

Gynecological surgical interventions (conservative and non-conservative): Clinical psychological variables and symptomatology pertaining to perioperative period

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Abstract

Objective: After considering great inter-individual variability of subjective experience and clinical course in reference to conservative and non-conservative gynecological surgical interventions, an attempt was made to evaluate potential role of several clinical and psychological variables with respect to perioperative symptomatology course and illness behaviour.

Materials and methods: The sample consists of 58 women (mean age 41.4 ± 8.7) undergoing gynecological surgical interventions (conservative and non-conservative ones) for benign pathologies. The anamnestic and clinical data (psychological anamnesis, clinical history, indications, methods and typology of the intervention) were collected using a specifically designed summary form. For the evaluation of pre-and post-operative symptomatology course and illness behaviour, the following psychological tests were respectively used: The Symptom Questionnaire (SQ), with 3 planned administrations (respectively 15 days before the intervention, a day before the intervention and at discharge) and the Illness Behavior Questionnaire (IBQ), completed before discharge. Non-parametric tests (Mann-Whitney and Kruskal-Wallis) were used to compare performances on independent samples.

Results: Results show that perioperative course and illness behaviour in the cases of gynecological surgical interventions for benign pathologies depend on clinical variables, that is, typology and methods of the intervention, clinical history, psychopathological anamnesis.

Conclusion: Findings suggest the importance of clinical-anamnestic inquiry oriented towards the evaluation of variables that emerged as risk factors, with the goal of planning personalized support interventions for preventing and/or reducing distress and impact on psychophysical wellbeing arising after gynaecological surgical interventions.

Introduction

Over the years, although it is a highly developed field of clinical research, not much has been written about the more exquisitely psychological aspects of hysterectomy surgery [1-6].

For both total and total condoms, the consequences on the physical and psychological plane for women are enormous. Despite this, there is not always good clinical attention due to the phases immediately preceding the surgical operation and in the moments immediately following this [7-12].

The present study aimed at evaluating potential role of some clinical and psychological variables, that is, indications, methods and typology of the intervention, positive/negative anamnesis for psychological disorders, surgical interventions, abortions, and voluntary terminations of pregnancy, with respect to pertaining symptomatology and to illness behaviour in the case of conservative and non-conservative gynecological surgical interventions for benign pathologies.

Materials and methods

The sample consists of 58 women with age from 28 and 59 years (mean 41,40; SD \pm 8,78), that were to undergo gynecological surgical interventions (conservative or non-conservative ones) for benign pathologies (Table 1).

The subjects were consecutively recruited from Obstetrics and Gynaecology Unit of Carpi, Hospital, Modena province, (Italy). All subjects were assessed 15 days before hospitalization for surgery.

Inclusion/exclusion criteria

The following inclusion criteria were adopted: Italian nationality or good comprehension of Italian language; age from 28 to 60 years; educational level not lower than elementary school diploma; either fertile age or menopause; conservative and non-conservative gynecological interventions for uterine pathologies (myometrium and endometrial), and benign adnexal pathologies and prolapse; methods of the intervention: laparotomy, laparoscopy, and vaginal procedure.

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Table 1. Sample characteristics.

N° SUBJECTS						58	
AGE						RANGE	28-59
						MEAN (SD)	
Intervention	indications	Uterine pathologies (myometrial and endometrial)	Fibromatosis	Symptomatic	Freq. (%)	11 (19.1)	
				Menometrorrhagic	Freq. (%)	6 (10.3)	
				Volumetric	Freq. (%)	14 (24.1)	
	Adnexal pathologies	Freq. (%)	6 (10.3)				
		Prolapse	Freq. (%)	21 (36.2)			
		typology	Total/subtotal hysterectomy	Freq. (%)	23 (39.7)		
	Gynaecological interventions excluding Uterus removal		Freq. (%)	35 (60.3)			
	method	Laparoscopy	Freq. (%)	27 (46.6)			
		Laparotomy	Freq. (%)	26 (44.8)			
		Vaginal procedure	Freq. (%)	5 (8.6)			

