” Hospital (Social Territorial Health Authority of Mantova), has pointed out in 2017, through the questionnaires survey over the citizens satisfaction, an appreciation decrease compared to the previous years. The obtained data were not sufficiently explanatory of the reasons for that kind of deterioration and also not enough specific to define possible corrective measures. The aim of this work was to identify the patients’ perception regarding the hospitalization phases (from booking to follow up), taking into account five kind of operations and pathologies: 1st knee, shoulder and tibio-talar arthroscopy; 2nd hip and knee prosthesis; 3rd upper limb traumatology; 4th lower limb traumatology and 5th orthogeriatrics. Methods: The research is based on 29 narrations resulted from orthopedic patients between 30 and 80 days after the time of discharge. Results: The phases of care path which get the highest level of satisfaction are those concerning the operation and the outpatient visit followed by rehabilitation and assistive continuation. The most negative phase was the discharge but, also the needs assistance respond, the reception, the microclimate and the pre-operative medical assessment resulted contradictory. At the same time the three most significant areas of improvement were: the organization (critical for upper limb traumatology, arthroscopy and prosthetics); the health features (critical for the lower limb, orthogeriatrics and traumatology) and medical information (the most critical issues were those concerning the upper limb traumatology while the less were the orthogeriatrics ones). Conclusion: Use the narration to go into the orthopedic patient needs and perceptions allows to activate appropriate and customized organizational and professional changes in order to answer adequately to the patient’s needs to limit litigation and defence medicine expences. (www.actabiomedica.it)

Keywords: customer satisfaction, perceived quality, orthopedics traumatology, narratives, qualitative research

1. Introduction

Lombardy region uses a detection system to measure patients gratification in every Regional Health System Companies. This survey is carried out through anonymous questionnaires with yes-and-no questions, voluntarily filled in by patients, which note the level of gratification with the quality of services considering booking, reception, admission, stay, discharge and follow up. The same method is applied to outpatient and inpatient service (1).

These means, belonging to customer satisfaction, can hardly allow to trace back to the reasons for patients gratification or dissatisfaction.

Within the Social Territorial Health Authority of Mantua (ASST), the Department of Orthopedics and Traumatology regularly analyzes the outcomes of this kind of research. In the 2014–2016 three years period,
despite positive data, there was an important decrease of appreciation, especially in the patient discharge phase.

The Company Management and the Structure Management have considered that the data provided were not sufficiently explanatory about the reasons for the deterioration of appreciation and that those data were not enough to define possible actions for improvement.

For these reasons it was considered possible to get this information through a qualitative survey based on the experience intimate by the patients (2). The Narrative Medicine is indeed increasingly legitimizing itself as a tool to improve treatment and care relationships at both international and national level; so much that the World Health Organization (WHO) issued a document, in 2016, about the application of narrative methods and its implementation in the national health systems (3).

The guidelines for the application of Narrative Medicine in the clinical-care field were already set in Italy in 2014, developed and presented by the National Institute of Health.

These guidelines were directed to all the professionals working in the social-health field (4). The document aims to give voice to patients, family members, institutions, health workers to reach a greater sharing in the care process. It is a new epidemiological and organizational instrument able to overcome the limits of statistical quantification, too often inappropriately considered as “objective” (5, 6).

The qualitative research, by its nature less structured than quantitative research, allows to identify a series of nuances of a certain behavior or event that could not be understood differently. The narrative describe how people structure linguistically their world and reconstruct its meaning. As Bruner states, “the narrative device is particularly effective in the clarification and understanding of occurrences, events, experiences, human situations characterized by strong intentionality and in the focus of particularly intricate units of analysis, in which human subjects play a central role, with their stories, their cultures, ethics and values choices they bring; their intentions, motivations, choices and intersubjective relationships that interweave both on a cognitive/cultural level and on an emotional/relational level” (7).

2. Aims

Based on these premises, a qualitative and explorative research started by narrative interviews to patients admitted to the Department of Orthopedics and Traumatology in Mantua, in order to identify more details about satisfaction/dissatisfaction area of the path of care (booking, reception, admission, stay, discharge and follow up). The treatments provided by an Orthopedics and Traumatology Department are strongly different from each other as the patients affected who differ according to the age, grade of discomfort, grade of disability. Treating indifferently all hospitalized patients you cannot focus properly their needs and expectations.

