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## THERAPEUTIC COMMUNICATION AND THE COURSE OF THE POSTOPERATIVE PERIOD

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**stress**  
**therapeutic communication**  
**endoprosthetics**

### Summary

**Objectives:** *The aim of the study was to assess the effects of therapeutic communication with the patient in a stressful medical situation related to a major surgical procedure.*

**Methods:** *The study included 60 patients of the orthopedic and trauma ward who underwent knee endoprosthesis implantation (51 women and 9 men). A total of 30 people were qualified to the experimental group and 30 to the control group. In the experimental group, in addition to the standard procedure, an additional, supportive interview with each patient by an experienced nurse took place. The control group was prepared in a standard way. The study used the analysis of medical records and a questionnaire created by the authors.*

**Results:** *Better therapeutic effects were found when the therapeutic treatment was combined with communication containing informational and emotional support and empathy. In the experimental group, a decrease in the use of analgesics and sedatives and a faster recovery were observed. Significantly better well-being, greater satisfaction with nursing care and a higher overall assessment of the ward were also observed.*

**Conclusions:** *The skillful combination of proper medical management with therapeutically-oriented communication containing a significant degree of emotional support and empathy improves the course of the postoperative period in patients undergoing orthopedic surgery. It is advisable to conduct and develop training for medical staff aimed at improving therapeutic contact with patients.*

### Introduction

Interest in health-related quality of life [1-3] has directed practitioners' attention to the sphere of patients' subjective experiences and the importance of their interactions with staff, ultimately influencing the improvement of the quality of care offered [4, 5]. The psychological sphere is important in any illness, but in situations in which additional stress factors arise, such as significant progress of the disease or the need to undergo surgery, it plays a special role. Among the important factors of a psychological nature that determine

the level of resistance to stress, including the stress of illness and treatment, are mentioned above all such constellations of psychological traits and attitudes as personal resistance [6], a sense of coherence [7], or resilience [8]. These types of personal psychic resources are counted among the so-called meta-resources, determining in difficult situations the level and ability to use the other resources an individual possesses, and in total the effectiveness of coping with stress [9].

Regardless of the personality traits of patients and the resources they possess, in the process of generating emotional responses to difficult situations, the way of communication between doctors/nurses and patients is also of great importance. Their behavior in the context of a particular situation can have a significant therapeutic impact [10, 11], or, as unfortunately sometimes happens, a traumatic one [12, 13].

In the current study, we focus on the therapeutic aspect of medical staff attitude, emphasizing the important role of communication that allows to establish a supportive therapeutic relationship with the patient. The therapeutic relationship is formed through such ways of communicating with the patient that provide him with the information he needs, as well as provide a sense of security and inspire trust. Moreover, it is important to strive for cooperation aimed at achieving the planned diagnostic and therapeutic results [10, 11]. Therapeutic communication is therefore not an independent method of treatment as is the case with psychotherapy, for example, but an adjunct to medical treatment by psychological means [10, 14].

An important element of therapeutic communication in the discussed approach is, apart from building a therapeutic relationship, the strengthening of the patient's psychological resources, including a sense of support received, self-esteem, hope, belief in treatment and healers, motivation to heal, humor, and the ability to safely relieve negative feelings. These resources help reduce stress resulting from a difficult situation and situational threats that arise [11, 14, 15].

A very important role in therapeutic communication is played by the interpersonal skills of doctors and nurses, among which the literature [16-21] particularly emphasizes empathy and the related skill of active listening. Staff empathy provides the patient with emotional support and opportunities to safely relieve negative feelings caused by the illness and invasive treatments. In the present study, we adopt M.H. Davis' [22] understanding of empathy as a complex affective-cognitive response that includes an emotional component related to a certain sensitivity to others' experiences and a cognitive component related to the ability to take another person's perspective on a given situation.

Currently, the need for proper communication both within the therapeutic team and in the direct patient-medical staff relationship is increasingly being articulated [17, 19-21, 23-25]. It seems that in practice this topic still lags behind the spectacular achievements of medical technology. Meanwhile, its neglect may reduce the quality and effects of the treatment offered and is the main source of complaints and criticisms directed by patients and their family members towards medical staff [26, 27].

The above comments regarding the importance of therapeutic communication with the patient in treatment, care and rehabilitation are, as noted in the introduction, particularly

applicable to the care of patients undergoing surgical procedures. The latter can be a source of particular stress. However, there is still a lack of research that allows for an objective assessment of the beneficial effects of medical procedures that include intentional and controlled elements of therapeutic communication.