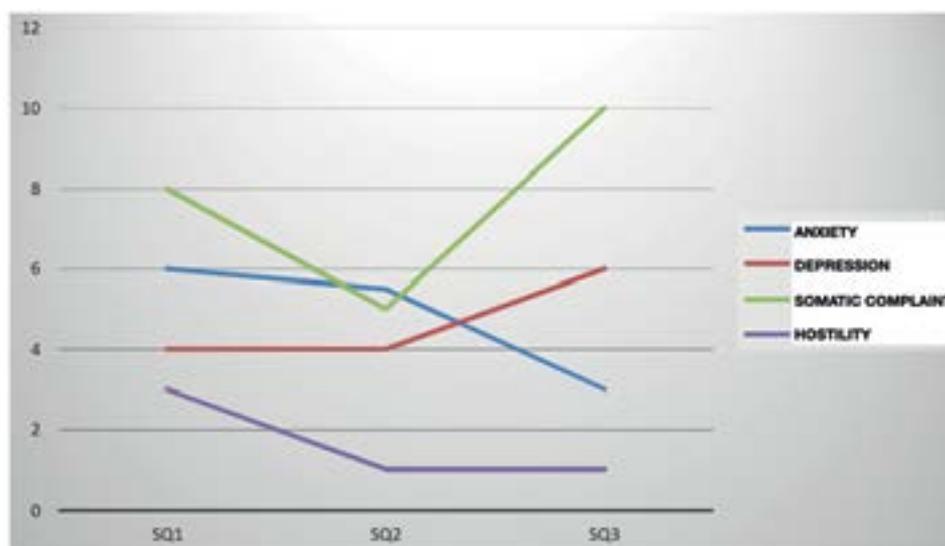


Figure 1. Symptomatology. SQ scales - 15 days before the intervention (SQ1), one day before (SQ2) and before the discharge (SQ3): medians.

Women that underwent gynecological surgical interventions for neoplasm, examinations of the uterine cavity, sterilization and post-partum complications were excluded from the sample. All the descriptive data are showed in Figure 1.

As in previous research [13,14], some psychological variables were assessed. For the evaluation of perioperative course, the Symptom Questionnaire (SQ) by Fava et al. [15] was used. The self-administered questionnaire consist of 92 items with dichotomous answers. It is possible to obtain an evaluation by means of eight subscales (anxiety, inability to relax, depressive symptoms, inability to feel contented, somatic symptoms and lack of physical wellbeing/sense of weariness, hostility, and lack of good disposition towards others). They are also four main scales (anxiety, depression, somatic symptoms, and hostility) for the evaluation of prevailing symptomatology reported in a determinate time. This kind of self-rating questionnaire were administered at three different points in time: 15 days before the intervention, week form (SQ1), one day before the intervention (SQ2) and now of discharge, day form (SQ3). Besides that, before the

discharge, the administration of Illness Behaviour Questionnaire (IBQ) by Pilowsky and Spence was provided for as well, the Italian version edited by Fava et al. [15].

This self-administered questionnaire is composed of 62 items with dichotomous answers. Data are distributed in 7 factors: general hypochondriasis, disease conviction, psychological- somatic perception of illness, affective inhibition, dysphoria, denial, and irritability, that permit the evaluation of illness behaviour and, specifically, of convictions, subject's attitudes and feelings towards proper pathology, their perception of reactions of significant people concerning their pathology and their view of proper psychosocial situation.

For the entire sample, mean, standard deviation and medians of test scores were calculated. All subjects voluntarily participated in the study by signing a written consent which safeguarded privacy, and which explained that the interview and the short psychological questionnaires would only slightly extend the time dedicated to medical visits. All subjects accepted with pleasure to participate in

the research. At the end of the observation, there was an interview, carried out individually between the subject and a clinical psychologist for the discussion of the results that emerged from the reports of the tests carried out. For the analysis of differences in pertaining symptomatology and in illness behaviour among the subgroups taken in consideration, statistical test by Mann-Whitney (for two independent samples) and test by Kruskal-Wallis (for three or more independent samples) were used.