We therefore choose to differentiate five types of operations: knee-shoulder and tibio-talar arthroscopy, prosthetic hip and knee, upper limb traumatology, lower limb traumatology and orthogeriatrics. The results obtained in each group of patients has been object of supplementary valuation, compared to the quantitative survey in order to identify specific improvement activities to share with the working group.

3. Method

3.1 Instruments

Unstructured interviews have been used, in order to let the patients free to focus both the positive and negative memories according to their sensitivity. A general topic of the interview was established (the quality perceived by patients compared to the hospitalization experience), however the content of the questions was not prefixed, it varied from participant to participant. The initial question was the following: “Tell me about your experience of hospitalization in Mantua Orthopedics Department”.

Other aspects, related to the general topic, spontaneously emerged during the telling. In this way, each interview content, duration and type of relationship established between the interviewer and the patient became unique (8). No doctors have been involved in the interviews.
3.2 Setting and recruitment of participants

The Public Information Office (URP) has made available its expertise to carry out the survey the research is based on. All the professional who take care of the patient, from the access to the emergency department to hospital discharge, have been involved in the research plan and in the results of evaluation, building a working team made by the medical director, the assistance coordinator, the secretary of department, the rehabilitation staff coordinator, an orthopedic First Aid nurse, a medical clinic nurse, a social health operator and a volunteer of the hospital volunteers association.

The URP operators, a nurse and a sociologist have managed all stages of the research, from the planning to the results evaluation. The interviewer has selected, from the department lists, the patients who has been discharged in the months prior to the start of the research (March-May 2017), based on their cognitive characteristics, age, gender and hospitalization modalities for each of the five identified areas (knee-shoulder and tibio-talar arthroscopy, Prosthetic hip and knee, Upper limb traumatology, Lower limb traumatology and Orthogeriatrics). The Press Office Communication and URP director has sent to the patients a letter explaining the aim of the survey and asking them for the consent to agree on time and the modalities of the interview.

The interviews were conducted between 30 and 80 days after the discharge; two to six interviews were carried out for each of the 5 identified surgical intervention areas:

1) Knee-shoulder and tibio-talar arthroscopy: at least two interviews for each joint, equally divided by gender, half under the age of 50 and half over;

2) Prosthetic: at least two interviews for the hip and two for the knee, equally divided by gender, half under the age of 60 and half older.

3) Upper limb traumatology, at least four interviews equally divided by limb and gender, half under the age of 50 and half over;

4) Lower limb traumatology, at least four interviews equally divided by gender, half with age less than 50 and half older;

5) Orthogeriatrics, at least four interviews equally divided by gender with age over 64.

3.3 Participants

Among the 61 people contacted by telephone, 29 patients (15 females and 14 males), aged between 19 and 84, joined the project.

3.4 Data analysis

All the interviews, with the prior consent, have been recorded and classified using progressive numbers from 1 to 29, fully transcribed and subdivided according to the five kinds of intervention taken into consideration. Despite the integral transcription represents the base for discussion about the results, a quantitative representation criterion has been elaborated, to identify a method of cataloging and assigning the testimonies to each specific category. For this purpose we adopted the improvement areas suggested by Avedis Donabedian (9), that are:

- **STRUT. Structural features** (need for masonry or infrastructural interventions);
- **STRUM. Instrumental features** (equipment or instrumentation);
- **ORG. Organizational features** (protocols, operative indications, shift management, methods of dispense meals, visiting and meeting hours);
- **REL. Relational features** (capability to establish a positive relationship between professionals and patients, create a climate of trust and emotional participation).

It’s been decided to add the following ones:

- **SAN. Sanitary features** (perception of treatment quality and effectiveness, positive pain management);
- **INFOM. Medical information** (speaking time with the medical staff, understanding received information);
- **INFOS. Sanitary information** (speaking with the sanitary staff, nurses, social-health operators and the physiotherapists, understanding received information).

The interviews were sent to all the group members, asking each one to identify the positive and negative aspects and to assign them into the specific phase in which they took place.
4. Results

The reports can be graphically summarized to provide indications in order to understand what is valuable for the patient. The qualitative data were then summarized through charts, keeping in mind the analysis of the original interview.

The general picture, which summarizes the five categories investigated all together, highlights the stages in which the positive and negative aspects are concentrated.

These data are fundamental to use adequate instruments to reinforce and stabilize the elements of excellence and to face effectively the critical issues emerged. Through a statistical normalization, the data have been expressed as a percentage in order to have the possibility to do comparisons among the patients, despite some stages are not present in each interviews.

