

ORIGINAL ARTICLE

Goal setting in cancer rehabilitation and relation to quality of life among women with gynaecological cancer

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ABSTRACT

Background. Rehabilitation should be integrated in the routine cancer care of women treated for gynaecological cancers. Goal setting is expected to facilitate the process through patient involvement and motivation. Our knowledge about goal setting in cancer rehabilitation is, however, sparse.

Objectives. This study aimed to: 1) analyse rehabilitation goals defined during hospital-based rehabilitation in patients with gynaecological cancer, with regard to number, category, changes over time, and differences between cancer diagnosis, and 2) analyse the association between health-related quality of life and goals defined for rehabilitation.

Material and methods. Consecutively, all patients treated surgically for endometrial, ovarian, and cervical cancer were invited for hospital-based rehabilitation at Odense University Hospital, Denmark, including two sessions at the hospital one and three months following surgery and two phone calls for follow-up. Questionnaires from the EORTC were used to prepare patients and facilitate individual goal setting with definitions of up to three goals. All goals were grouped into six categories.

Results. A total of 151 (63%) patients accepted the invitation including 50 endometrial, 65 ovarian, and 36 cervical cancers patients. All patients defined goals at the first session, 76.4% defined three goals, 21.9% two, and 1.6% had one goal. Physical goals decreased over time but were the most frequent at both sessions (98% and 89%). At both sessions, the social and emotional categories were the second and third most frequent among patients with endometrial and ovarian cancer. Sexual issues were dominant among the cervical cancer patients. Regression analysis showed significant association between quality of life scores and goal setting within the social and emotional domains.

Conclusion. Goal setting seemed feasible in all problem areas. The EORTC questionnaires were helpful during the process although expectations of the sub-scores being predictive of which areas to address were not convincing.

Cancer rehabilitation aims to improve the quality of life following cancer. The World Health Organisation recommends that rehabilitation includes: “identification of a person’s problems and needs, relating the problems to relevant factors of the person and the environment, defining rehabilitation goals, planning and implementing the measures, and assessing the effects” [1]. Goal setting facilitates behavioural changes through patient involvement and motivation [2], and the patients experienced the ability to manage more activities of daily living after the rehabilitation period [3]. It is recommended that goal setting

is patient-centered and oriented to the patients’ complaints and needs. However, research has shown discrepancy between goals framed by patients and goals reported by health professionals in discharge letters [4]. Identification of individual needs followed by the definition of motivated goals is thus essential to cancer rehabilitation. Several studies have evaluated the problems and needs of different cancer populations [5–7]. Focus on the patient’s needs gives a systematic uncovering of the symptoms, increase the patient’s attention to the presence of symptoms [8] and awareness of own upcoming needs [9]. Known areas of

goal-related rehabilitation are cardiac, diabetes, musculoskeletal pain, and neuro-rehabilitation [2,10–12]. However, little is known about goal setting in cancer rehabilitation [13–15]. Ideally, goals should mirror problems, motivation for changes, and quality of life perceived by the individual patient.

Studies have shown that females with gynaecological cancer experience a wide range of physical, psychological, social [16,17], cognitive, existential, or sexual problems following treatment [18]. Some are specific to the cancer type or treatment while others are general to having a life-threatening disease [19]. Concerns about relapse and spreading of the cancer, uncertainty about the future, psychological issues related to sexuality, and infertility are often reported as well as needs for (more) information [18,20]. Women, especially the ones treated for ovarian cancer, experience various and concurrent symptoms due to late and long-term treatment effects [16].

Research on rehabilitation, including different types of cancer, suggests that the patients' rehabilitation should be integrated in routine cancer care based on individual needs assessment and goal setting [14,21]. Interventions aiming to support these women should therefore be planned and organised in a way to support this [7]. Knowledge of goals, women perceive as most important, and their association to quality of life is important to future planning of rehabilitation for patients with gynaecological cancer.

Our primary hypothesis was that the quality of life questionnaires of the European Organisation for Research and Treatment of Cancer (EORTC) mirror goals for rehabilitation among women with gynaecological cancer and they may therefore be a useful tool in goal setting during routine cancer care. It is hypothesised that the goals are more frequent in areas with low quality of life scores.

The aims of the present study were: 1) to analyse rehabilitation goals defined during hospital-based rehabilitation in patients with gynaecological cancer, with regard to number, category, changes over time, and differences between cancer diagnoses; and 2) to analyse the association between health-related quality of life and goals defined for rehabilitation.

Material and methods

The study was a longitudinal observational study of women with gynaecological cancer participating in a hospital-based rehabilitation programme designed for this patient group. The programme included two rehabilitation sessions one and three months after discharge following surgery. Each rehabilitation session was preceded by self-assessment of a quality of life questionnaire. The hospital sessions were based

on these questionnaires and focused on physical and psychosocial functioning, individual needs, motivation, and formulation of up to three rehabilitation goals. At the end of each session, a photocopy of these goals was given to the women. Goals were classified by a nurse within six categories: physical, emotional, social, existential, cognitive, and sexual functioning. By appreciative inquiry, the self-defined rehabilitation needs and goals were addressed and supported [22]. One month after each session, the woman was contacted by phone by the study nurse. Women were asked to score their own achievement of the goals and were motivated to maintain active.

