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POSITIVE LIFE CHANGE AFTER CANCER: THE KEY INGREDIENTS TO FACILITATE IT AND EFFECTS ON WELL-BEING

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En las últimas décadas se ha impulsado desde la Psicología Positiva (PsiPos) el estudio científico de los cambios vitales positivos tras un cáncer, integrándolos con los cambios negativos, desde un mismo marco de experiencia humana. Se han diseñado intervenciones novedosas que han priorizado vías de reducción del malestar emocional y la psicopatología en cáncer desde la facilitación de un funcionamiento psicológico positivo con resultados prometedores. Se realiza una revisión e integración teórica de los constructos de la PsiPos encontrados en bases de datos relevantes (Psycinfo, Pubmed, Web of Science, Scopus, entre otros) que se han relacionado con los cambios vitales positivos tras un cáncer y su potencial terapéutico. Por último, se describe un resumen del programa de psicoterapia positiva en cáncer apuntando las estrategias terapéuticas facilitadoras de estos cambios positivos. Los cambios vitales positivos tras pasar por un cáncer son más la norma que la excepción. Estos cambios juegan un importante papel en la adaptación psicosocial, adherencia a los tratamientos oncológicos, bienestar y calidad de vida. Programas de tratamiento psicológico basados en la Ppos tienen resultados prometedores en cáncer que complementan y pueden mejorar los resultados de programas tradicionales de control o manejo de estrés.
***Palabras clave**: Cambios vitales positivos, Cáncer, Intervenciones positivas, Estrategias terapéuticas.*

Over the last decades, Positive Psychology (PP) has promoted the scientific study of positive life changes in the aftermath of cancer. These have been integrated within negative life changes, based on the same human experience framework. Innovative interventions have been designed, prioritizing the pathways to the reduction of emotional distress and psychopathology in cancer, through the facilitation of positive psychological functioning. These interventions have achieved promising results. A theoretical and integrative review of the PP-related constructs was performed in the relevant databases (PsycINFO, PubMed, Web of Science, Scopus, etc.). These constructs have been linked to positive life changes after cancer and their therapeutic potential. Finally, we provide a summary of a positive psychotherapy program for cancer survivors, indicating the therapeutic strategies that facilitate positive life changes in the aftermath of cancer. Positive life changes after suffering cancer are more the norm than the exception. These changes play an important role in psychosocial adjustment, adherence to cancer treatments, well-being and quality of life. Psychological treatment programs based on PP achieve promising results with cancer. These programs are capable of complementing and improving the outcomes achieved by traditional stress-management programs.
***Key words:** Positive life changes, Cancer, Positive interventions, Therapeutic strategies.*

Despite the existing advances in primary cancer treatment (surgery, chemotherapy, radiotherapy and hormone therapy), the high survival rates have not involved achieving greater well-being or quality of life. In fact, a large percentage of survivors (35%-38%) experience high psychological distress and major difficulties in functioning and the carrying out of activities of daily living after surviving the disease (Carlson et al., 2004; Zabora, Brintzenhofeszoc, Curbow, Hooker, & Piantadosi, 2001). At the psychological level, for example, there is a high prevalence of posttraumatic stress symptoms (Kangas, Henry, & Bryant, 2002), persistent anxiety, depression and fatigue in the period of survival after breast cancer (Haberkorn et al., 2013; Przezdziecki et al., 2013; Sheppard, Llanos, Hurtado-de-Mendoza, Tailor, & Adams-Campbell, 2013). This prolonged psychological discomfort is critical in the evolution of the disease because it causes a low quality of life, poor self-care, poor adherence to cancer treatments, and even a worse prognosis and overall survival (DiMatteo, Lepper, & Croghan, 2000; Giese-Davis et al, 2011; Honda, Goodwin, & Neugut, 2005; Reich, Lesur, & Perdrizet-Chevallier, 2008). Until two decades ago, the psychological interest in the cancer survivor focused on the negative and painful experience, more reactive to the disease. However, over the past two decades, coinciding with the emergence of PP, there has been greatly amplified interest in positive psychological functioning throughout the cancer process and its ability to foster positive personal transformations. Thus, the goal of PP, understood as the study of the foundations of psychological well-being, and human virtues and strengths, has permeated the different studies in the field of psycho-oncology.

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The phenomenon that has been most studied within PP in cancer is that of posttraumatic growth (PTG). PTG refers to the positive personal changes that some people experience after going through a potentially traumatic experience, such as cancer. There is more than one model to define PTG, but the one most used so far has been that of Tedeschi & Calhoun (1996), which states that these personal changes occur basically in five areas: consideration of new possibilities in life, improved personal relationships, greater emphasis on spirituality, greater personal strength and greater appreciation for life itself. These five areas, in turn, form the PTG evaluation tool created by the same authors, which is the most commonly used in studies assessing PTG: the *Posttraumatic Growth Inventory* (Tedeschi & Calhoun, 1996).