Results

The means and SD of the obtained scores from entire sample at SQ scales and subscales, confirm that symptomatology course in the perioperative period (from 15 days before the intervention to the discharge day) is characterized by an important inter-individual variability (Table 2).

One more important variability emerged as well in illness behaviour (Table 3).

Therefore, an attempt was made to analyze if and which clinical and psychological factors could have a role concerning the variance of pertaining symptomatology, by comparing different subgroups with respect to variables that are research object.

Psychopathological Symptoms

Regarding the SQ, from descriptive point of view (Figure 1), anxiety shows a decreasing course, with values higher than the cut-off (4), in the period prior to the intervention and lower at the discharge. Depressive symptoms, on the contrary, tend to stay constant and at the threshold level before the operation, with an increase in postoperative period. This phenomenon is probably due

to the inevitable difficulties created by hospitalization and post-operative convalescence.

The Somatic complain scale shows elevated values in the perioperative period, with significant decrease in the day before the intervention. Such course can be attributed to potential distractive action of anxiety with respect to somatic complaints.

Hostility shows decreasing course as well, but with values still under the cut-off value.

Clinical variables, pertaining symptomatology and illness behaviour: subgroups in comparison

The sample was divided into subgroups by the following grouping variables.

- Total/subtotal hysterectomy vs gynecological interventions excluding uterus removal,
- Indications for the intervention: uterine pathologies (endometrial and myometrium), adnexal pathologies, prolapse,
- Methods of the intervention: laparotomy, laparoscopy, vaginal procedure,
- Pertaining symptomatology absent vs present,
- Positive vs negative anamnesis for prior surgical interventions,
- Positive vs negative anamnesis for prior pregnancies,
- Positive vs negative anamnesis for abortion (spontaneous/therapeutic) and/or voluntary termination of pregnancy (VTP).
- Desire for maternity: absent vs present,
- Positive vs negative psychopathological personal history.

Table 2. SQ1-SQ2-SQ3: range, mean, standard deviation (S.D.), median.

		Range	Mean	S.D	Median
SQ1	Anxiety (A1)	0-18	7.1	4.36	6
	Depression (D1)	0-14	5.05	3.77	4
	Symptoms compliant (S1)	0-21	7.9	5.63	8
	Hostility (O1)	0-13	3.45	3.08	3
SQ2	Anxiety (A2)	0-18	6.53	5.29	5.5
	Depression (D2)	0-11	4.6	2.63	4
	Somatic compliant (S2)	0-14	5.33	4.22	5
	Hostility (O2)	0-11	1.78	2.47	1
SQ3	Anxiety (A3)	0-18	4.35	4.34	3
	Depression (D3)	0-14	5.14	2.7	6
	Somatic compliant (S3)	20-Feb	10.4	4.32	10
	Hostility (O3)	0-4	1.14	1.19	1

Table 3. IBQ: range, mean, standard deviation (D.S.), median.

		Range	Mean	S.D.	Median
IBQ	General hypochondriasis	0-8	2.23	2.03	2
	Disease conviction	0-5	1.93	1.28	2
	Psychological-somatic perception of illness	0-6	2.19	0.93	2
	Affective inhibition	0-5	1.7	1.55	1
	Dysphoria	0-5	1.61	1.52	1
	Denial	5-Jan	3.33	1.29	4
	Irritability	0-5	0.95	1.16	1

Table 4. Mann Whitney Test: comparison between the subgroups total/subtotal hysterectomy and gynecological interventions excluding uterus removal with respect to the SQ and IBQ scores. Course of differences.

Subgroups	Test	Scales	U	P	Course
Total/subtotal hysterectomy (A) vs gynaecological interventions excluding uterus removal (B)	SQ2	Anxiety scale	276	< 0.05	A<B
		Inability to relax subscale	217.5	< 0.01	A<B
		Lack of wellbeing/weariness subscale	278.5	< 0.05	A<B
	SQ3	Inability to relax subscale	265	< 0.05	A<B
		Lack of wellbeing/weariness subscale			
			279	< 0.05	A<B
		Hostility scale	262	< 0.05	A<B

Table 5. Kruskal-Wallis Test. Grouping variable indications for the intervention. Score comparison for SQ and IBQ. Course of differences.