Study participants

All patients who were surgically treated for primary endometrial, ovarian, or cervical cancer at the Department of Gynaecology, Odense University Hospital in the period May 2012 to July 2013 were approached for inclusion. Further inclusion criteria were: communication in the Danish language, age between 20 and 75 years and no dementia. From May to July 2014, we did not invite women ($n = 11$) who gave consent to participate in another study. Our department offers treatment to all citizens referred from two counties: Region of Southern Denmark (1.201.419 habitants) and Region Zealand (816.359 habitants).

Procedure for inclusion

At the pre-surgery outpatient consultation, written project information was given to all women scheduled for surgery for endometrial, ovarian, or cervical cancer. Before discharge after surgery, additional verbal information was given and written consent was given by participants.

Preparation of staff and development of the rehabilitation programme

The two rehabilitation sessions were carried out by one of six nurses who had a minimum of four years of experience with gynaecological cancer care. As part of the pre-study preparation, they were lectured about the SMART criterion for goal definition [23] which is an acronym for Specific, Measurable, Achievable, Relevant, and Timed [23,24]. Each nurse accomplished 3–5 rehabilitation sessions which were recorded and used for individual feedback regarding goal setting. This feedback was given by the first author KAH, who also organised group sessions giving room for discussion of the usefulness of the SMART criteria, e.g. women's capability to make the goal measurable. Furthermore, there was focus

on consistency of the patient information, individuality of patient motivation, and the usefulness of motivating patients to set up the rehabilitation goals. Some goals did not necessarily derived from cancer or treatment-related problems. Our pre-study attempts to use the SMART criterion [23] showed that it was difficult for both patients and nurses to build all elements into the goal setting. Most of the goals were *specific* as they were action-oriented, *relevant* as it was suggested by the women herself and *timed* by being related to the time of the follow-up call. Physical goals or goals with defined action were more measurable than goals of psychological aspects without clear activity as, e.g. “get better control of negative thoughts on cancer relapse.” However, at the end of the pre-study period, we had to agree that in the clinical context it was not feasible to fulfil all SMART criteria.

To support communication, goal setting, and motivate patients to actively address their goals, we based the interventions on the appreciative inquiry model containing the four elements: discovery, dream, design, and destiny [25]. The discovery phase focuses on “what gives life meaning” which is, appreciating the best of what has happened. The dream phase envisions “what might be,” the design phase co-constructs “what should be,” and the destiny focuses on “what will be,” the envisioned future [25]. The dialogue and reflection on patient’s problems, wishes, or challenges were key components in the nurse–patient contact. Despite the fact that the theory was developed with reference to organisational changes, the appreciative approach showed to be valuable support for goal setting in gynaecological cancer patients during the rehabilitation programme.

The rehabilitation programme

A week before each session, all women were mailed a questionnaire including the Danish version of the generic scale EORTC QLQ-C30 and the disease-specific module (EORTC QLQ-EN24 for endometrial cancer, QLQ-OV28 for ovarian cancer or QLQ-CX24 for cervical cancer) to complete at home and bring along. The questionnaire was supposed to prepare the patient for the rehabilitation session by making her consider personal problems and challenges.

Each rehabilitation session lasted for one hour. The women were asked to summarise current problems and to formulate goals in whichever of the categories she wanted. If she formulated more than three goals, she was asked to prioritise three. No ranking of the goals was conducted.

In cases of need for further follow-up on specific problems, the rehabilitation summary was forwarded

by the study nurse to the general practitioner. The general practitioner takes care of many general psychosocial issues and also refers to, e.g. a psychologist and community-based physical training. In case there was a need for a gynaecologic examination this was done at the gynaecological ward immediately by a gynaecologist.

No other rehabilitation intervention was systematically offered by the department during the study period. Usual discharge letters was sent to the general practitioner by the physician following surgery. This communication seldom addressed rehabilitation issues.

The socio-demographic variables were retrieved by the baseline questionnaires and included age, education, employment, and marital status (Table I).

The quality of life assessment

The QLQ-C30 is a generic questionnaire including 30 items describing global health status using five functioning scales: physical, role, emotional, social, and cognitive functioning; three symptoms scales: fatigue, pain, nausea/vomiting; and six single items regarding dyspnoea, insomnia, appetite loss, constipation, diarrhoea, and financial difficulties. The first five items refer to the present and the following 25 items to experiences during the past week. The items are scored on a four-point Likert scale ranging from 1 “not at all” to 4 “very much” except global health/quality of life scales which range from 1 “very poor” to 7 “excellent.” The raw scores are transformed into a linear score ranging from 0 to 100. High scores represent healthy functioning in the functioning scales and global health status, but a high level of problems for the symptom scales and single symptom items [26].