The overall results obtained from the 29 interviews have particularly pointed out the following aspects.

Positive aspects: the excellences are mainly related to the operation and the operating room stay, the outpatient visit followed by rehabilitation and the medical care continuity service.

Both positive and negative aspects: the access at the emergency department is controversial, considering that the data are strongly conditioned by good or poor pain management.

Negative aspects: the discharge stage seems critical and the response to the need for assistance, the reception, and the pre-operative checks phases result as quite contradictory.

In relation to the reports analysis, set up by stages of care path and by category, patients belonging to the lower limb traumatology, in the pre-hospitalization stages do not declare negative elements but instead appreciate the management of pain at the emergency and accident department: “In the Emergency Room I felt pain, so they gave me a drug and a little pain passed after a while, then they put a bandage on me and the pain just completely has gone” (interview number 13, male, age 54).

The main issues are concentrated at the time of discharge because emerges the need by the patient to be more informed about the behaviors to adopt after the discharge: “They did not give me information on my conduct once at home” (interview number 10, female, age 60); “Concerning the information, they were not quite clear, I wanted a little more information, more detailed” (interview number 11, female, age 64).

Regarding the perception of care treatment quality, only one person among the five interviewed pointed
out some issues related to health aspects (discomfort, pain...), that probably caused a feeling of ineffectiveness in terms of care treatment quality. However he recognized the value of the operators: “I did not know that even in the fasting there weren’t any prescribed medicines, I discovered it later, because the hypertensive circumstances occurred... I complained about this heel ache for the whole period, there was nothing could relieve my pain: in fact there was a fold in the bandage... the staff of the department, brilliant in my opinion, are very kind and always ready to meet the user needs” (interview number 11, female, age 64).
An element not to be underestimated is related to the need of a good pain management; it was not always satisfied: “During the night the pain came, the first night it was very, very bad... the nurses were kind and careful” (interview number 13, male, age 54).

For upper limb traumatology patients, the negative elements are focused mainly on reception and less on postoperative observations and follow up. The emergency room access come out as positive about the relational and organizational aspects: “In the emergency room they immediately took charge of me, they were very kind; the nurse immediately gave me a tablet to calm down” (interview number 8, female, age 74)

Quite conflicting is the perception of care treatment quality, especially about the pain management: “I felt a lot of pain, but at that time I had no other alternatives” (interview number 9, female, age 35); “It was Sunday and I was sick, they immobilized the painful part of my body and later they gave me something to make the pain goes away” (interview number 7, male, age 26).

Regarding the follow-up, two patients out of the four interviewed stated that they would appreciated to be followed by the doctors who actually operated them: “I came twice and the second times I found a different person; I would have appreciated to meet the same one who operated me” (interview number 7, male, age 26); “During the medical check the doctor who visited me asked me if the doctor who had bad previously visited me noted or not that my issue was actually a bad fracture; then another doctor during a following medical check, told me that another problem was going to appear” (interview number 8, female, age 74).

The patients would like a continuity in the path of care; that means they would be guaranteed to be visited by the doctors who take charge of them in the first visit.

Another aspect emerged is the need to receive more medical information about their health condition, about any possible complications and finally about medical/health treatments: “The first doctor who visited me did not tell me that there was a bad fracture and that I had to be operated... At the time of my discharge, in the ward the doctor gave the letter to the nurse and she brought it to me in the room, I do not know if that was a usually routine for every patient. I read what was written in the letter, there were just two lines and I would have preferred the doctor come to me and explain them to me... we patients are not numbers” (interview number 8, female, age 74).

Regarding those patients undergoing hip and knee prosthesis, there are many areas of strong positivity, while the critical situations blows up at the time of discharge. There are also critical issues related to the need for assistance and pre-operative preparation. The

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**Graph 4.** Prosthetic hip and knee (7 interviews). Evaluation of experience in the different phases of care
expectation of more health and medical information is also important: “The information was very poor maybe they could tell me something more” (interview number 21, female, age 51). The information and the education provided by doctors and by nurses are also deficient at the time of discharge: “I don’t know who wrote the letter of my discharge because I didn’t see him, they put the letter on the stretcher and they explained almost nothing to me and anyway the content of the letter was quite a little compared with the intervention I had” (interview number 19, female, age 58); “I had the impression that the doctor needed beds for other patients, he explained to me the therapy and then he told me just to read the letter of discharge in which everything was written. They were hasty and I’d like there was someone to explain to me a little more about mobilization, what I could or mustn’t to do; this, was not done!” (interview number 21, female, age 51).

