

## ACCEPTANCE OF RELAPSE FEARS IN BREAST CANCER PATIENTS: EFFECTS OF AN ACT-BASED ABRIDGED INTERVENTION

### ACCEPTANCE OF RELAPSE FEARS IN BREAST CANCER PATIENTS: EFFECTS OF AN ACT-BASED ABRIDGED INTERVENTION

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#### Abstract

**Objective:** Relapse fear is a common psychological scar in cancer survivors. The aim of this study is to assess the effects of an abridged version of Acceptance and Commitment Therapy (ACT) in breast cancer patients.

**Method:** An open trial was developed with 12 non-metastatic breast cancer patients assigned to 2 conditions, ACT and waiting list. Interventions were applied in just one session and focused on the acceptance of relapse fears through a 'defusion' exercise. Interference and intensity of fear measured through subjective scales were collected after each intervention and again 3 months later. Distress, hypochondria and 'anxious preoccupation' were also evaluated through standardized questionnaires.

**Results:** The analysis revealed that 'defusion' contributed to decrease the interference of the fear of recurrence, and these changes were maintained three months after intervention in most subjects. 87% of participants showed clinically significant decreases in interference at follow-up sessions whereas no patient in the waiting list showed such changes. Statistical analysis revealed that the changes in interference were significant when comparing pre, post and follow-up treatment, and also when comparing ACT and waiting list groups. Changes in intensity

#### Resumen

**Objetivo:** El miedo a la recidiva es una secuela psicológica habitual en supervivientes de cáncer. El objetivo de este estudio es valorar los efectos de una versión breve de la Terapia de Aceptación y Compromiso (ACT) en pacientes de cáncer de mama.

**Método:** Se realizó un ensayo abierto en el que participaron 12 pacientes no-metastásicas distribuidas en 2 condiciones, ACT y lista de espera. La intervención se aplicó en una única sesión individual y se centró en la aceptación del miedo por medio de un ejercicio de "defusión". Después de cada intervención y en el seguimiento trimestral se midieron la interferencia y la intensidad del miedo mediante escalas subjetivas. Además, las participantes completaron las escalas HADS, MINIMAC e IBQ.

**Resultados:** El 87% de pacientes que recibieron la intervención mostró disminuciones clínicamente significativas en interferencia del miedo a la recidiva en el seguimiento trimestral, lo que no ocurrió en ninguna paciente en lista de espera. Los cambios en interferencia fueron estadísticamente significativos en las comparaciones pre, post y seguimiento, y también en la comparación con lista de espera. Asimismo se observaron cambios en intensidad, malestar emocional, preocupación ansiosa e hipocondría.

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of fear, distress, anxious preoccupation and hypochondria were also observed.

**Conclusions:** Exposure through 'defusion' techniques might be considered a useful option for treatment of persistent fears in cancer patients. This study provides evidence for therapies focusing on psychological acceptance in cancer patients through short, simple and feasible therapeutic methods.

**Keywords:** Acceptance and Commitment Therapy, ACT, cancer, psycho-oncology, relapse fear.

**Conclusiones:** La exposición mediante técnicas de "defusión" puede ser considerada una alternativa terapéutica para el tratamiento de miedos persistentes en pacientes de cáncer. El estudio aporta evidencia de la utilidad de técnicas orientadas a promover la aceptación psicológica en pacientes oncológicos aplicadas mediante métodos terapéuticos breves y sencillos que son bien admitidos por los pacientes.

**Palabras clave:** Terapia de Aceptación y Compromiso, ACT, cáncer, psicooncología, miedo a la recidiva.

## INTRODUCTION

Relapse fear is one of the most frequently recorded scars in cancer survivors<sup>(1)</sup>. It is a characteristic reaction in cancer patients, typically referred to as a 'Sword of Damocles' which threatens the person and his family for the rest of his life<sup>(2)</sup>. The possibility of illness progression or relapse seems to be the main worry shared by cancer patients<sup>(3)</sup> and is quite persistent despite the passage of time<sup>(4)</sup>. This fear can be increased by information disseminated through the media and by constant reminders of the disease including experiencing minimal physical symptoms<sup>(5)</sup>. It is more common after diagnosis, at the beginning and at the end of medical treatment<sup>(6)</sup> and just before check-ups<sup>(7)</sup>. Some studies have found a connection between psychopathological reactions and relapse fear<sup>(8,9)</sup>.