For all disease-specific modules, the items are scored on a Likert scale ranging from 1 “not at all” to 4 “very much.” The endometrial module QLQ-EN24 contains three items assessing sexual activity, interest, and enjoyment and 10 symptoms scales/items covering lymphoedema, urological and gastrointestinal symptoms, body image, sexual/vaginal problems, pain in back and pelvis, tingling/numbness, muscular pain, hair loss, and taste change.

The ovarian module QLQ-OV28 assesses abdominal/gastrointestinal symptoms, peripheral neuropathy, other chemotherapy side effects, hormonal/menopausal symptoms, body image, attitude to disease/treatment, and sexual functioning.

The cervical module QLQ-CX24 has three scales: symptom experience, body image, and sexual/vaginal functioning, and six single items (lymphoedema, peripheral neuropathy, menopausal symptoms, and sexual worry).

Table I. Socio-demographic baseline data for women enrolled in the rehabilitation programme.

	Endometrial N = 50	Ovarian N = 65	Cervical N = 36	p-value
Age, mean (CI), years	62.5 (60.4–64.5)	60.2 (57.9–62.6)	45.3 (41.9–48.8)	
Age, median	63	62	45	
	N (%)	N (%)	N (%)	
Age groups				<0.001
20–40	1 (2)	2 (3)	15 (42)	
41–60	16 (32)	27 (42)	18 (50)	
61–75	33 (66)	36 (55)	3 (8)	
Education				0.693
Basic	13 (26)	10 (15)	7 (19)	
High school	21 (42)	31 (48)	18 (50)	
Higher education	16 (32)	24 (37)	11 (31)	
Employment status				<0.001
In employment	17 (34)	22 (34)	20 (56)	
Unemployed	4 (8)	5 (8)	12 (33)	
Retired	29 (58)	37 (57)	4 (11)	
Missing		1 (1)		
Marital status				0.571
Single ^a	9 (18)	17 (26)	7 (19)	
Married or cohabitant	41 (82)	48 (74)	29 (81)	

^a(widowed, divorced or never married). p-values in bold indicate a significant difference between the groups. CI, 95% confidence interval.

The scoring approach is in principal identical to that used for the QLQ-C30 [26]. Higher scores represent a greater degree of symptoms except for the sexual functioning of the QLQ-OV28 and sexual activity and enjoyment in the QLQ-CX24) [27,28].

Other variables

The Danish national general cancer guideline for rehabilitation [29] has suggested categorisation of rehabilitation within the following areas: physical- and social functioning, emotional well being, existential/spiritual issues, cognitive functioning, and sexuality and body image. The patients' goal setting was intended to be categorised into these categories by the nurse at the end of each session. When the categorisation was missing, two authors (KAH and DGH) independently scored the goal, and in the 24 cases of discrepancy, consensus was reached by discussion.

The association between the patient's goal setting within different categories and their self-assessed QoL was calculated for selected scales in the QLQ-C30 and the disease-specific modules: global health status, physical, emotional, social, and cognitive functioning scales besides sexual interest, activity, enjoyment, body image, and sexual/vaginal symptoms scale from the QLQ-EN24, and the body image symptoms scale and sexuality functioning scale from the QLQ-OV28. For the QLQ-CX24, the associa-

tions were calculated for body image, sexual activity, enjoyment, vaginal problems, and sexual worries (Table II).

Data handling and statistical analysis

The analyses were performed with STATA statistical software/data analysis version 13. All data were examined using a visual record verification check of the data [30].

Missing values were handled in accordance with the EORTC guideline recommendations [26], i.e. in case of sub-scales where less than half of the items were missing, the mean value of the responses given in that sub-scale was imputed. By definition, no single item measures were imputed.

Descriptive statistics and Fischer's exact test were used for socio-demographic data. We calculated the number of women who formulated at least one goal within the six categories, at the first and second session, respectively. To analyse the difference between cancer types in the proportion of women who formulated at least one goal within a category, we used the Fisher's exact test. Further, to analyse the difference from first to second session in the proportion of women who defined a goal, we used the Wilcoxon-signed rank test.

Logistic regression analysis was performed to estimate the association between QoL dimensions and presence of corresponding goals [odds ratio

Table II. Health-related quality of life at 1st and 2nd rehabilitation session according to EORTC QLQ-C30 and the disease-specific questionnaires for endometrial, ovarian and cervical cancer.