Subgroups	Test	Scales	c2	p	Course
Indications: uterine pathologies (A) vs adnexal pathologies (B) vs prolapse (C)	SQ1	Depression scale	6.01	< 0.05	A>B>C
		Depressive symptoms subscale	6.2	< 0.05	A>B>C
	SQ2	Anxiety scale	6.43	< 0.05	B>A>C
		Anxiety subscale	6.57	< 0.05	B>A>C
		Depression scale	6.39	< 0.05	B>A>C
		Inability to feel contented	8.87	< 0.05	B>A>C

Table 6. Kruskal-Wallis Test. Grouping variable method of the intervention.

Groups	Test	Scales	c2	p	Course
Method: laparotomy (A) vs laparoscopy (B) vs vaginal procedure (C)	SQ1	Anxiety scale	6.47	< 0.05	A>B>C
		Depression scale	10.92	< 0.01	A>B>C
		Depressive symptoms subscale	12.16	< 0.01	A>B>C
		Inability to feel contented subscale	6.22	< 0.05	A>B>C
		Somatic symptoms scale	7.37	< 0.05	A>B>C
	SQ2	Anxiety scale	8.37	< 0.05	B>A>C
		Anxiety subscale	8	< 0.05	B>A>C
		Depression scale	6.43	< 0.05	B>A>C
		Inability to feel contented subscale	8.38	< 0.05	B>A>C
	IBQ	Disease conviction	5.61	Tending to significance	A>B>C

Table 7. Mann-Whitney Test. Grouping variable associated symptomatology present vs absent. Score comparison for SQ and IBQ. Course of differences.

Subgroups	Test	Scales	U	p	Course
Associated symptomatology present (A) vs absent (B) procedure	SQ1	Somatic symptoms scale	233.5	< 0.05	A > B
		Somatic symptoms subscale	249.5	< 0.05	A > B
		Lack of wellbeing/weariness subscale	236.5	< 0.05	A > B
symptomatology present (A) vs absent (B)	SQ3	Depression scale	247.5	< 0.05	A > B
		Depressive symptoms subscale	207	< 0.01	A > B
		Anxiety subscale	221	< 0.05	A > B

In order to confront these subgroups, Mann-Whitney statistical test (for two independent samples) and Kruskal-Wallis test (for three or more independent samples) were used, and they showed significant differences, both in pertaining symptomatology (anxiety, depression, somatic symptoms and hostility), and in illness behaviour.

Indications, typology, and methods of the intervention

Women undergoing surgical gynecological interventions but with the exclusion of the uterus removal (N=35) report a higher degree of anxiety (U=276; p<0.05), inability to relax (U=217.5; p<0.01), with higher levels of hostility (U=262; p<0.05) and lack of physical wellbeing (U=279; p<0.05) in the postoperative period (Table 4) with respect to the women undergoing total or subtotal hysterectomy (N=23).

Regarding the indications for the interventions (Table 5), fifteen days before the operation, women with uterine pathologies (N=31) with respect to those with adnexal pathologies (N=21) and those with prolapse (N=6) report more intense depressive symptoms (2=6.01; p<0.005 e 2=6.2; p<0.05); while in the proximity to the intervention, psychological impact is greater for women with adnexal pathologies, which report higher levels of anxiety (2=6.43; p<0.05) and depression (2=6.39; p<0.05).

Even with respect to the methods of the intervention (Table 6), while fifteen days before women undergoing laparotomy (N=26) are the ones to report the greatest compromise of psychophysical wellbeing, with somatic more intense symptoms of anxiety ($\chi^2=6.47$; p<0.05), depression ($\chi^2=10.92$; p<0.01 and $\chi^2=12.16$; p<0.01) and symptoms ($\chi^2=7.37$; p<0.05), a day before the operation, subjects operated in laparoscopy (N=27) report the greatest level of anxiety ($\chi^2=8.37$; p<0.05) and depression ($\chi^2=6.43$; p<0.05).