Different techniques have been proposed to manage fears, intrusive thoughts and problematic worries. Some of them, such as thought stopping<sup>(10)</sup>, are aimed to eliminate or suppress problematic or negative thought. Other known techniques, for example 'cognitive restructuring' or 'rational emotive therapy', are targeted to modify or restructure irrational thoughts<sup>(11,12)</sup>. A third perspective is oriented to the acceptance of negative thoughts. Acceptance is

included in various techniques used in the psycho-oncology field as an expression of feelings in 'Supportive-Expressive Group Therapy'<sup>(13)</sup>, 'Adjuvant Psychological Therapy'<sup>(14)</sup> and narrative therapies<sup>(15)</sup>, but particularly in 'Acceptance and Commitment Therapy' (ACT)<sup>(16)</sup>.

Regarding efficacy, studies have shown detrimental effects of efforts to avoid cognitive contents, especially in the long run<sup>(17)</sup>. Research on thought suppression reveals that asking subjects to avoid specific thoughts can increase the frequency of these thoughts<sup>(18-20)</sup>. Inefficacy of avoidance as a coping strategy in cancer patients, is marked by a huge amount of research<sup>(21,22)</sup>. Suppression is a specific avoidance strategy, which when used as a primary strategy of coping is associated to a high level of depressive and obsessive symptoms<sup>(17)</sup>. Greater suppression efforts of intrusive thoughts have proved to be correlated with greater discomfort associated with such thoughts<sup>(19)</sup>. An ineffective pattern of suppression has been detected in cancer patients<sup>(9)</sup>. ACT promotes exposure as it is suggested in the most effective studies focusing on coping with cancer<sup>(23,24)</sup>. Nevertheless, acceptance in ACT involves exposure not to avoided situations but to avoided private events (including thoughts or worries) which accompany the experience of cancer. Pos-

sible benefits of ACT applied to cancer patients are being highlighted<sup>(25-29)</sup>. Promising preliminary data has been presented through case studies<sup>(30-31)</sup> and clinical trials<sup>(29,32-34)</sup>. Benefits of ACT are related with improvements in emotional distress<sup>(28)</sup>, mood<sup>(28,33)</sup>, quality of life<sup>(28,29,32,33)</sup>, depression<sup>(32,34)</sup>, health behavior<sup>(35)</sup>, post-traumatic growth and spirituality<sup>(29)</sup> and valued areas<sup>(32)</sup>. Improvements in distress, mood and quality of life seem mediated by variable 'psychological flexibility'<sup>(28)</sup>. Additional research is needed, including studies oriented to clarify the contribution of different components of ACT to patients' progress. A previous study<sup>(36)</sup> is the direct precedent of this work. It explored usefulness of acceptance-based techniques to cope with usual worries in a subclinical healthy sample, through an ACT-based brief protocol. 20 students with maladaptive and intense concerns were randomly assigned to 2 conditions (ACT vs. waiting list). After treating participants' concerns through a one-session ACT-based exposure procedure, concerns diminish in their intensity and interfere significantly less in the following 6 weeks. The present exploratory study replicates the last study applying the same procedure in breast cancer patients with a high level of relapse fear which interfered with actions in valued areas of their life. The objective was assessing the effects of a specific component of ACT oriented to manage relapse fears, in order to explore its possible benefits in cancer patients' distress and activity.

## METHODS

### *Participants*

The study involved 12 women with different degrees of psychological scars after breast cancer diagnosis. They had participated in activities organized by the Span-

ish Cancer Association (AECC), and were aged between 31 and 74 ( $M = 49.4$ ,  $SD = 14.3$ ). Inclusion criteria were stage I or II breast cancer diagnosis, absence of other chronic or threatening diseases, no previous severe psychological disorders, not receiving psychological treatment, a clinically significant degree of distress measured by HADS, and revealing some degree of fear or concern about recurrence whose intensity reached a minimum of 4 on a scale of 1 to 10 (a score of 10 meant extremely high intensity of fear of recurrence). Inclusion criteria also included fear affecting/interfering at least one valuable area. This meant that not only intensity of fear was considered, but also to what extent this fear affected their behavior in any important or valued area of their life. Degree of interference was also evaluated with a minimum of 4 on a 1-10 scale (a score of 10 meant extremely high interference of fear with their behavior in a valued areas). 15 patients initially participated, 8 of who received the intervention and the other 7 constituted the waiting list used as control. However, 3 patients in the waiting list condition left the study before completion so their data are not presented. Table 1 shows the characteristics of participants at baseline. Valued areas affected by the thoughts about recurrence were mainly those for domestic responsibilities (in 7 patients), and to a lesser extent on leisure (4 patients). Other affected areas were "relationship with children", "social relationships" and "study".