Measure	1 st session		2 nd session		Wilcoxon signed-rank test	
	N	Mean (CI)	N	Mean (CI)	p-value	(n pair)
C30: all patients						
Global health score	123	63.0 (59.2–66.8)	112	71.9 (67.7–76.0)	<0.001	(112)
Physical functioning	123	76.2 (72.9–79.5)	112	86.4 (83.1–89.7)	<0.001	(112)
Emotional functioning	123	78.2 (74.5–81.8)	112	83.8 (80.0–87.6)	= 0.005	(112)
Cognitive functioning	123	83.1 (79.4–86.7)	112	86.9 (83.1–90.8)	= 0.116	(112)
Social functioning	122	82.4 (78.0–86.7)	112	87.2 (83.1–91.3)	= 0.028	(111)
EN24: endometrial cancer						
Sexual interest (F)	39	12.8 (6.0–19.7)	39	34.2 (25.4–42.9)	<0.001	(37)
Sexual activity (F)	37	6.3 (1.9–10.7)	38	31.6 (23.5–39.6)	<0.001	(35)
Sexual enjoyment (F)	5	46.7 (–0.5–93.9)	22	63.6 (52.5–74.7)	= 0.157	(5)
Poor body image (S)	42	8.7 (3.6–13.9)	42	5.6 (1.2–9.9)	= 0.516	(41)
Sexual/vaginal (S)	4	15.3 (–6.8–37.4)	22	18.7 (9.5–27.9)	= 0.577	(4)
Physical functioning	43	82.7 (77.2–88.2)	42	91.9 (87.4–96.4)	<0.001	(42)
Emotional functioning	43	83.9 (79.3–88.6)	42	89.5 (85.1–93.9)	= 0.059	(42)
Cognitive functioning	43	87.6 (82.8–92.4)	42	90.9 (86.5–95.3)	= 0.183	(42)
Social functioning	43	92.6 (86.8–98.5)	42	96.8 (93.4–100.2)	= 0.14 2	(42)
OV28: ovarian cancer						
Body image (S)	47	67.4 (58.1–76.6)	42	75.8 (67.6–84.0)	= 0.500	(41)
Sexuality (F)	47	91.1 (85.4–96.8)	42	79.8 (71.9–87.7)	<0.001	(42)
Physical functioning	48	72.0 (66.8–77.1)	43	81.2 (75.8–86.7)	<0.001	(43)
Emotional functioning	48	74.8 (68.4–81.2)	43	81.5 (74.9–88.1)	= 0.062	(43)
Cognitive functioning	48	81.3 (75.6–86.9)	43	83.7 (76.6–90.9)	= 0.449	(43)
Social functioning	47	73.4 (65.7–81.2)	43	80.2 (73.3–87.1)	= 0.148	(42)
CX24: cervical cancer						
Body image (S)	32	76.0 (68.5–83.6)	27	80.2 (72.0–88.5)	= 0.082	(27)
Sexual activity (F)	32	8.3 (2.2–14.4)	27	27.2 (16.2–38.2)	= 0.002	(27)
Sexual enjoyment (F)	7	71.4 (50.2–92.7)	17	76.5 (60.7–92.2)	= 0.048	(7)
Sexual/vaginal (S)	6	84.7 (67.7–101.7)	17	81.9 (73.0–90.7)	= 0.340	(6)
Sexual worry (S)	31	39.8 (25.2–54.4)	26	38.5 (26.0–50.9)	= 0.481	(26)
Physical functioning	32	73.9 (67.6–80.1)	27	86.2 (78.9–93.5)	<0.001	(27)
Emotional functioning	32	75.5 (67.9–83.2)	27	78.7 (69.9–87.5)	= 0.244	(27)
Cognitive functioning	32	79.7 (70.6–88.8)	27	85.8 (77.0–94.6)	= 0.506	(27)
Social functioning	32	81.8 (74.3–89.2)	27	83.3 (73.1–93.6)	= 0.360	(27)

p-value < 0.05 is highlighted in bold. F, function scale. A high score represents a high level of functioning; S, symptom scale. A high score represents a high level of problems; EORTC QLQ-EN24, disease-specific module for endometrial cancer; EORTC QLQ-OV28, disease-specific module for ovarian cancer; EORTC QLQ-CX24, disease-specific module for cervical cancer.

(ORs) with 95% confidence interval]. Multivariate analyses were used to adjust for potential confounders including age within the disease-specific scales and types of cancer for the physical, social, emotional cognitive, and global health scales. These analyses were carried out for each session separately. All tests were two-sided and $p < 0.05$ was considered statistically significant.

Ethics

Ethical approval for the study was obtained from The Regional Scientific Ethical Committee (reference no.S-20120003). The study was reported to the Danish Data Protection Agency (reference no. 2014-41-3473) and ClinicalTrials.gov (NCT01638741).

Results

Participants

During the inclusion period, 380 patients were treated surgically for newly diagnosed gynaecological cancer (Figure 1). In total, 94 (25%) women did not fulfil the inclusion criteria and 93 (38.1%) of 244 eligible women refused to participate in the rehabilitation programme, which gave a study sample of 151 (63.1%) women. The three diagnoses were represented by 50 with endometrial cancer, 65 with ovarian and 36 with cervical cancer (Table I). Among women who attended the rehabilitation ($n = 123$), 43 had endometrial, 48 ovarian, and 32 cervical cancer.

