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Nomothetic EORTC IN-PATSAT 32 and idiographic GAS questionnaires in the assessment of surgical treatment in patients with endometrial cancer

Kwestionariusze nomotetyczny EORTC IN-PATSAT 32 i idiograficzny GAS w ocenie leczenia operacyjnego przez pacjentki z rakiem endometrium

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Abstract

Introduction: Identification and attainment of the goals of cancer patients is an important aspect of personalized treatment. **Aim of the study:** The study aimed to assess the following aspects in patients treated surgically for endometrial cancer: 1) level of satisfaction with hospitalization using the EORTC IN-PATSAT32 nomothetic questionnaire; 2) degree of goals attainment using the Goal Attainment Scaling (GAS) idiographic questionnaire; 3) correlation between these evaluation methods. **Material and method:** The study included 123 patients with endometrial cancer (FIGO I–II) treated surgically at the Department of Obstetrics and Gynecology in Rzeszów in 2012–2014. EORTC IN-PATSAT32 and GAS questionnaires were used. The collected material was analyzed using the Statistica 10.0 software. **Results:** The overall level of satisfaction measured with the IN-PATSAT32 scale was 72.2 ± 20.5. The technical skills were rated the highest in nurses (74.5 ± 17.6) and doctors (69.3 ± 17.8), while the lowest score was awarded for hospital assess (54.7 ± 23.3). The overall satisfaction with care was 72.2 ± 20.5. In the personalized GAS scale, the patients listed individual expectations before the surgery, assigning ranks to their importance. For most of them, it was a very high (A) or high (B) rank. The patients assigned the highest ranks to quick mobilization, success of the operation, and willingness to be healthy. The average value of the level of goal attainment on the discharge date was 63.7 ± 9.4 points. Statistically significant correlations between the questionnaires were found for the level of goal attainment and the assessment of various aspects of hospital care. **Conclusions:** The study proved that the EORTC IN-PATSAT32 questionnaire was correlated with GAS questionnaire, and additionally provided knowledge about individual goals of care and the degree of their attainment. The use of nomothetic and idiographic tools gives wider possibilities in the planning and implementation of personalized care.

Keywords: endometrial cancer, satisfaction, expectations

Streszczenie

Wstęp: Identyfikacja i realizacja oczekiwań chorych onkologicznie pacjentek jest ważnym aspektem leczenia spersonalizowanego. **Cel:** Celem badania była ocena przez pacjentki leczone operacyjnie z powodu raka endometrium: 1) poziomu satysfakcji z pobytu w szpitalu przy zastosowaniu kwestionariusza nomotetycznego EORTC IN-PATSAT32; 2) stopnia realizacji oczekiwań przy zastosowaniu kwestionariusza idiograficznego GAS (Goal Attainment Scaling); 3) ocena korelacji między tymi metodami oceny. **Materiał i metoda:** Badaniem objęto 123 pacjentki z rakiem endometrium (FIGO I–II) leczone operacyjnie w Klinice Ginekologii i Położnictwa w Rzeszowie w latach 2012–2014. Zastosowano kwestionariusze grupy EORTC IN-PATSAT32 i GAS. Analizę zebranego materiału przeprowadzono w oparciu o program Statistica 10.0. **Wyniki:** Ogólny poziom zadowolenia, mierzony skalą IN-PATSAT32, wyniósł 72,2 ± 20,5. Najwyżej zostały ocenione umiejętności techniczne pielęgniarek (74,5 ± 17,6) i lekarzy (69,3 ± 17,8), najniżej zaś dostępność szpitala (54,7 ± 23,3).

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Ogólna satysfakcja z opieki wyniosła 72,2 ± 20,5. W spersonalizowanej skali GAS pacjentki wymieniły przed operacją indywidualne oczekiwania, przypisując stopień ich ważności. Dla większości był to bardzo wysoki (A) lub wysoki stopień (B). Najwyższe rangi pacjentki przydzielały szybkiemu uruchomieniu, pomyślności operacji i chęci bycia zdrowym. Średnia wartość poziomu spełnienia oczekiwań w dniu wypisu wyniosła 63,7 ± 9,4 punktu. Znamienne statystycznie korelacje między kwestionariuszami dotyczyły poziomu spełnienia oczekiwań i oceny różnych aspektów opieki szpitalnej. **Wnioski:** Badanie wykazało, że kwestionariusz EORTC IN-PATSAT32 korelował z kwestionariuszem GAS, a dodatkowo dawał wiedzę na temat indywidualnych celów opieki i stopnia ich spełnienia. Zastosowanie narzędzi nomotetycznych i idiograficznych daje szersze możliwości w planowaniu i realizacji spersonalizowanej opieki.