The prolapse and vaginal procedure are respectively the indication and the method of intervention associated with the smallest psychological impact during the perioperative period. In the previously considered subgroups, besides, there were not noted significant differences in illness behaviour, except for the tendency to

significance in disease conviction ($\chi^2=5.61$; p=0.06) with respect to the methods of the intervention, with highest levels of apprehension about their own pathology in women undergoing laparotomy interventions, compared to those operated with laparoscopy and vaginal procedure.

Score comparison for SQ and IBQ. Course of differences. Symptomatology associated to the indication present vs absent

Subjects (N=38) that show organic symptomatology associated to the indication for the intervention that is moderate-intense, and interferes with normal functioning, report, even in the SQ, higher levels of somatic symptoms (U=233.5; p<0.05 e U=249.5; p<0.05) and lack of physical wellbeing (U=236.5; p<0.05) before the operation. These somatic complaints are connected to a greater psychological impact after the intervention, with more intense anxiety (U=221; p<0.05) and depressive symptoms (U=247.5; p<0.05 e U=207; p<0.01) (Table 7).

Positive vs negative anamnesis for prior surgical interventions, prior pregnancies, abortion and/or VTP

Women that underwent other surgical interventions in the past (N=48), gynaecological and not, compared to those who had never undergone any operations (N=10), report higher levels of anxiety (U=126.5; p<0.05) along with a greater difficulty of feeling contented (U=128.5; p<0.05) fifteen days before, while they report lower hostility and irritability (U=127; p<0.05 e U=131; p<0.05) after the intervention (Table 8).

Having had prior pregnancies (N=34) compared to not having had this experience (N=24) is associated with higher levels of reported hostility (U=277; p<0.05 e U=283.5; p<0.05), but at the same time, with minor anxiety (U=265; p<0.05 e U=267.5; p<0.05) and greater ability to relax (U=279.5; p<0.05 e U=282.5; p<0.05) in the preoperative period (SQ1 e SQ2), along with more somatic than psychological perception of the pathology (U=281.5; p<0.05) (Table 9).

Table 8. Mann-Whitney Test. Grouping variable positive vs negative anamnesis for surgical interventions. Score comparison for SQ and IBQ. Course of differences.

Subgroups	Test	Scales	U	p	Course
Positive (A+) vs negative (A-) anamnesis for surgical interventions	SQ1	Anxiety scale	126.5	<.05	A+ > A-
		Inability to feel contented subscale	128.5	<.05	A+ > A-
	SQ3	Hostility scale	127	<.05	A+ < A-
		Hostility subscale	131	<.05	A+ < A-

Table 9. Mann-Whitney Test. Grouping variable positive vs negative anamnesis for prior pregnancies. Score comparison for SQ and IBQ. Course of differences.

Subgroups	Test	Scales	U	p	Course
Positive (A+) vs negative (A-) anamnesis for prior pregnancies	SQ1	Inability to relax subscale	279.5	<.05	A+ < A-
		Hostility scale	277	<.05	A+ > A-
		Hostility subscale	283.5	<.05	A+ > A-
	SQ2	Anxiety scale	265	<.05	A+ < A-
		Anxiety subscale	267.5	<.05	A+ < A-
		Inability to relax subscale	282.5	<.05	A+ < A-
	IBQ	Illness perception	281.5	<.05	A+ < A-

Table 10. Mann-Whitney Test. Grouping variable positive vs negative anamnesis for VTP and/or abortion..

Subgroups	Test	Scales	U	p	Course
Positive (A+) vs negative (A-) anamnesis for VTP and/or abortion pregnancies	SQ1	Inability to relax subscale	198	<.05	A+ < A-
	SQ2	Inability to feel contented subscale	147.5	<.01	A+ < A
	SQ3	Depression scale	149	<.01	A+ < A-
		Inability to feel contented subscale	136	<.01	A+ < A-
		Inability to relax subscale	172	<.05	A+ < A-
		Lack of wellbeing/weariness subscale	189	<.05	A+ < A-

Table 11. Mann-Whitney Test. Grouping variable positive vs negative psychopathological anamnesis. Score comparison for SQ and IBQ. Course of differences.