The current study is an example of the few studies of this type. It concerns the impact of therapeutic communication on the course of the postoperative period in patients undergoing knee arthroplasty. This treatment is known to improve the quality of life of patients with serious degenerative changes, reduce pain and improve the ability to move freely. At the same time, like any serious surgical procedure, it carries a certain risk of possible complications, which is usually a source of stress for the patient.

### **Purpose of research**

The general aim of the study was to assess the effects of therapeutic communication in a stressful medical situation related to a major surgical procedure. The specific aim was to evaluate these effects in relation to knee replacement surgery, which is a serious and relatively frequently performed surgical procedure. Like many other surgical procedures, it is associated with stress for the patient, who, along with the hope that accompanies it, usually greets the need to perform it with great anxiety. This is because the success of the operation directly determines the ability to move, relief in pain and the quality of further life.

When starting the research, it was assumed that the possibility of reducing this stress through therapeutic communication, and thus achieving psychological improvement in measurable effects of the treatment used, is an important argument for searching for ways to combine psychological influences with “hard” medical practice, especially with surgical treatment.

### **Study group and method<sup>1</sup>**

The study included 60 patients of the Department of Orthopedics and Trauma Surgery at the S. Żeromski Specialist Hospital in Cracow, of which 30 people were qualified to the study (experimental) group and 30 to the control group. The study used purposive sampling and the inclusion criteria entailed: admission of the patient to the ward with the intention of performing a planned knee replacement surgery, good contact with the patient and the patient’s informed consent to participate in the study. Patients were selected into groups in such a way that both groups were equivalent in terms of most of the controlled sociodemographic parameters. The research was carried out in accordance with the procedure approved by the Bioethics Committee of the Jagiellonian University Medical College, no.

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<sup>1)</sup> The presented study is a fragment of larger, yet unpublished studies, including a group of patients prepared for hip joint endoprosthesis implantation.

122.6120.61.2015. The mean age of patients in the study group was 68 years, and in the control group 69 years ( $t = -0.528$ ;  $p = 0.599$ ). The study group consisted of 25 women and 5 men, the control group included 26 women and 4 men. In both groups, secondary and vocational education predominated in a similar proportion, 22 people were married and 8 people were single.

In the study group, in addition to routine procedures, on the eve of the procedure there was an additional meeting between an experienced nurse and each patient. This nurse had previously received training in the application of the principles of therapeutic communication during classes on the basics of psychotherapy at the master's degree nursing studies at the Jagiellonian University Medical College. During this additional meeting, the nurse conducted an explanatory and supportive conversation with the patient. During the conversation, she asked about the current symptoms and course of the disease, their expectations, and encouraged patients to express their emotions and thoughts related to the planned procedure and to ask questions. She provided necessary explanations and information in response to the patient's questions, showing interest and concern, and intensively using the method of active listening and helping to relieve negative emotions [28]. Thus, she created conditions conducive to the development of a therapeutic relationship, reducing the experienced stress and strengthening positive feelings. This conversation lasted approximately 45 minutes.

The control group was prepared for surgery in a standard way.

The study used the analysis of medical records, i.e., the patient's medical history, an individual medical order card, a fever card, an observation card, a pain treatment card and a nursing care plan. In addition, an original survey questionnaire was used, containing 9 closed questions allowing for the assessment of well-being, nursing care and the overall assessment of the hospital ward. The survey included data on the patient's age, gender, education and marital status.

The course of the postoperative period after knee arthroplasty was characterized by objective and subjective indicators. The objective indicators include:

- length of hospital stay counted in days from the day of admission to the day of discharge from the Department of Orthopedics and Trauma Surgery,
- number of doses of painkillers and sleeping pills administered,
- number of postoperative complications (urinary tract infection, temperature increase above 38°C, chest pain),
- rehabilitation time (given in days after the surgery) needed to gain the ability to self-service in bed (the patient is able to independently perform self-service activities with provided aids, i.e., washing, putting in a basin, eating meals),
- rehabilitation time (given in days after the surgery) needed to gain the ability to self-care outside of bed (moving on flat surfaces using elbow crutches or a walker, getting in and out of bed independently, using the toilet independently).