Słowa kluczowe: rak endometrium, satysfakcja, oczekiwania

INTRODUCTION

Self-defined goals verbalized by patients provide the necessary information to improve healthcare, enhance service delivery, and increase patients' quality of life. Several scales for assessing satisfaction with care are available in the literature, most of them nomothetic. An interesting method of idiographic measurement is Goal Attainment Scaling (GAS) which, unlike psychometric measures, enables patients to select goals according to their individual needs. The individualization of goals is based on the patient's preferences, and the number of specific goals is multiple, as the patient sets five goals measured according to their ranks[1]. Initially, the scale was described in the 1960s by Kiresuk and Sherman in the context of mental health, then it was used in many fields of medicine[2]. The idiographic GAS tool enables the description of treatment goals which may be an important determinant of therapy for patients. The high sensitivity of the idiographic tool results from the fact that patient indicates specific problems using individual language which is meaningful for him/her, instead of generalizations used in nomothetic tools[3].

The European Organization for Research and Treatment of Cancer (EORTC), which created the so-called EORTC QLQ-C30 core questionnaire for evaluating the quality of life[4], has also developed a questionnaire to measure satisfaction in healthcare facilities – EORTC IN-PATSAT32.

The level of quality of medical services provided depends on many factors including the organization of the healthcare facility, and information and technical skills of the staff[5]. Patient satisfaction with medical care is related to what the patient expects, and what is actually provided.

A wider use of different questionnaires which are, by definition, focused on the assessment of satisfaction with care, especially among gynecologic oncological patients, reveals the actual level of patient satisfaction with the treatment received and the fulfilment of their personal expectations related to the healthcare.

AIM OF THE STUDY

The study aimed to assess a number of aspects in patients treated surgically for endometrial cancer, including:
1. their level of satisfaction with hospitalization using the EORTC IN-PATSAT32 nomothetic questionnaire;
2. the degree of patients' goal attainment using the GAS idiographic questionnaire;
3. the correlation between these two evaluation methods.

MATERIAL AND METHOD

The study was conducted among 123 patients with FIGO (International Federation of Gynecology and Obstetrics)

IN-PATSAT32 measure	$\bar{x}$	Median	s	Min.	Max.
Doctor interpersonal skills	60.9	58.3	21.6	0.0	100.0
Doctor technical skills	69.3	66.7	17.8	33.3	100.0
Doctor information provision	63.5	58.3	19.6	8.3	100.0
Doctor availability	62.4	50.0	20.8	12.5	100.0
Nurse interpersonal skills	69.0	75.0	19.4	25.0	100.0
Nurse technical skills	74.5	75.0	17.6	41.7	100.0
Nurse information provision	62.9	58.3	23.4	8.3	100.0
Nurse availability	71.0	75.0	19.6	25.0	100.0
Other hospital staff interpersonal skills	64.0	58.3	20.1	25.0	100.0
Waiting times	63.4	62.5	20.5	25.0	100.0
Hospital access	54.7	50.0	23.3	0.0	100.0
Information exchange	65.2	75.0	21.9	25.0	100.0
Hospital comfort	58.9	50.0	24.0	0.0	100.0
General satisfaction	72.2	75.0	20.5	25.0	100.0

Tab. 1. Satisfaction with medical care measured by the EORTC IN-PATSAT32 questionnaire