### *Study design*

This is an open trial with pre-, post- and 1 and 3 months follow-up measures with between-group and within-participant comparisons. In the clinical condition (called 'ACT'), participants were treated through a short intervention protocol, applied in a single one-hour individual ses-

Table 1. **Main characteristics of participants**

	Participant	Age	Time from diagnosis (months)	Marital status*	Medical treatment**	Emotional distress*** 0-42	Fear Intensity 1-10	Fear Interference 1-10
ACT	1	48	41	M	CT, RT, M	13	6.5	6.5
	2	50	24	M	CT, M	15	5.5	7.5
	3	59	42	M	CT, RT, T	24	8.5	7.5
	4	38	7	M	CT, RT, M	12	5	5
	5	40	1	M	L	37	10	8
	6	38	12	M	CT, RT, M	17	7.5	6.5
	7	67	24	M	RT, L	17	5	4.5
	8	35	3	S	CT, L	16	5	8.5
	Mean	46.9	19.2			18.9	6.6	6.7
Control	9	74	66	S	M	22	9	8
	10	31	24	S	CT, RT, L	17	9	4
	11	45	46	M	CT, RT, L	22	5	5
	12	68	84	-	RT, M	25	6	6
	Mean	54.5	55			21.5	7.2	5.7

Note: \*S = single, M = Married, \*\*CT = chemotherapy, RT = radiotherapy, M = mastectomy, L = lumpectomy, \*\*\* Emotional distress was measured by the overall score on the HADS questionnaire. Values above 12 indicate significant levels.

sion, held one week after the 'pre' evaluation and functional analysis. ACT abbreviated protocol included three components. The first on values clarification, the second led to acceptance, and the third consisting of a 'defusion' exercise. Results from 8 ACT condition participants were compared with data from 4 patients in the waiting list (called 'CONTROL'). Practical limitations related to the fact that the participants included in each condition resided in different cities prevented randomization and collect exactly the same measures in both groups (as will be shown below).

Acceptance and Commitment Therapy<sup>(16,37)</sup> based protocol components are described below (a more detailed protocol can be obtained from the first author, and a detailed description of ACT components, metaphors and exercises can be found at the mentioned handbooks).

– *Assessment of satisfaction and values clarification.* The main objective was to help participants to discriminate how sometimes they were not acting in accordance with their values, and how those occasions, when deviated from their worthy goals, could be related to the presence of barriers associated with cancer. For this purpose the 'garden metaphor' was succinctly presented<sup>(37)</sup>.

– *Component led to acceptance.* Oriented to make discriminate between being focused on private events and being focused on the important goals in life, as well as the ineffectiveness of attempts to suppress private events. Participant's experience was discussed, and the cost of suppression attempts were also discussed when valuable actions were abandoned. Then, the possibility of acceptance was introduced, meaning 'acceptance of

thoughts as thoughts'. This established the discrimination between thoughts about the future and the future itself, and between having concerns and behaving as if those concerns were true.

– *Defusion*. It included an exposure exercise to private events. Patients were asked to imagine their concerns placed in a photo album. If thoughts appeared as images they were invited to view them as photos pasted on the album pages. If thoughts appeared as words they were invited to see them written as sentences. During the exposure they were invited to deliberately contemplate disease related concerns. Patients were asked to practice the exercise throughout the week each time thoughts and concerns appeared. They were encouraged to 'contemplate thoughts as thoughts', especially when they saw themselves stuck, and then were asked to choose between moving forward recognizing their thoughts as simple thoughts, or staying still and following the 'suggestive element' of their thoughts. Participants were assessed 1 week after the intervention (post). Follow-up data was collected 1 and 3 months later. As it was mentioned above, due to practical limitations, data from patients in the waiting list were only collected coinciding with the pre assessment and the 3 month follow-up. Data analysis included within-subject as well as between-group comparisons. Statistical comparisons were performed as described below.