The presence of a physician is necessary for the patients, especially in the moments in which their state of health and the care information must be transmitted. Another relevant element is referred to the necessity of assistance: for three patients it wasn’t properly satisfied and, in their perception, it has been inappropriate. The whole matter can be probably traced back to the large number of patients situated in a structure with a complex system of welfare but nevertheless with reduced human, structural and instrumental resources available. “After ringing the bell, the answer was not always timely, when someone calls is because he needs” (interview number 21, female, age 51), “If someone is forced to bed, has more reason to ring the bell because he needs everything; some careful people (nurses) do know how to drive you, they know how to do their job, other were a little less careful, but I was still ill” (interview 18, female 63 years old). For some participants, the therapeutic schedule for pain management was not always efficacious: “I felt a lot of pain, probably the therapy I had was not enough” (interview number 19, female, age 58); “The first days after the surgery I felt a lot of pain” (interview number 17, male, age 43).

Compared to the report of patients who have suffered knee, shoulder and tibio-talar arthroscopy, the operation phase obtained an exceptional level of gratification: “The medical operation was my best memory, the staff was very fast, professional and very careful, finally they solved my issue. During and afterwards the operation they explained to me in detail what was happening, they even turned the screen to show me how the operation was proceeding. In that moment I felt myself very reassured, they always kept me update for the whole duration of the intervention” (interview number 23, male, age 44); “Availability and kindness, during the operation they were particularly careful. I was afraid and I expressed it; during the operation I was alert, meanwhile both the an-
esthetist and the surgeons talked to me, reassuring me; the nurses explained to me what they were doing, what was occurring and finally that everything was going fine” (interview number 22, female, age 26).

The critical issues were pointed out in the phase of preoperative medical preparation but mainly during the discharge; some problems also emerged in the follow up. At the time of the discharge, the participants expressed the need to receive clearer information on the rehabilitative path, for them it would be also desirable to have a largest presence of the doctor at the time of hospital resignation, to get eventually further information: “I did not even seen the doctor who resigned me, in the letter I received there was not written much, and more the nurse did not explain to me at all” (interview number 26, female, age 59); “The discharge transition was not very clear. I just found the paper with the letter of discharge with written on the kind of intervention has been made, but I still needed some information on the rehabilitation path, at that time the staff on duty was not able to provide the information I needed... They gave to me quite little information written on the discharge letter and concerning the access to the clinic they have not been able to readily answer me... For both the post-operative and resignation phases I did not have many points of reference” (interview number 24, male, age 54).

In relation to the quality of health services, the patients require more attention in the assessment and control of pain: “After the surgery I arrived home suffering a lot of pain, I think the therapy was not adequate... I spent a really terrible and painful night” (interview number 26, female, age 59); “The first night I was in pain so I asked for more painkillers” (interview number 22, female, age 26).

Orthogeriatric patients stated that the main problems they had were in the emergency department, during the admittance and significantly when they needed assistance. More rarely, the critical issues have emerged in the operative phase. In the emergency department the patients were often suffering pain from fracture for hours, with late and inadequate drug therapy: “I did not see the doctor... he had to come but there was some setback, I waited on the stretcher” (interview number 3, male, age 71); “I was in pain, I was screaming at the top of my lungs but they gave me nothing” (interview number 2, female, age 69); “All my body was painfully stretching, I felt an awful pain” (interview 4, male 75 years). Looking at the interview analysis, a similar situation also occurred during the hospital stay: three participants complained a poor identification and satisfaction of basic needs, probably due to the fact that elderly patients often present a complex clinical scenario and so it is necessary

Graph 6. Orthogeriatrics (5 interviews). Stages of experience commented on in the interviews
more time to understand the situation and assist them in a proper way... “I found myself with an heel problem... and now I’m troubling” (interview number 5, female, age 82), “I was all mixed up by pain, I called the nurses at night because I was in pain, I could not move, if I turned around I was hurting all over my body... the nurses were a bit annoyed because they had much to do....” (interview number 4, male, age 75).

On the contrary there was a positive perception of the reception, the preoperative assessment, the care continuity and the follow-up. “They came to tell me about rehabilitation, I asked for a x or y spot but instead just a k one spot was left free... I was happy” (interview number 5, female, age 82), “I went to a structure where rehabilitation was facilitated, I’m still doing it and it’s going pretty well, right now I can even bend the leg a little” (interview number 1, female, age 84); Now I’m coming here for the medical checks, the doctors are kind and they say how the things are going... it should be fine. Hopefully everything is fine, the personnel is kind and looks after you” (interview number 1, female, age 84).