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Goals for the entire hospital stay	n	$\bar{x}$
Wake up	15	1.80
Uneventful course of the operation	18	1.67
Professionalism of the staff	20	1.60
Staff patience	5	1.60
Friendly staff	9	1.56
Good care	37	1.51
Kind staff	8	1.50
Postoperative pain relief	57	1.33
Successful operation	47	1.21
Competent staff	7	1.14
Nice atmosphere	8	1.13
Fast mobilization	42	1.10
Quick discharge	39	1.10
Good meals	11	1.09
Short waiting time for the procedure	12	1.00
Information about the course of the operation	9	0.78
Quick recovery	31	0.77
Information about health condition	21	0.76
Successful outcome of treatment – hospitalization	5	0.60
Contact with a gynecologist	5	0.60
Be healthy	37	0.57
Moral support	8	0.50
Honest information about the disease	8	0.38
Further functioning and normal life	9	0.33
Recovery of mental and physical strength	6	−0.17
Smaller rooms	7	−1.00
The sum exceeds 100% because patients could indicate several (5) types of expectations.		

Tab. 2. Most common goals of endometrial cancer patients (N = 123) regarding the course of the entire hospitalization

I and II stage endometrial cancer operated at the Department of Obstetrics and Gynecology of the Clinical Provincial Hospital in Rzeszów in the years 2012–2014. The study was approved by the Bioethics Committee at the University of Rzeszów (Resolution No. 13/12/2012) and the EORTC Group.

The EORTC IN-PATSAT32 nomothetic questionnaire and the idiographic GAS were used for the study.

The EORTC IN-PATSAT32 questionnaire is composed of 32 items grouped in 3 domains. The inpatients assess interpersonal and technical skills, information transfer, and the availability of both doctors and nurses. The last part of the questionnaire is related to the assessment of the remaining hospital staff, waiting times, hospital assess, information flow within the team, conditions, and overall satisfaction. All responses are rated on a five-point scale (poor, fair, good, very good, excellent) and transformed linearly on a scale ranging from 0 to 100. The higher the score, the higher the level of patient satisfaction[6].

Goal Attainment Scaling is a method of scoring the extent to which the patient's individual goals have been achieved during therapy. Before starting treatment, the patient individually identifies the most important goals for him/

her, and additionally indicates their importance. The ranks of the above-mentioned expectations are assigned by the patients according to the following scale: A – very important, B – important, C – quite important, D – almost indifferent. The final stage of the study is to define the attainment of specific goals. The results are then standardized to allow statistical analysis. All goals are rated on a five-point scale from −2 to +2. Reaching the expected level is zero. If the achieved outcome is better than expected, this is scored at +1, and if it is much more than expected, it is rated as +2. The outcome less than expected is −1, and much less than expected is −2. A score of 50 means a result for a person who assessed all outcomes as zero, scores over 50 mean the fulfilment of most expectations, and a value below 50 – on the contrary[2].

The study design included:
- stage 1 (before surgery) – formulating 5 individual expectations and assigning them a level of importance using the GAS scale;
- stage 2 (last day of hospitalization) – assessment of satisfaction with hospital care (EORTC IN-PATSAT32 questionnaire) and evaluation of the attainment of previously indicated individual expectations (GAS scale).

Statistical analysis

The statistical analysis was carried out using the Statistica 10 software at the Department of Quantitative Methods in Economics of the Rzeszów University of Technology. The correlations between the two numerical features were examined with the Spearman's rank correlation coefficient.

RESULTS

The study involved 123 women with endometrial cancer. The age of patients in the study group was over 62 years old, with a high body mass index (BMI) amounting to 31.5 kg/m². Most of the patients were diagnosed with cancer stage IA and IB in FIGO. In the study group of women, there were more city dwellers (52.8%) than rural residents (47.2%). Patients with secondary education dominated – 39%, and married women constituted a large percentage (62.6%). Comorbidities such as hypertension and diabetes were common in the study group. The most widely used method of surgical treatment was hysterectomy with lymphadenectomy (65.9%).

During the examination, the patients completed the basic EORTC QLQ-C30 version 3.0 questionnaire containing scales and elements related to the quality of life.

The overall quality of life of the patients was 55 ± 22. A detailed analysis of the study on the quality of life conducted in the same study group is presented in the paper *Ocena poradnictwa przedoperacyjnego i jakości życia dokonywana przez chore na raka endometrium / Assessment of preoperative counselling and quality of life of patients with endometrial cancer*[7].