### Assessments

Participants were assessed through scales and self-reports. All instruments are referenced below. Hospital Anxiety and Depression Scale HADS<sup>(38)</sup> is a short and simple 4-point Likert-type scale specifically designed to measure anxiety and depression in patients with physical illnesses which has been widely used with can-

cer patients<sup>(39)</sup>. It also provides an overall measure of emotional distress. It has been validated with cancer patients<sup>(40)</sup> showing adequate internal consistency and test-retest reliability<sup>(41)</sup>. MINIMAC<sup>(42)</sup> is an abridged version of Mental Adjustment to Cancer Scale<sup>(43)</sup> including five subscales covering different ways of coping with cancer. Original and Spanish version of MINIMAC have been validated showing adequate internal consistency<sup>(44)</sup>. In this study, only scores from Anxious Preoccupation subscale were considered. Illness Behavior Questionnaire IBQ<sup>(45)</sup> provided an additional measure of the presence of concerns about cancer through the Witheley Index<sup>(46)</sup> which evaluates level of hypochondria. A Spanish version has been properly adapted and validated<sup>(47)</sup>.

Participants were also evaluated through Subjective Scales referred to the prior week. These scales are self-report measures of experienced fear, similar to the ones used in previous studies on ACT<sup>(48)</sup>. Intensity and interference scales have been already mentioned as they have been used as inclusion criteria. Patients were asked to express overall assessments of the fear of recurrence in terms of its intensity and interference with valued actions on a 1-10 scale. Subjective scales were also used to assess the extent to which participants in ACT condition increased the frequency of valued actions, the degree of satisfaction with these valuable actions, the degree of usefulness of exposure strategies practiced in session and when carrying out valuable actions, and the difficulty to practice these strategies, always referred to the previous week. The scale called 'Frequency of valued actions' showed evaluation of the patient on actions consistent with their own values (for example, engaging in helping their children with their homework in spite the presence of fear and feeling like staying alone). Frequency of valued actions was

evaluated from 1 (never acting coherently with personal values) to 5 (very often acting coherently with personal values). The scale 'degree of satisfaction with valuable actions' ranged from 1 (not at all satisfied with her valuable actions) to 10 (very satisfied with her valuable actions). The scale 'degree of usefulness of exposure strategies' ranged from 1 (not useful at all) to 5 (very useful). The scale 'difficulty' ranged from 1 (not difficult at all to practice the strategies they learnt during the session) from 5 (very difficult).

### *Statistical analysis*

Statistical analysis are presented using non-parametric tests adjusted to the small sample size, Mann-Whitney U test for comparisons between-group and Wilcoxon test for within-subjects comparisons, a significance level of 95%. Effect size (Cohen's *d*) was also calculated for the main variables at 1 and 3 months. Criterion to consider large effect size ( $d=0.8$ ) was based on Cohen<sup>(49)</sup>.

## **RESULTS**

Firstly, pre-treatment differences comparing both conditions (ACT and Control) are analyzed. Later, results from statistical analysis and size effect are presented. Finally, results are completed which data referred to an analysis based on clinical significance. This is particularly relevant from a functional and ideographic approach<sup>(44)</sup>. Comparisons considered data obtained at pre-treatment, post and follow-ups (at one and three months) for every subject in both conditions in intensity, interference, emotional distress, anxious preoccupation and hypochondria. 3 month follow-up data is presented in detail considering that long-term maintenance of changes is the most relevant measure of effectiveness.

### *Pretest differences*

No statistically significant differences in age ( $p = 0.57$ ), intensity ( $p = 0.57$ ), interference ( $p = 0.57$ ) and distress ( $p = 0.214$ ) between the participants in the ACT condition and the control condition were found (see data in table 1). Differences were found in diagnosis time ( $p = 0.028$ ). Patients in ACT condition had been diagnosed more recently ( $M = 19.2$  months,  $SD = 16.1$ ) compared to control condition ( $M = 55$ ,  $SD = 25.8$ ).