Referring to the representation of the critical points from Donabedian (8), the three most significant critical point are:

Graph 7. Critical aspect presented by area and category

Graph 8. Positive aspect presented by area and category
Organization: this is the most cited category, and represents the main complain in upper limb, arthroscopy and orthogeriatrics issue;

Health features: this aspect has been particularly underlined and it reveals itself as the most critical aspect for upper limb trauma, orthogeriatrics and lower limb trauma;

Medical information: the critical issues vary significantly from one to another disease category, the best is in the upper limb and the worse in orthogeriatrics.

The references to structural and instrumental aspects were almost nil. Regarding the relational features, which are determined by the individual attitude, the positive aspects predominate. As for health information, it’s presumable that the low critical issues detected is due to the fact that elderly people don’t ask for many information to the health and rehabilitation personnel.

The positive aspects, normalized by area and category, were much higher than the critical ones: they focus on organization for orthogeriatrics and followed by prosthetics, lower limb traumatology and arthroscopy. For what concern the health elements, upper and lower limb traumatology have the greatest positivity, while the relational aspect appears to have the better results for prosthetic and upper limb traumatology.

Discussion

The research carried out has made available a series of elements that will be used by the working team to develop action plans aimed to improve the quality of care considering the following elements:

The interviews give voice to those who have been cured.

The patients showed their curiosity and interest during the research expressing their satisfaction for being involved in something useful to improve the care service;

The areas which has been identified can be considered quality factors to monitor and to evaluate as positive or negative;

In a perspective of quality perception, is fundamental to identify the factors of excellence and the prevalent critical issues;

The research format, carried out by different kind of operations, showed how the same care phase can get very different evaluations in relation to the type of treatment and the type of patient. The different kinds of operations are, in fact, directed to different targets, according to age, lifestyle and expectations about the recovering of the original functionality.

The knowledge of this kind of needs allowed the Orthopedics Team to customize the approach to the patient.

The analysis developed allows the following general considerations:

The positive elements widely prevail over the critical issues: this doesn’t mean that they can erase the negative ones in an overall final evaluation;

Inpatient expectations differ according to individual and general variables: among these the pathology causing hospitalization and the patient’s age are particularly significant;

The structural and instrumental elements, strictly related to financial resources, don’t seem to be of particularly important to patients;

Despite the professional autonomy and the specific expertise area of many health professionals, patients expect to talk mainly to the doctor, concerning any kind of information could be provided and in any case, the doctors rotation is poorly understood.

More worrying is the prevail of some negative aspects related to the lack of information requested to medical care personnel: from the perspective of the patients, in some cases, it seems that these figures renounce to a professional specificity now widely defined and codified;

Regarding the assessment and the pain management, the patients have made requests that in some cases were not objectively compatible. Considering that this issue has received many critical feedback, it will be necessary appropriate health actions (many of which are already foreseen, as the Hospital without Pain Project) based on the patient’s needs;

The organization and assistance criteria appear to be the most critical issues, in particular at the time of discharge, so far as some assistance needs were required, also during the preoperative assessments and the reception.

The need for correct information by the doctors
or by the personnel, especially at the time of discharge, has been pointed out as the most negative aspect.

**Conclusion**

The researchers, and even more that professionals interested in measuring the quality of their performance, have to consider the utilization of instruments able to gather patients’ opinions.

Strategies, such as an active observation, the recording of certain events, the introduction of narrative medicine techniques and facilities, up to the involvement of general medicine doctor as experts in a path of hospitalization and rehabilitation, could represent a possible change strategy. Moreover it should be considered that the presence of increasingly exigent patients, need to be faced developing instruments able to estimate the quality of the assistance starting from the citizens experiences.

All these activities have the aim of building a new partnership between professionals and the patient, with the perspective to co-develop individual medical care pathways (10).

As known, the instrument currently in use in the health system may not be exhaustive compared to the situation underlined, mainly because some objective limits occur; they can for example lead the person to create in his mind some opinions that do not allow free expression. In this research, the narration is proposed as an effective method to clarify those areas of suffering in the patient’s path; the narration has also the possibility to integrate the information provided by the questionnaires, the tests, and the measurement scale; it was alike able to capture all the aspects of the situation (11, 12).

**Conflict of interest:** None to declare

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