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Goal attainment index	$\bar{x}$	Me	s	Min.	Max.
	4.54	5	3.16	−6	10
Goal Attainment Scaling (GAS)	$\bar{x}$	Me	s	Min.	Max.
	63.7	65.0	9.4	31.8	80.2

Tab. 3. Goal attainment index and level in the GAS scale in the group of patients with endometrial cancer (N = 123)

The level of patients' satisfaction with care was assessed on the day of discharge after surgery using the EORTC IN-PATSAT32 questionnaire. The technical skills of nurses (74.5 ± 17.6) and doctors (69.3 ± 17.8) were rated the highest, and the hospital availability was rated the lowest (54.7 ± 23.3) – unlike the transfer of information in the team, which was assessed as the best (65.2 ± 21.9), as well as information provided by doctors (63.5 ± 19.6) and midwives (62.9 ± 23.4). The overall satisfaction with care was (72.2 ± 20.5) (Tab. 1).

The women surveyed listed their individual goals on the GAS scale. The individual goals of patients treated for endometrial cancer were reported on the day of admission to the hospital. The respondents indicated their expectations regarding the hospital stay (related both to the functioning of the hospital and the course and effects of treatment).

Each of them could indicate five most important goals from their perspective. After the surgery, they rated the fulfilment of their goals on a scale from −2 to +2. The collective table below shows the level of goal attainment reported by at least five people. These goals are sorted in descending order by the level of their attainment (Tab. 2).

Among the dozens of the most frequently reported goals, two [concerning smaller rooms (−1.0) and the recovery of mental and physical strength (−0.17)] were unfulfilled to the greatest extent. It is worth paying attention to the high ratings assigned to such goals as staff professionalism (1.60), patience (1.60), friendliness (1.56), good care (1.51), and kindness (1.50).

The average value obtained for the level of goal attainment was 63.7 ± 9.4 points, exceeding the normative value of 50. The lowest score was 31.8 points, representing individuals for whom goals were rather not met (Tab. 3).

Above are the ranks of the goals indicated by the entire group of patients. The goals are listed in seven groups and ranked by the number of responses. For most goals, a very high or high degree of importance (A or B) applies. The most important ranks were assigned by the patients to quick mobilization (A-16%), successful operation (A-36%), willingness to be healthy (A-29%), postoperative pain relief (B-25%), nursing

Expectations	Variants of answers								Not indicated		n	%	$\bar{x}$
	Very important (A)		Important (B)		Quite important (C)		Rather indifferent (D)						
Goals regarding hospitalization													
Fast mobilization	20	16%	19	15%	2	2%	1	1%	81	66%	42	34.1%	1.10
Quick discharge	17	14%	18	15%	3	2%	1	1%	84	68%	39	31.7%	1.10
Short waiting time for the procedure	6	5%	6	5%	0	0%	0	0%	111	90%	12	9.8%	1.00
Goals regarding functioning after surgery													
Successful operation	44	36%	3	2%	0	0%	0	0%	76	62%	47	32.2	1.21
Quick recovery	26	21%	5	4%	0	0%	0	0%	92	75%	31	25.2	0.77
Further functioning and normal life	8	7%	1	1%	0	0%	0	0%	114	93%	9	7.3	0.33
Goals related to the condition													
Be healthy	36	29%	0	0%	0	0%	1	1%	86	70%	37	30.1	0.57
Uneventful course of the operation	15	12%	3	2%	0	0%	0	0%	105	85%	18	14.6	1.67
Goals related to pain and anesthesia													
Postoperative pain relief	23	19%	31	25%	3	2%	0	0%	66	54%	57	46.3	1.33
Wake up	12	10%	3	2%	0	0%	0	0%	108	88%	15	12.2	1.80
Goals related to nursing care													
Good care	19	15%	17	14%	1	1%	0	0%	86	70%	37	30.1	1.51
Professionalism of the staff	8	7%	11	9%	1	1%	0	0%	103	84%	20	16.3	1.60
Goals related to doctor's care													
Competent staff	3	2%	4	3%	0	0%	0	0%	116	94%	7	5.7	1.14
Contact with a gynecologist	4	3%	1	1%	0	0%	0	0%	118	96%	5	4.1	0.60
Goals related to information and education													
Information about health condition	7	6%	11	9%	2	2%	1	1%	102	83%	21	17.1	0.76
Honest information about the disease	3	2%	5	4%	0	0%	0	0%	115	93%	9	7.3	0.78

Tab. 4. Patient goals and their importance before surgery for endometrial cancer (N = 123) during hospitalization, grouped according to seven classifications

care (A-15%), contact with a doctor (A-3%) and information on the health condition (B-9%) (Tab. 4).