### *Based on statistical significance analysis*

As it can be seen in table 2, the mean score in intensity of fear in ACT group diminished from 6.62 at pre-treatment to 3.37 at 3 months. This decrease was found statistically significant ( $p = 0.017$ ). Intensity mean score in Control Group showed a no significant ( $p=0.655$ ) more reduced decrease, from 7.25 at pre-treatment to 6.62 at 3 months. The changes were much clearer in the interference variable. It diminished from 6.43 at pre-treatment to 2.38 at 3 months in ACT condition. Drops in interference were significant at post treatment ( $p = 0.043$ ), at 1 month ( $p = 0.018$ ) and 3 months ( $p = 0.012$ ). By contrast, in control group mean score in interference did not decrease but increased from 5.75 to 6.43 at 3 months, although changes were not statistically significant ( $p=0.180$ ).

Significant drops in ACT condition comparing the pre-treatment and later measures were also found in emotional distress at 1 month ( $p = 0.027$ ), and also in anxious preoccupation at post-treatment ( $p = 0.035$ ) and at 3 months ( $p = 0.016$ ).

Comparisons between ACT and Control groups at 3 months showed statistically significant decreases in intensity ( $p = 0.048$ ) and interference ( $p = 0.008$ ) but not in distress ( $p=0.283$ ) (table 3).

Table 2. Means and standard deviations of variables in every treatment condition

		Intensity	Interference	Distress	Anxious Preoccupation	Hypochondria					
ACT	Pre	6.62 ± 1.88	6.43 ± 1.72	18.87 ± 8.16	23.62 ± 6.65	7.87 ± 3.22					
n=8	Post	5.5 ± 3.02	4.77 ± 2.77	<b>p=.043</b>	17.25 ± 8.37	p=.182	6.75 ± 3.01	p=.339			
	1 month	3.38 ± 1.84	p=.051	2.68 ± 1.35	<b>p=.018</b>	11.71 ± 5.08	<b>p=.027</b>	18.25 ± 6.15	p=.051	5.14 ± 2.54	p=.062
	3 months	3.37 ± 1.84	<b>p=.017</b>	2.38 ± 1.56	<b>p=.012</b>	13.5 ± 6.43	p=.063	18.62 ± 5.57	<b>p=.016</b>	7.12 ± 3.68	p=.440
Control	Pre	7.25 ± 2.06	5.75 ± 1.7	21.5 ± 3.31							
n=4	3 months	6.62 ± 1.97	p=.655	6.43 ± 1.78	p=.180	18.25 ± 4.5	P=.068				

Note: statistically significant intra-group comparisons pre-post, pre-1 month, and pre-3 months; in boldface p values of statistically significant comparisons at confidence level  $p < .05$

Table 3. Means and standard deviations of variables in every treatment condition

		Intensity	Interference	Distress
ACT	3 months	3.37 ± 1.84	<b>p=.048</b> 2.38 ± 1.56	<b>p=.008</b> 13.5 ± 6.43
Control	3 months	6.62 ± 1.97	6.43 ± 1.78	p=.283 18.25 ± 4.5

Note: statistically significant between-group comparisons at 3 months; in boldface p values of statistically significant comparisons at confidence level  $p < .05$



### Effect size

A large effect size<sup>(49)</sup> (see table 3) was found in intensity at 1 month ( $d=1.74$ ) and 3 months ( $d=1.75$ ), in interference at 1 month ( $d=2.43$ ) and 3 months ( $d=2.47$ ), and in anxious preoccupation at 1 month ( $d=0.84$ ) and at 3 months ( $d=0.82$ ). A large effect size was also found at 1 month in distress ( $d=1.05$ ) and hypochondria ( $d=0.94$ ).

the waiting list. As shown in Figure 1, the change was more evident in interference. 37% of patients (3 out of 8) showed clinically significant interference decreases at post treatment and 87% (7 out of 8) at 3 months, whereas patients of the waiting list condition showed no changes in this variable.