The subjective indicators include:

- self-assessment of the patient's mental well-being (survey) – on the 2nd and 4th day after surgery and on the day of discharge from the ward,

- assessment of the quality of nursing care by the patient (survey) on the day of discharge from the ward,
- overall assessment of the ward by the patient (survey) on the day of discharge from the ward.

## Results

Table 1. Duration of hospital stay of patients in the study and control groups

Group	Duration of hospital stay (in days)		Student's t-test
	mean	SD	
Study group	8.13	0.86	t = - 1.827, p > 0.05
Control group	8.67	1.35	

The obtained results indicate that additional mental preparation of patients for surgery did not significantly affect the duration of their stay in the hospital, although a certain tendency (statistically insignificant) to shorten this time in the experimental group by half a day on average can be observed.

Table 2. Total consumption of sleeping pills and analgesics in the study and control groups\*

Hypnotics and analgesics combined	Study group		Control group		Chi <sup>2</sup> test
	N	%	N	%	
Low dose	14	46.67%	11	36.67%	Chi <sup>2</sup> = 6.122 p < 0.05
Average dose	13	43.33%	8	26.67%	
High dose	3	10.00%	11	36.67%	

\*A low dose of all sleeping pills and analgesics was considered to be a number of doses below M for the control group - ½ SD. A high dose was considered to be the number of doses above M for the control group + ½ SD. The average dose was taken as the number of doses between the high and low doses determined in this way. It was M = 23.83, SD = 9.35.

As shown in Table 2, as many as 11 patients in the control group received a high dose of sleeping pills and analgesics compared to the experimental group, in which only 3 people received a high dose of drugs. Both groups differed in the level of consumed sleeping pills and analgesics in a statistically significant way ( $\chi^2 = 6.12$ ,  $p < 0.05$ ). Therefore, the experimental group in which patients had the opportunity to have an additional conversation with a nurse conducted according to principles of therapeutic communication, achieved a lower rate of consumption of sleeping pills and painkillers.

Table 3. Frequency of complications in the study and control groups

All complications combined	Study group		Control group		Chi <sup>2</sup> test
	N	%	N	%	
Complications	4	13.33%	7	23.33%	Chi <sup>2</sup> =1.002 p = 0.317
No complications	26	86.67%	23	76.67%	

The results presented in Table 3 show that the psychological preparation of patients for surgery did not significantly affect the number of complications after knee replacement surgery. Although the overall number of complications in the experimental group is slightly lower than in the control group, presumably due to the relatively rare occurrence of complications in both groups, this difference did not reach the level of statistical significance.

The process of recovery after surgery is illustrated in Tables 4 and 5.

Table 4. Achieving patient recovery in the bed\*

Rehabilitation index I	Study group		Control group		Chi <sup>2</sup> test
	N	%	N	%	
High	6	20.00%	2	6.67%	Chi <sup>2</sup> = 3.308 p = 0.191
Average	22	73.33%	23	76.67%	
Low	2	6.67%	5	16.67%	

\*The rehabilitation rate was considered to be: high – achieving independence on the 1st day after surgery, average – achieving recovery on days 2 and 3 after surgery, and low – achieving recovery on day 4 and more after surgery.

As shown by the data presented in Table 4, the differences in performance within the bed did not reach the level of statistical significance. Nevertheless, as in the case of the duration of hospital stay, there is a certain tendency in favor of patients from the experimental group (in the experimental group, 6 people achieved a high rate of recovery, while in the control group there were only 2 people).

Table 5. Achieving patient recovery out of the bed\*

Rehabilitation index II	Study group		Control group		Chi <sup>2</sup> test
	N	%	N	%	
High	8	26.67%	1	3.33%	Chi <sup>2</sup> =10.531 p < 0.005
Average	22	73.33%	24	80.00%	
Low	0	0.00%	5	16.67%	

\* The rehabilitation rate was considered high as achieving independence on the 3rd day after surgery, as average – achieving recovery on days 4 and 5 after surgery, and as low – achieving recovery on day 6 and more after surgery.

The obtained data included in Table 5 indicate that the recovery of mobility outside the bed in the experimental group progressed much better than in the control group. Patients

achieved the ability to move independently faster (in the experimental group, 8 people achieved full independence of movement already on the 3rd day after the procedure, and in the control group only one person).