Participants with cervical cancer were younger ($p < 0.001$) than both patients with endometrial and

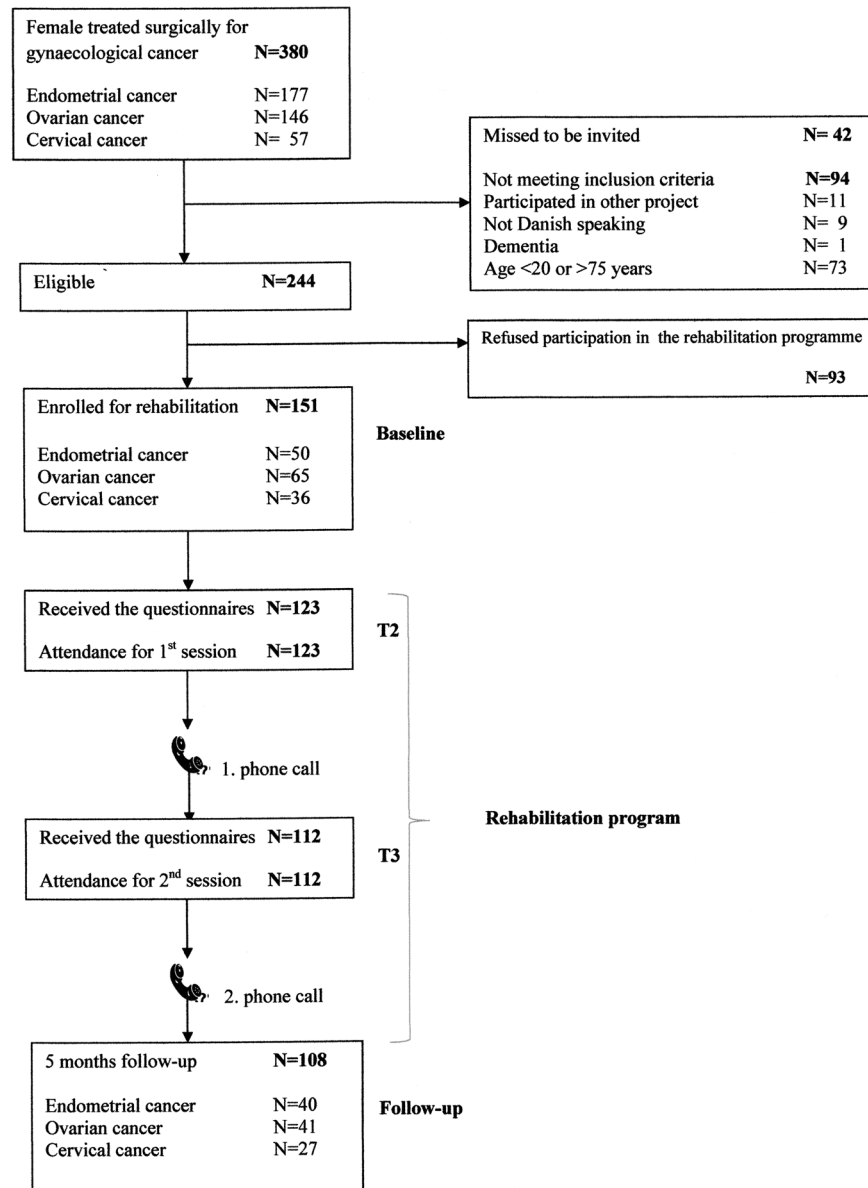


Figure 1. Flowchart for the study.

ovarian cancer (Table I). The majority of women with endometrial and ovarian cancer were retired, whereas the majority of women with cervical cancer were employed. Table II shows significant improvement regarding several quality of life aspects over time. The overall global health/quality of life score of the QLQ-C30 increased from 63.0 to 71.9 ($p < 0.001$).

Dropouts

In total, 123 of 151 eligible patients (81.5%) attended the first session, and 112 attended the second rehabilitation session (74.2%) (Figure 1). The main reasons for non-attendance were: 1) deprived of strength caused by adjuvant therapy; 2) not overcoming the journey because of unhealed wounds or nausea; 3)

readmission or too many health-related appointments; and 4) perceived no need for this specific consultation and cancelled close to scheduled time.

Rehabilitation goals

At the first session, 338 goals were defined by 123 women while 269 goals were defined by 112 women at the second session. On the first session, 76.4% women defined three goals, 21.9% two goals, and 1.6% one goal. On the second session, these numbers were 58.9%, 32.1%, and 12.5%, respectively, and one woman did not define any goals. Goals related to physical issues were defined at both sessions by 87.5%, social issues by 21.4%, emotional issues by 19.6%, existential issues by 2.7%, cognitive

issues by 0.9%, and sexuality and body image issues by 6.3%.