Reductions below the cut-off point noted by HADS authors<sup>(38)</sup> were taken as criterion of change of distress. Figure 2 shows

Table 4. **Effect size (Cohen's d)**

		Intensity	Inteference	Distress	Anx. Preoc.	Hypochondria
ACT	Pre-1 month	1.74	2.43	1.05	0.84	0.94
	Pre-3 months	1.75	2.47	0.59	0.82	0.22
Control	Pre-3 months	0.31	-0.39	0.82		

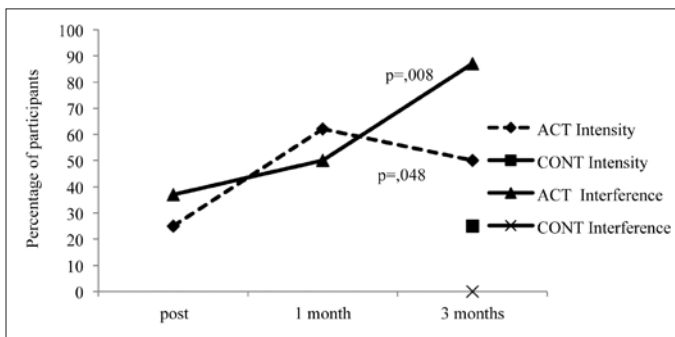
### Based on clinical significance analysis

Based on the authors' clinical experience with subjective scales, a drop of at least 20% of the initial score was considered as a criterion of clinically significant change in the intensity and interference of fear of recurrence. As seen in Figure 1, 25% of patients (2 out of 8) showed clinically significant decreases in post treatment and 50% (4 out of 8) at 3 months, versus 25% (1 out of 4) in

how the percentage of subjects with significant emotional distress is reduced from 100% to 62% (5 out of 8 patients) after treatment and to 50% (4 out of 8) at 3 months, whereas subjects in the waiting list showed no clinically significant decrease of distress levels at 3 months.

Reductions below the cut-off point of Whiteley Index reported by the authors<sup>(45)</sup> were adopted as a criterion of clinically significant change in hypochondriasis. As

Figure 1. **Percentage of participants with clinically significant decreases in intensity and interference of the fear of recurrence**





shown in Figure 3, the percentage of patients with clinical intensity in hypochondria decreased from 62% (5 out of 8) before the treatment to 37% (3 out of 8) at post treatment and at 3 month follow-up. Decreases in scores below the cut-off point noted by MINIMAC authors<sup>(42)</sup> for anxious preoccupation were taken as criterion of clinically significant change. Figure 3 shows the decrease in the number of patients with clinically significant levels of anxious preoccupation from 50% (4 out of 8) at pre-treatment to 12% (1 out of 8) at 3 months.

In addition, at 3 months all patients in ACT condition a medium or high increase in the frequency of valued actions compared to pre-test. The rise was high or very high for 62% of the ACT participants (5 out of 8) and medium for 37% (3 out of 8). Also at 3 months, 62% (5 patients out of 8) reported that they had increased their satisfaction with their actions in the presence of fear. 87% (7 of out 8 patients) indicated that the utility of the exposure exercise was medium (2 patients) or high (5 patients). Moreover, at 3 month follow-up, 75% of ACT

Figure 2. **Percentage of participants with clinically significant reductions in distress**

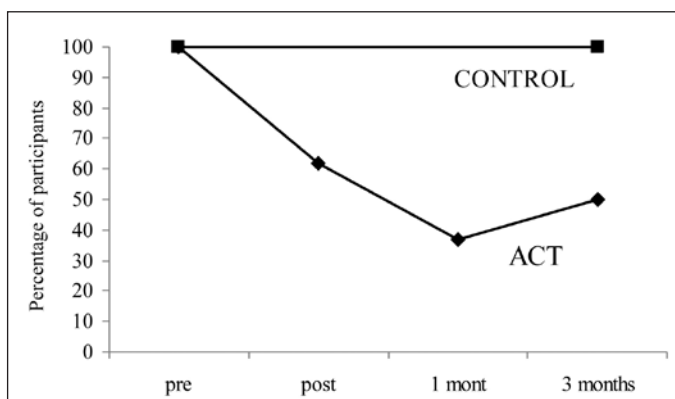
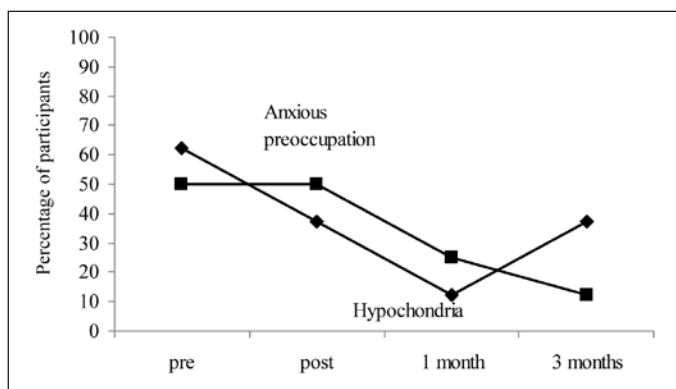