The next step was to check the correlation between the questionnaires used in the study (EORTC IN-PATSAT32 and GAS).

Statistically significant correlations were found between the level of goal attainment and the assessment of various aspects of hospital care. Higher levels of goal attainment were associated with greater satisfaction with hospital care (Tab. 5).

DISCUSSION

The above study presents the analysis of satisfaction with hospital care using the nomothetic EORTC IN-PATSAT32 questionnaire and the attainment of individual goals using the idiographic GAS questionnaire facilitating personalized treatment among patients operated for endometrial cancer. Patient-centered care taking into account individualized goals may improve therapeutic efficacy. The personalized GAS method does not rely on the classic approach of applying one general method of care to all patients, but rather adjusting medical measures not only to the condition but also to the patient. The advantage of personalizing goals is that inappropriate, ineffective and undesirable actions for the person under medical care are minimized. In view of individual differences, age, comorbidities, emotional state, physical condition, disease advancement and many other factors that differentiate patients, the application of the personalized GAS method is useful in determining targeted care. According to the GAS guidelines, the content of the goals may differ from patient to patient, but their achievement is measured in a standardized manner that is consistent. The method is patient-centered because the selected expectations are related to the patient. GAS is a relative measure, as there is no checkpoint for comparison. One of the main problems hindering the use of the method is the lack of validation[8]. A three-stage study conducted at intervals of 0–6–12 weeks with the questionnaire (GAS-Hem) for a patient with hemophilia showed little correlation with measures of the quality of life (QoL SF-36) [9]. Based on the GAS method developed by Kiresuk, the GOALed application has been developed to enable the creation, assessment, interpretation, and storage of targets on an electronic device (smartphone). The application presents a graphical image of the interpretation of results not only for doctors but also patients and caregivers. The creation of these goals should comply with the SMART criteria (Specific, Measurable, Agreed upon, Realistic, Time-related)[10]. Currently, GAS is used in rehabilitation, but also in pediatrics, urology, orthopedics, gynecology, and oncology[8,11–14]. Goal Attainment Scaling has also been used in a clinical trial of mastocytosis, a rare dermatological disease[15]. Ayvat et al., in a study of 24 patients with cerebellar ataxia, assessed their individual expectations regarding physiotherapy, and developed a treatment plan on this basis. The main goal of the patient was to be able to climb the stairs without losing balance.

Assessment of hospital care IN-PATSAT32	GAS
Doctor interpersonal skills	0.17 (p = 0.0648)
Doctor technical skills	0.23 (p = 0.0123*)
Doctor information provision	0.16 (p = 0.0719)
Doctor availability	0.14 (p = 0.1244)
Nurse interpersonal skills	0.18 (p = 0.0425*)
Nurse technical skills	0.19 (p = 0.0360*)
Nurse information provision	0.23 (p = 0.0095**)
Nurse availability	0.14 (p = 0.1183)
Other hospital staff interpersonal skills	0.22 (p = 0.0158*)
Waiting times	0.24 (p = 0.0078**)
Hospital access	0.18 (p = 0.0448*)
Information exchange	0.12 (p = 0.1834)
Hospital comfort	0.08 (p = 0.3992)
General satisfaction	0.19 (p = 0.0399*)

Spearman's rank correlation coefficient $|R| < 0.3$ – lack of correlation; $0.3 \leq |R| < 0.5$ – weak correlation; $0.5 \leq |R| < 0.7$ – moderate correlation; $0.7 \leq |R| < 0.9$ – strong correlation; $0.9 \leq |R| < 1$ – very strong correlation; $|R| = 1$ – ideal correlation. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Tab. 5. Scale components of the IN-PATSAT32 questionnaire and the level of goal attainment in the study group (N = 123)