Table 6. Self-assessment of well-being after surgery

Self-assessment of well-being on second day after the procedure	Study group		Control group		Chi <sup>2</sup> test
	N	%	N	%	
Bad or rather bad	2	6.67%	19	63.33	Chi <sup>2</sup> =21.452 p < 0.001
Good or rather good	22	73.33%	9	30.00%	
Definitely good	6	20.00%	2	6.67%	
Self-assessment of well-being on fourth day after the procedure	Study group		Control group		Chi <sup>2</sup> test
	N	%	N	%	
Bad or rather bad	1	3.33%	6	20.00%	Chi <sup>2</sup> =13.053 p < 0.001
Good or rather good	11	36.67%	19	63.33%	
Definitely good	18	60.00%	5	16.67%	
Self-assessment of well-being on the day of discharge from hospital	Study group		Control group		Chi <sup>2</sup> test
	N	%	N	%	
Bad or rather bad	0	0.00%	3	10.00%	Chi <sup>2</sup> =22.714 p < 0.001
Good or rather good	3	10.00%	18	60.00%	
Definitely good	27	90.00%	9	30.00%	

As can be seen from the data in Table 6, in all three cases of well-being measurement, i.e., both on the second and fourth day and on the day of discharge, patients from the experimental group presented a clearly better well-being, and the differences between the groups turned out to be statistically highly significant ( $p < 0.001$ ). The biggest difference occurred on the day of discharge, where as many as 90% of patients from the experimental group reported feeling definitely well, while in the control group only 30% declared such well-being.

The relationship between patients' psychological preparation for surgery and their satisfaction with nursing care is illustrated in Table 7.

Table 7. Nurses' kindness as assessed by patients

Nurses' kindness rating	Study group		Control group		Chi <sup>2</sup> test
	N	%	N	%	
Hard to say	0	0.00%	3	10.00%	Chi <sup>2</sup> =20.362 p < 0.001
Rather satisfactory	1	3.33%	14	46.67%	
Definitely satisfactory	29	96.67%	13	43.33%	

As indicated by the analysis of the data in the table above, both groups differ significantly in their assessment of the nurses' kindness. The experimental group gave nurses higher ratings than the control group, and the differences were highly statistically significant. It should be noted that these assessments were made in relation to the entire nursing staff of the ward, although the planned and extensive therapeutic conversation with patients was conducted by only one of the nurses.

Table 8. Assessment of patients' satisfaction with explanations and information provided by nurses

Evaluation of explanations and information provided to patients	Study group		Control group		Chi <sup>2</sup> test
	N	%	N	%	
Hard to say	0	0.00%	9	30.00%	Chi <sup>2</sup> =30.6 p < 0.001
Rather satisfactory	2	6.67%	14	46.67%	
Definitely satisfactory	28	93.33%	7	23.33%	

As Table 8 illustrates, equally significant differences appeared in the assessment of explanations and information provided to patients by nursing staff: the experimental group gave much higher ratings in this matter than the control group.

The last indicator compared in the study was the general opinion about the ward where the patients stayed.

Table 9. Overall assessment of the department

Overall assessment of the hospital ward	Study group		Control group		Chi <sup>2</sup> test
	N	%	N	%	
Average	1	3.33%	7	23.33%	Chi <sup>2</sup> =24.334 p < 0.001
Rather high	3	10.00%	16	53.33%	
Definitely high	26	86.67%	7	23.33%	

As illustrated by the results in Table 9, the overall assessment of the department also differed significantly in both groups of patients compared. The experimental group gave significantly higher ratings than the control group, and the difference was statistically highly significant.

## Discussion

The presented results of our own research provide strong evidence for much better effects of medical treatment when it combines medical effectiveness with the appropriate attitude adopted by medical staff in contact with the patient. This attitude is expressed in communicating with the patient in a therapeutic way, containing a large dose of informational and emotional support and empathy. The relatively similar duration of



hospital stay of patients from the experimental group, which received an additional “dose” of such support, and patients from the control group, which did not receive it, can be explained both by the need to follow formal procedures related to discharge after knee replacement surgery, and perhaps, many other organizational factors, uncontrolled in the study, ultimately influencing the length of stay. Similarly, the lack of significant differences between the compared groups in the number of complications indicates that complications occurring immediately after the procedure are probably mainly determined by biomedical factors.