Figure 3. **Percentage of participants with clinically significant level of anxious preoccupation and hypochondria**



participants (6 out of 8) issued reports regarding usefulness of the learned strategies (e.g., "When I visualize the thoughts they seem more familiar to me, not so scary" or "it has helped me to know that thoughts are words and nothing that I thought was real, but it was in my head"). The difficulty of the trained exposure strategy was evaluated by most of participants as medium or low (only one reported a high difficulty during the first week and none at the follow-up). In summary, considering all data presented before, at 3 months follow-up, 7 out of 8 patients (87%) showed clinically significant improvements in interference and 4 (50%) in intensity. Furthermore, the detailed within-subjects analysis shows that 5 out of 7 patients with clinically significant decreases in interference (62%) also show clinically significant changes in any of the self-report measures. Clinical improvements in interference are always connected to some usefulness index at 3 months follow-up.

## DISCUSSION

Within-subject and between-group analysis reveal that the implementation of a short protocol based on ACT focused on exposure to private events was followed by a decrease the interference of the fear of recurrence. Data showed a large effect size of treatment on interference and statistically significant decreases on this variable were also showed by comparisons between ACT and control groups at 3 months, and by comparisons in ACT group between pre-treatment and 1 and 3 months after treatment. Clinically significant decreases of interference were observed in 87% of participants at 3 months. By contrast, interference of relapse fears not only did not decrease but also increased in patients in control group at 3 months.

Moreover, such interference changes were accompanied by clinically significant decreases in the intensity of fears in 50% of

participants, and these drops were also statistically significant when comparing pre, post and follow-up inside ACT group, and when comparing ACT and control group at follow-up. These changes were associated with clinically and statistically significant decreases in anxious preoccupation at 3 months, and with clinically significant decreases in distress in 50% of patients at 3 months. The changes were also accompanied by verbal reports that corroborate the usefulness of the intervention in relation to issues such as increasing valuable actions, satisfaction with such actions or greater tolerance of the of fear recurrence thoughts.

Nevertheless, the limitations of this study should be considered. First, the very small number of participants, which reduces the scope of the findings. Other limitations include the lack of randomization (as ACT and waiting list subjects lived in different locations) and the fact that the sizes of both groups were different. Both groups were also different in time from diagnosis. As control was not complete over the manipulated variables, we can not assure that the detected change is due solely to the intervention. Also it must be noticed that exactly the same data could not have been collected in control group (just pre and 3 months follow-up), and some subjects abandoned the waiting list. Also criterion for clinical significant change in interference and intensity may be considered weak. Anyway, clinical criteria for the rest of variables are based on standardized questionnaires and these analyses should be considered as a complement of statistical analysis, as effect size is large for these variables. These are the reasons why it is suggested to take this study as a preliminary approach. The need for further studies with cancer patients to provide additional data is highlighted. Anyway, in spite of these limitations, we consider this study provides new data which specifically sup-

port the usefulness of defusion techniques, essential components of ACT, focused on acceptance of disturbing thoughts and worries in cancer patients, which is a main goal for these patients as mentioned.

In this sense, it should be noted that in this study drops in the interference of fear do not necessarily mean a decrease in intensity of fear, emotional distress or anxious preoccupation. This is consistent with ACT approach. It means that interference decreases even though the intensity remains high. In fact, the aim of the intervention is not fear disappearance. Moreover, in some cases they increase their intensity. ACT does not pursue 'content changes' but 'contextual changes'. It promotes changes in aversiveness or in discriminative function of fears. In most cases this will not lead to avoidance or suppression attempts anymore, which have been linked to valuable activity interruption or abandon. Fears are then contemplated as thoughts and the task is 'making room' for them, which means a change in their function without necessarily altering its shape or frequency. Thus, subjects leave the context of control of private events which encourages avoidance attempts and instead they focus on valued actions. That is, private events and valued actions are now set in a coordination, and not an opposition framework. In this context, it can be assumed that fears are not 'the enemy', but are part of the way. This changes can be seen in the oral reports of patients, reflecting a greater degree of distancing and 'deliteralization' ('Now I live it as something distant, before I was obsessed'), a decrease of aversiveness ('it is present but it does not hurt as before', 'I have not forgotten it... every day, for any reason, it comes again... there it is, I can't say I don't think about it... but it interferes less every day'). Some patients admitted treatment was useful for them to discriminate that they had previously been suppressing fears that they did not even