In devising the treatment plan for patients, the results of the studies were used to guide clinical decision-making. The mean values were 49.15 ± 10.72. The authors of the study noticed that the use of GAS to assess the set treatment goals increased its effectiveness[16]. The authors of a pilot study in patients with lower urinary tract symptoms (LUTS) drew similar conclusions. Problems reported by patients as very important, i.e. urinary incontinence – 45%, nocturia – 40% and pollakiuria – 26%, were helpful in identifying symptoms and implementing therapeutic measures[11]. The use of the GAS has also been found to be helpful for clinicians setting treatment priorities and rehabilitation programs for patients with leg spasticity[17], and in selecting pediatric treatment. According to McMorran et al., a 45-person group of children with cerebral palsy treated surgically to improve gait achieved a greater degree of self-defined goal attainment regarding the posture of the lower limbs, reduction of pain, and stability compared to the non-operative group, whose aim was stability, posture of the lower limbs, and gait (56.3 vs. 47.1)[18]. Janse et al. assessed goal setting and attainment at two time intervals in the first and seventh month from the diagnosis in colorectal cancer patients. In both assessments, as the cancer progressed, the patients reported a lower degree of self-defined goal attainment, and adapted their goals to the changing health circumstances[19]. In another study, women treated for pelvic organ prolapse evaluated their goal attainment after three months. Postoperative patients rated the goal attainment higher than those in the pessary group[13]. The study shows that the most important goals to be achieved among women with endometrial

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cancer at the perioperative treatment stage turned out to be the success of the surgical procedure and the desire to be healthy. The expectations and the degree of their implementation were established by researchers among the patients of the Gynecological and Oncological Rehabilitation Clinic. Women with endometrial cancer more often achieved their goals compared to women with ovarian and cervical cancers[20]. Our study shows that the overall satisfaction with hospital care was rated as 72.2 ± 20.5. The level of satisfaction is confirmed by the validation studies of the IN-PATSAT32 tool by Avery et al. in patients with cancer of the digestive system: 72.5 ± 25.0[21], with another study in Mexican patients with multiple myeloma: 72.30 ± 24.51[22]. Also, in Bulgarian cancer patients it was 88.52 ± 17.07[23], in patients with pancreatic cancer in the preoperative 74.3 ± 10.7 and postoperative period 61.9 ± 12.4[24] as well as with another study carried out at the same Clinic in a group of 80 patients operated for endometrial cancer[14]. The patients rated the hospital access the lowest (54.7), which is consistent with the results obtained by Arora et al., where in a group of 52 patients operated on in the gynecological oncology ward in Sydney, the greatest dissatisfaction was related to hospital access[25]. Our study showed that the highest satisfaction among patients was attributed to nurses and their technical and interpersonal skills. These findings are consistent with the results reported by Kullberg et al., in a group of 104 patients hospitalized in oncology departments[26], and another study of 153 Portuguese women who underwent mastectomy[27], also showing great satisfaction with the quality of nursing care. Consistent results of the best satisfaction with medical services were obtained among patients with colorectal cancer of the public ward in Mexico, who gave the highest ratings to physicians, their availability, and technical and interpersonal skills[28]. In a prospective cohort study of 150 patients divided into two groups of women who were operated on or treated with chemotherapy at the Rome Gynecological Oncology Hospital showed better satisfaction with hospital care in the group where staff had previously been trained in gynecologic oncology. The authors of the study emphasize the benefits of training, which positively affect the satisfaction levels among patients[29]. Satisfaction researchers comparing two groups of patients with endometrial ($n = 106$) and cervical cancer ($n = 37$) who underwent sentinel node mapping using two techniques, see a better quality of doctor, nurse and hospital services using green ICG or blue dye compared to patients using the combined Tc99m radiocolloid technique and blue dye[30]. High ratings awarded by patients in the field of healthcare may indicate a high level of benefits of the surveyed institutions. In the process of organizing healthcare, it is useful to present the individual needs of cancer patients.

CONCLUSIONS

1. The GAS method as an idiographic tool allows individualization of care based on setting individual goals and assessing the degree of their attainment.

2. The overall level of satisfaction with treatment and care in the study group was quite high.

3. The analysis of the correlation between the questionnaires revealed a significant positive correlation between the level of goal attainment and the overall assessment of hospital treatment.

Conflict of interest

The authors declare no conflict of interest.

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