Subgroups	Test	Scales	U	p	Course
Positive (A+) vs negative (A-) psychopathological anamnesis	SQ1	Anxiety scale	197	< 0.05	A+ > A-
		Anxiety subscale	175	< 0.01	A+ > A-
	IBQ	Affective inhibition	192.5	< 0.05	A+ < A-
		Dysphoria	207	< 0.05	A+ > A-

Table 12. Mann-Whitney Test. Grouping variable desire for maternity yes vs no. score comparison for SQ and IBQ. Course of differences..

Subgroups	Test	Scales	U	p	Course
Desire for maternity yes vs no	SQ1	Inability to relax subscale	263	< 0.05	yes > no
	SQ2	Anxiety scale	238.5	< 0.01	yes > no
		Anxiety subscale	260.5	< 0.05	yes > no
		Inability to relax subscale	225.5	< 0.01	yes > no
		Hostility subscale	280.5	< 0.05	yes > no
	SQ3	Hostility scale	260	< 0.05	yes > no

There were not found significant differences between subjects with positive anamnesis for VTP (N=7) and those with positive anamnesis for abortion (N=7), spontaneous and/or therapeutic, hence the subgroups were considered jointly.

Women with previous experience of VTP and/or abortion (N=14) report greater ability to relax (U=198; p<0.05) and to feel contented (U=147.5; p<0.01) before the intervention; while after the operation, they report lighter symptoms of depression (U=149; p<0.01), greater relaxation (U=172; p<0.05) and a minor impact on physical wellbeing (U=189; p<0.05) (Table 10).

Score comparison for SQ and IBQ. Course of differences. Psychological variables: psychopathologic anamnesis and desire for maternity

Subjects with positive psychopathological anamnesis (N=15) show higher levels of anxiety before the intervention (U=197; p<0.05 e U=175; p<0.01), higher dysphoria connected to the pathology (U=207; p<0.05) and a higher tendency to express their own feelings, especially negative ones (U=192.5; p<0.05) (Table 11).

Desire for maternity seems to have a negative influence on perioperative experience: women who manifest desire for more

pregnancies (N=26) compared to those who do not want to have more children (N=32) report more intense anxiety symptoms (U=238.5; p<0.01 and U=260.5; p<0.01) and lower ability to relax (U=263; p<0.05 and U=225; p<0.01) before the intervention, with higher hostility level in the perioperative period (U=280.5; p<.05 and U=260; p<0.05) (Table 12).

Discussion and conclusion

Obtained results confirming great inter-individual variability in subjective experience associated with gynecological surgical interventions reveal the role of some clinical variables as factors potentially responsible for such variance. Psychological impact in perioperative period is greater for women that underwent interventions excluding uterus removal with respect to the women that underwent hysterectomy, with higher levels of anxiety, inability to relax and sense of general malaise.

With regard to the indications for the intervention, while fifteen days before the intervention women with uterine pathologies are the ones to complain about more intense depressive symptoms, with the proximity of operation the distress, with more significant levels of anxiety and depression, is greater for women affected by adnexal pathologies.

The same course is revealed with regard to the methods of the intervention: while fifteen days before the intervention the subjects undergoing laparotomy are the ones to report greatest levels of dysphoria and somatic symptoms, in the proximity of the intervention, women that underwent laparoscopy surgery are the ones to report higher levels of anxiety and depression. The slightest psychological impact is associated with gynecological interventions for prolapse and vaginal procedure. These data suggest that different levels of psychological distress can be attributed not only and not as much to indications, methods and typology of the intervention, as to information, or better yet, the type of given information. In fact, even in the case of surgical operations of laparoscopy, as well as in the presence of adnexal pathologies, the possibility of non-conservative uterine interventions or of consequent necessity of laparotomy operation is not however excluded. Such possibility is also clearly specified in informed consent signed by the patient. It seems that the greatest impact on psychophysical wellbeing can therefore be partially attributed to this state of great uncertainty. Different pieces of information that are given and the following expectations seem to influence significantly perioperative symptomatology course and general and emotional psychological consequences for women.

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