recognize. Addressing them through the exposure exercise helped them to overcome fears ('it has helped me to overcome something that I realized I had not overcome even if I thought I had... if you start looking, there it is, although you had hidden it... when you realize that, you try to accept it'). Data warn us that cancer survivors' emotional reactions and fears rarely disappear, and rarely equate in frequency to healthy subjects<sup>(4)</sup>. Available interventions focusing on learning to live with these reactions and reducing their interference can result extremely useful. It should be noted that the impact of the intervention is more relevant as time passes. Decreases in intensity and interference of the fears and clinical changes were higher during follow-up. This associated with practice improvement has already been detected in the previous study<sup>(36)</sup>, and is consistent with data from experimental and clinical studies<sup>(51)</sup>. It can be pointed out as an advantage of this intervention whose effects are not reduced over time, but rather, become deeper, which is a desirable goal in any psychological intervention.

Interventions such as the one presented here represent a new perspective, from which painful or negative thoughts harbored cancer patients, can be managed. Psycho-oncology pioneer Holland<sup>(52)</sup> reported how therapists and society have made cancer patients believe that feeling sad, scared, upset, angry or thinking pessimistically is unacceptable, and that if the patient does not control their emotions all the time, he can lose the battle against cancer. This 'tyranny of positive thinking' means that unfounded superstitious beliefs are deep-rooted, establishing causal relationships between attitudes or positive thoughts and cancer healing. Blaming the patients and making them feel responsible for the clinical course of their illness, or patients hiding their fears or delaying seeking help have been the

consequences. Therapeutic approaches aimed at controlling and reducing the frequency of private events do not provide an alternative to the promoted by culture 'control context'. Therapeutic alternatives are needed, aimed to handle painful thoughts acting as barriers, and ACT can be considered an effective approach for this purpose. Unlike other approaches, ACT can achieve unusually fast reductions in credibility, though not necessarily in the frequency of negative thoughts<sup>(53,54)</sup>. These declines are associated with 'cognitive deactivation' and willingness to experience the private negative events ACT provides. It is specifically associated with the favorable results this therapy yields<sup>(55)</sup>. In this context we should note the relevance of the central technique, exposure to private events, and its power at 'deactivating' the most diverse fears. Data support the importance of non-avoidant versus avoidant coping strategies<sup>(56)</sup> and the role of experiential avoidance as a core of many psychological problems<sup>(57)</sup>. Cancer experience is one of the many possible aversive experiences which can elicit a pattern of avoidance behavior of thoughts and feelings. Even if this pattern is not compatible with a formal diagnosis of PTSD, the 'traumatic' consequences may be present a long time after the disappearance of the event which triggered this avoidance reaction. It may have a significant impact on life functioning<sup>(58)</sup>, although not all painful events are traumatic<sup>(59)</sup>. Even though avoidance or control of the private or inner experience often becomes a goal of survivors after a traumatic experience<sup>(60)</sup>, suppression of private events seems to be linked to greater severity, longer persistence of symptoms, more frequency of rumination and less efficient coping<sup>(61,62)</sup>. In this context, how early the psychological intervention is provided can be considered a key issue. Interventions like the one in this study aimed at exposure rather than

avoidance from the initial moments following the aversive experience could be extremely helpful for preventing the development and chronicity of avoidance patterns. It can ease coping with extremely aversive experiences such as cancer diagnosis and treatment. In brief, as Frankl stated<sup>(63)</sup>, the most fruitful approach to life implies focusing on, rather than diverting attention from, unwanted experiences.

To conclude, it should be noted that most results point in the same direction through the different analysis. Study goals were achieved, the effectiveness of a short ACT-based protocol for breast cancer patients was showed, and a previous study was replicated showing similar results. Significant changes were achieved after a single intervention session, and were consistent with ACT perspective. The importance of developing short, effective, inexpensive protocols such as the one presented here should be noted.

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