The proportion of women who formulated physical goals decreased significantly from first to second session (98–89%, $p < 0.007$) (Table III). Of the three cancer groups, this decrease was only significant for endometrial cancer (98–80%, $p < 0.019$). At both sessions, the social and emotional categories were the second and third most frequent among patients with endometrial and ovarian cancer. The emotional and sexual issues were equally frequent among patients with cervical cancer at the first session. At the second session, a decrease in sexuality goals were observed, however not significant.

Association between quality of life and rehabilitation goals

All ORs were calculated for a 10-point increase of quality of life scores. We found a significant OR = 0.81 (CI 0.66–0.99) for the social functioning and setting a social goal on the second session, and for emotional functioning and emotional goal setting on the first and second session, OR = 0.76 (CI 0.63–0.93) and OR = 0.75 (CI 0.60–0.93), respectively (Table IV). It means that with increasing quality of life (better functioning), the odds of formulating a goal within this area decreased. We did not observe significant associations of other quality of life aspects and types of goals.

Discussion

The present study shows that women with gynaecological cancer who participate in a hospital-based

rehabilitation, all were able to define goals addressing their individual needs. Physical goals were the most dominant, but also goals targeting sexuality and social problems were frequent. Goal setting decreased from one to three months after surgery and different priorities were observed from women with different cancers. Goal setting within the social and emotional domains was associated with the social and emotional functioning sub-scores of the quality of life questionnaires completed at home suggesting some predictive value.

Several interpretations could be made from this study. In line with other studies, we experienced that the EORTC questionnaires worked well for patients during preparation of the rehabilitation consultations and facilitated that a broad range of problems were discussed [31]. However, the sub-scores of the scales did only have predictive value of formulation of two of the six types of goals. Physical goals were defined by almost all patients regardless of sub-scores, which is in line with the literature showing that physical problems are frequent and easily addressed by both patients and health professionals [32,33]. Physical goals covered a broad range of problems and activities, i.e. physical training to retain the physical power lost during the disease, exercise to lose weight, or old dreams of a healthy lifestyle. The physical goals thus represented both problems related to the cancer disease and treatment as well as health-related issues without relation to cancer. Hence, disease-specific rehabilitation professionals may not be the optimal supporters of all these goals. Our patients' motivation for health-related behavioural changes when diagnosed with cancer therefore

Table III. Number and proportions of patients who formulated at least one goal within the categories of goals at session 1 and 2.

Session 1	Total n = 123	Endometrial cancer n = 43	Ovarian cancer n = 48	Cervical cancer n = 32	Fisher's exact test
Category of goal	n (%)	n (%)	n (%)	n (%)	p-value
Physical	120 (98)	42 (98)	47 (98)	31 (97)	1.000
Social	57 (46)	19 (44)	27 (56)	11 (34)	0.156
Emotional	51 (41)	14 (33)	22 (46)	15 (47)	0.356
Existential	9 (7)	2 (5)	3 (6)	4 (13)	0.462
Cognitive	7 (6)	2 (5)	1 (2)	4 (13)	0.170
Sexuality	34 (28)	9 (21)	10 (21)	15 (47)	0.025
Session 2	Total n = 112	Endometrial cancer n = 41	Ovarian cancer n = 44	Cervical cancer n = 27	
Category of goal	n (%)	n (%)	n (%)	n (%)	p-value
Physical	100 (89)	33 (80)	41 (93)	26 (96)	0.112
Social	41 (37)	14 (34)	22 (50)	5 (19)	0.028
Emotional	43 (38)	16 (39)	14 (32)	13 (48)	0.385
Existential	9 (8)	2 (5)	7 (16)	0 (0)	0.043
Cognitive	5 (4)	3 (7)	2 (5)	0 (0)	0.363
Sexuality	16 (14)	5 (12)	6 (14)	5 (19)	0.742

p-value < 0.05 is highlighted in bold.

Table IV. Health-related quality of life (HRQOL) scores and association with goal setting in rehabilitation programme with two sessions. Mean scores and mean differences of EORTC quality of life scores, between women with and without goals are shown together with the crude and adjusted OR's for goal formulation when the EORTC scores increase by 10 points.