When it comes to regaining mobility in bed immediately after the procedure, it also seems that biomedical factors may play a decisive role here. In turn, the results indicating a significant decrease in patients’ demand for painkillers and sedatives in the group receiving greater psychological support convincingly show that this support can be translated into measurable clinical effects, which are also important in the economic dimension. The situation is similar with significantly better results of recovery and regaining independence in moving outside the bed in the experimental group. Here, the differences between both compared groups turned out to be even more pronounced (high level of statistical significance).

When discussing this part of the results, it should be stated that they provide strong evidence that the emotional support that patients received from medical staff was reflected in at least some of the objective indicators of the course of the postoperative period, i.e., the level of patients’ demand for painkillers and sleeping pills and on the pace of recovery after surgery. The mechanism of the lower need for medications and the observed faster recovery in the group that received additional support can be explained both by the previously mentioned reduction of stress thanks to the support received and the opportunity to express negative feelings, as well as a higher level of positive emotions emerging thanks to a safe and trusting therapeutic relationship. This relationship was carefully built by the nurse in contact with the patients of the experimental group (as described in the research procedure).

This interpretation is confirmed by subsequent results indicating a significantly better well-being (positive emotions) in the group of patients who received appropriate emotional support. This group also found a higher level of satisfaction with the nursing care received and a significantly higher rating of the entire ward where the procedure was performed. The differences between the groups are even greater than in the case of objective indicators of the course of the postoperative period. Also, the well-being of patients from the study group was much better at all times when it was measured, i.e., on the second and fourth day after the procedure, as well as on the day of discharge (statistically highly significant differences,  $p < 0.001$ ). This part of the results turns out to be consistent with the results of research also conducted in other areas of medicine, which focused on assessing the subjective quality of life of patients [29, 30]. It is also consistent with research indicating the beneficial effect of positive emotions on the somatic condition of the body [31, 32].

It can be assumed that the therapeutic way of communicating with patients has a significant impact on the quality of life, satisfaction with medical care and treatment outcomes

not only in orthopedic procedures, but also in other areas of medical practice [26, 33, 34]. However, full verification of this assumption requires further, well-documented research projects.

The relatively small number of subjects (30 people in the study group and 30 in the control group) can be considered a weakness of the study. Nevertheless, as already mentioned, relatively few studies of a similar nature conducted so far provide quite similar results [35, 36]. In order to verify and confirm the obtained results, it would be advisable to repeat the described research procedure in slightly larger groups of patients, again demonstrating a clear impact of the approach of medical staff in contact with patients, both on the objective results of their treatment and recovery, as well as on the subjective assessment of the received treatment and care.

It is somewhat surprising that there is little research based on experimental methods in the area of clinical communication. It is therefore difficult to compare the research presented in this study with the work of other authors, especially since the communication interventions described in other works are of a very diverse nature, differ in terms of methodological correctness and usually contain various components that are difficult to isolate [37]. Moreover, most studies refer to meta-analyses of the literature [26, 38], and in the case of clinical studies, they are based on the self-assessments of the examined patients, usually collected retrospectively. Qualitative methods [39] or correlational analyses of data obtained through questionnaires [32] are also often used. One of the reasons for this state of affairs is probably, on the one hand, difficulties in conducting experimental psychological research in clinical settings, and, on the other hand, the widely accepted view that supportive contacts generally have a beneficial effect on health [26]. However, we believe that objective confirmation of this otherwise known truth is still of great importance in the so-called evidence-based medicine.

Finally, we would like to emphasize that the only controlled element that differed the therapeutic treatment of patients from both compared groups was the additional activity of only one properly trained nurse. It can therefore be assumed that appropriate training of all staff in therapeutically-oriented communication with patients would bring much better results.

Empirical confirmation of the thesis about the positive and, what is more, measurable importance of therapeutic communication implies the need to develop a training program to improve the therapeutic method of communication of medical staff. This type of training, it seems, should include both appropriate preparation of students of medical universities [40], as well as postgraduate courses addressed to doctors, nurses and midwives, physiotherapists and paramedics, aimed at improving clinical interpersonal skills and sensitizing the importance of relationships with patients (e.g., the so-called Balint Group).

### Conclusions

1. Skillfully combining proper medical procedures with therapeutically-oriented communication containing a significant degree of emotional support and empathy improves the course of the postoperative period in patients undergoing orthopedic surgery.
2. It is advisable to develop training for medical staff at pre- and postgraduate levels, aimed at improving therapeutic communication with the patient.

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