Quality of life score Type of goal	N	All Mean (CI)	Goals		Mean diff. (CI)	1 st session		N	Goals		Mean diff. (CI)	2 nd session	
			No mean	Yes mean		OR	OR adj. ^(a) (CI)		No mean	Yes mean		OR	OR adj. ^(a) (CI)
C30: all cancers													
Physical functioning (F)	123	75.0 (70.6; 79.3)	91.1	75.8	15.3 (−6.1; 36.6)	0.43	0.38 (0.10; 1.43)	111	94.5	85.5	9.0 (−2.0; 20.1)	0.60	0.69 (0.37; 1.31)
Physical goals													
Social functioning (F)	122	77.0 (72.0; 81.6)	81.3	83.6	−2.3 (−11.1; 6.4)	1.04	1.08 (0.91; 1.27)	111	90.4	81.3	9.1 (0.7; 17.5)	0.82	0.81 (0.66; 0.99)
Social goals													
Emotional functioning (F)	123	65.5 (61.4; 69.7)	82.8	71.7	11.1 (3.9; 18.2)	0.75	0.76 (0.63; 0.93)	111	87.7	77.2	10.5 (3.0; 18.1)	0.76	0.75 (0.61; 0.93)
Emotional goals													
Global health status (F)	123	57.7 (53.5; 62.0)	62.7	66.7	−4.0 (−18.5; 10.7)	1.09	1.13 (0.80; 1.61)	84	72.6	62.0	10.6 (−4.7; 25.8)	0.81	0.86 (0.62; 1.19)
Existential goals													
Cognitive functioning (F)	123	74.7 (70.4; 79.1)	83.8	71.4	12.4 (−3.4; 28.1)	0.78	0.81 (0.59; 1.11)	84	87.3	80.0	7.3 (−11.5; 26.0)	0.87	0.83 (0.57; 1.20)
Cognitive goals													
EN24: Endometrial cancer							OR adj. ^(b)						OR adj. ^(b)
Sexual interest (F)	39	17.4 (10.3; 24.5)	12.2	14.8	−2.6 (−19.0; 13.9)	1.05	1.05 (0.74; 1.49)	39	34.3	33.3	1.0 (−25.6; 27.6)	0.98	0.86 (0.56; 1.32)
Sexual goals													
Sexual activity (F)	37	15.5 (8.3; 22.7)	5.6	9.5	−3.9 (−15.3; 7.4)	1.23	1.22 (0.69; 2.17)	38	31.3	33.3	−2.0 (−26.1; 22.1)	1.03	0.88 (0.54; 1.41)
Sexual goals													
Sexual enjoyment (F)	5	71.8 (53.7; 89.9)	33.3	55.5	−22.2 (−143.0; 98.6)	1.23	1.34 (0.68; 2.63)	22	66.7	50.0	16.7 (−11.8; 45.2)	0.72	0.62 (0.32; 1.19)
Sexual goals													
Body image (S)	42	11.7 (5.3; 18.0)	6.6	16.7	−10.1 (−22.4; 2.2)	1.37	1.36 (0.89; 2.05)	41	6.0	3.3	2.7 (−11.2; 16.6)	0.83	0.94 (0.38; 2.32)
Sexual goals													
Vaginal problems (S)	3	13.7 (0.8; 26.6)	16.7	11.1	5.6 (−)	0.73	(−)	22	16.7	27.8	−11.1 (−35.0; 12.8)	1.28	1.48 (0.80; 2.75)
Sexual goals													
OV28: Ovarian cancer							OR adj. ^(b)						OR adj. ^(b)
Body image (S)	47	67.2 (58.9; 75.5)	70.7	55.0	15.7 (−6.6; 38.1)	0.85	0.83 (0.66; 1.05)	42	74.1	86.1	−12.0 (−35.5; 11.4)	1.27	1.25 (0.79; 1.98)
Sexual goals													
Sexuality functioning (F)	47	84.9 (78.0; 91.7)	90.1	95.0	−4.9 (−19.0; 9.1)	1.17	1.10 (0.67; 1.81)	42	81.9	66.7	15.27 (−7.1; 37.7)	0.79	0.81 (0.58; 1.13)
Sexual goals													
CX24: Cervical cancer							OR adj. ^(b)						OR adj. ^(b)
Body image (S)	32	71.0 (61.4; 80.6)	79.7	71.9	7.8 (−7.23; 23.01)	0.82	0.87 (0.58; 1.32)	27	80.8	77.8	3.0 (−18.5; 24.6)	0.93	0.92 (0.57; 1.47)
Sexual goals													
Sexual activity (F)	32	16.7 (8.0; 25.4)	9.8	6.7	3.13 (−9.3; 15.5)	0.89	0.73 (0.46; 1.18)	27	30.3	13.3	17.0 (−11.1; 45.0)	0.74	0.73 (0.43; 1.23)
Sexual goals													
Sexual enjoyment (F)	7	64.1 (46.7; 81.5)	66.7	83.3	−16.6 (−67.4; 34.0)	1.52	1.45 (0.53; 3.95)	17	80.0	50.0	30.0 (−18.0; 78.03)	0.75	0.75 (0.46; 1.22)
Sexual goals													
Vaginal problem (S)	6	82.7 (68.5; 96.9)	81.3	91.7	−10.4 (−51.4; 30.6)	1.78	3.47 (0.09; 129.72)	17	81.7	83.3	−1.6 (−30.2; 26.9)	1.06	1.06 (0.35; 3.16)
Sexual goals													
Sexual worry (S)	31	38.2 (25.1; 51.4)	27.1	53.3	−26.3 (−54.3; 1.8)	1.19	1.07 (0.85; 1.35)	26	34.9	53.3	−18.4 (−49.8; 13.0)	1.22	1.29 (0.89; 1.87)
Sexual goals													

Negative mean differences showed that women with goals had a greater mean than women without goals. P-value < 0.05 is highlighted in bold. OR ^(a) were adjusted for cancer type; OR ^(b) adjusted for age. CI, 95% confidence interval; F, functional scale; S, symptom scale.

underlined the importance of clarification of the roles of the different health care sectors.

Studies have found that sexual problems are common among patients with female cancers and one of the main issues of concern following treatment [34–36]. However, sexuality and intimate issues are often unmet in the healthcare system and support from patient questionnaires are suggested to be especially valuable [34]. The disease-specific modules covering the sexuality and intimate aspects were, however, not predictive of goal setting. Small sample sizes and relatively low response rates may partly explain this observation. The response rate on specific items like sexual enjoyment and sexual symptoms is low, but corresponds to the low sexual activity. Furthermore, these types of issues may be perceived too private to match the concept of goal setting.

Goal setting decreased from the first to the second session. The women's health and quality of life

may have improved over time and thereby superseded the formulation of goals or their health- and mental condition may have deteriorated post-treatment and render goal formulation as unmanageable. We observed significant improvement in physical functioning of women with endometrial cancer over time and at the same time, significant fewer goal formulations related to physical functioning. Hence, this may be taken as both an indirect and direct indication that in patients where quality of life quickly improves after surgery, the need for help with goal formulation in the rehabilitation process may only be most relevant during the first couple of months. On the contrary, in women with advanced diseases who are in long lasting treatment or are deteriorated by late effects, there may be a continuous need for help with goal formulation and rehabilitation offers. Yet another explanation of the decreasing number of

goals at the second session could be that some patients were not sufficiently convinced about the usefulness of goal setting, or did not want to stress themselves unnecessarily.

Patients are generally not familiar with the concept of goal setting in health care [32]. The present rehabilitation programme succeeded in asking the women to formulate goals both one and three months following surgery. They were supported in the practice by the nurses, but although research has shown that this group of cancer patients have different levels of insight in their own needs for rehabilitation [31], all but one patient formulated at least one goal at each session. It may be hypothesised that the concept may support all patient groups including the socially deprived. The goal setting concept was able to distinguish between patients with different needs at different time points post-treatment. Hence, there was a clear difference in priorities of goals between cancer diagnoses, e.g. a large (47%) and significant proportion of cervical cancer patients produced goals related to sexuality short after treatment while the social and existential issues seemed to be of great importance for ovarian and endometrial cancer patients even three months after treatment.

Strengths and limitations

This study was not designed to show the effect of the rehabilitation programme and no control group was included. However, it is a strength that the study was carried out in the clinical setting by involvement of the usual staff members, who also managed the logistic coordination. The programme proved feasible to implement in routine clinical care. This has strengthened the external validity of the study with possibilities for implementation in real life. By using validated questionnaires as a frame for the rehabilitation sessions, we standardised preparation for women's goal formulation and the longitudinal design allowed observations of changes in goal setting over time.

The rehabilitation programme included the last session three months after surgery. Extrapolation of the results to long-time follow-up and interventions targeting late effects should therefore be made with caution. Selection bias may, to some extent, have compromised the results. Not all eligible patients wanted to be enrolled and the participation rates of 82% and 74% at the two rehabilitation sessions were suboptimal but not lower than expected. Of notice, participants were younger and more often married than non-participants. We know that age is associated with psychosocial and practical service use [35]. The relationship may also influence on women's worries for the partner and her sexuality.

It is suggested that the inclusion of the youngest women may have affected our results positively since the younger patient is suggested to be more willing to seek help and be curious on ways to perform self-help during the rehabilitation period [36]. It is unknown whether age influences the patient's ability to goal setting and goal achievement.

It may have strengthened the clinical usefulness of the patient questionnaires and the process of prioritisation of goals if patients and nurses were presented to processed data (including the sub-scores valued 0–100) [37,38]. They only had the unprocessed data of a high number of items, i.e. the 30 general plus the 24/28 disease-specific items (valued 1–4/7). Replacement of the easily distributable paper versions of the questionnaires by electronic versions may overcome this problem.

Categorisation of the goals during the consultation could have diminished the risk of misclassification of goals, however, this risk was assumed to be modest. Sub-classification of the goals could have added more value to the study and should be considered for future studies, for example linkage of goals to items or sub-scores of the patient questionnaires, and the relation to the cancer disease and treatment.

Conclusion

The present study is, to our knowledge, the first to address goal setting in gynaecologic cancer rehabilitation. The study adds new knowledge relevant for future interventions since goal setting seems feasible in all problem areas and for all the gynaecological cancer diseases. The EORTC patient questionnaires may be helpful during the process although expectations of the sub-scores being predictive of which areas to address were not convincing.

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