Recent meta-analyses show a consistent relationship between the variables related to positive psychological functioning (positive emotions, growth and benefit-finding) and robust results associated with health such as mortality, physical health indicators or the degree of recovery from physical illnesses (Vázquez, 2013). Likewise, the overall results of the meta-analyses in cancer patients show that patients who experience PTG adapt better after the disease, showing better mental health, as well as a better subjective state of physical health (Helgeson, Reynolds, & Tomich, 2006; Sawyer, Ayers, & Field, 2010). In particular it has been found that PTG in cancer was associated with less emotional distress and posttraumatic symptoms (Sawyer et al., 2010). The fact that there is an association between high levels of post-traumatic stress and loss of quality of life in patients with cancer (Cordova et al., 1995), and that this loss is lessened when PTG is experienced (Morrill et al., 2006), suggests that growth may be a therapeutic route to enhance in order to facilitate the quality of life in survivors. PTG has also been associated with more salutogenic behaviors (Milam, 2006) in survival. For example, growth has been associated with greater adherence to routine check-ups in women with breast cancer (Sears, Stanton, & Danoff-Burg, 2003). If these positive life changes, summarized in the studies on PTG in cancer, appear to be associated with better psychosocial adjustment to the disease and better self-care and adherence to oncology treatments, several questions arise: What elements are associated with these positive life changes? Can this natural process of positive change in adversity be facilitated by positive psychology? Does this facilitating provide a therapeutic advantage compared to other therapeutic approaches?

Given the importance of PTG in cancer, this review aims to show the sociodemographic, medical and psychosocial factors that have been associated more with positive life changes. Secondly, a treatment program focused on PP will also be summarized, explaining the therapeutic strategies that facilitate these positive life changes and the results obtained.

WHAT SOCIODEMOGRAPHIC OR MEDICAL ELEMENTS ARE ASSOCIATED WITH PTG IN CANCER?

A number of lines of research have provided information on the predictive power of some socio-demographic, psychosocial or medical variables in the development of PTG in cancer patients (see Table 1). Similarly, the predictive power of these variables has also been explored in the positive psychological functioning in patients with a specific type of cancer, such as breast cancer. In this section we summarize the main findings on the subject, and Table 1 shows the number of studies supporting or not supporting the relationship of different factors with PTG. To see the power of these relationships in the different studies please see a recent systematic review (e.g., Casellas-Grau, Vives, Font, & Ochoa, 2016).

Among the sociodemographic variables, age is the characteristic that has been studied the most. In general, the studies report an inverse relationship between this variable and

TABLE 1
RELATIONSHIP BETWEEN SOCIODEMOGRAPHIC, MEDICAL AND PSYCHOSOCIAL CHARACTERISTICS WITH DEVELOPMENT OF PTG IN CANCER PATIENTS

Sociodemographic characteristics	**Relationship with PTG**
Age	Inverse relationship between age and PTG (n=11) Non-significant relationship between age and PTG (n=8) Direct relationship between age and PTG (n=3)
Gender	Non-significant relationship between sex and PTG (n=7) Female sex has greater tendency to develop PTG than male sex (n=6)
Civil status	Non-significant relationship between civil status and PTG (n=5) Direct relationship between being married and PTG (n=3)
Education level	Non-significant relationship between education level and PTG (n=7) Inverse relationship between education level and PTG (n= 6) Direct relationship between education level and PTG (n=4)
Socioeconomic level	Non-significant relationship between socioeconomic level and PTG (n=5)
Psychosocial characteristics	**Relationship with PTG**
Social support	Direct relationship between social support and PTG (n=11) Non-significant relationship between social support and PTG (n=2)
Religious affiliation	Direct relationship between having a religious affiliation and PTG (n=4) Non-significant relationship between having a religious affiliation and PTG (n=1)
Optimism	Direct relationship between optimism and PTG (n=3) Non-significant relationship between optimism and PTG (n=3)
Positive affect	Direct relationship between positive affect and PTG (n=3) Non-significant relationship between positive affect and PTG (n=3)
Quality of life	Direct relationship between quality of life and PTG (n=3) Non-significant relationship between quality of life and PTG (n=3)

TABLE 1
RELATIONSHIP BETWEEN SOCIODEMOGRAPHIC, MEDICAL AND PSYCHOSOCIAL CHARACTERISTICS WITH DEVELOPMENT OF PTG IN CANCER PATIENTS (continuation)

Well-being	Direct relationship between well-being and PTG (n=4)
Hope	Non-significant relationship between hope and PTG (n=2) Direct relationship between hope and PTG (n=1)
Happiness	Direct relationship between happiness and PTG (n=1)
Gratitude	Direct relationship between gratitude and PTG (n=1)
Medical Characteristics	**Relationship with PTG**
Site of cancer	Non-significant relationship between site of cancer and PTG (n=4)
Stage of cancer	Direct relationship between stage of cancer and PTG (n=4) Non-significant relationship between stage of cancer and PTG (n=4)
Type of surgery	Non-significant relationship between type of surgery and PTG (n=6)
Type of cancer treatment	Non-significant relationship between type of cancer treatment and PTG (n= 9) Direct relationship between receiving chemotherapy and PTG (n=3) Direct relationship between receiving radiotherapy and PTG (n=1) Inverse relationship between receiving radiotherapy and PTG (n=1)
Time since diagnosis	Non-significant relationship between time since diagnosis and PTG (n=10) Direct relationship between time since diagnosis and PTG (n=6) Inverse relationship between time since diagnosis and PTG (n=2)
Time since treatment	Non-significant relationship between time since treatment and PTG (n=4) Direct relationship between time since treatment and PTG (n=1) Inverse relationship between time since treatment and PTG (n=1)
Recurrence	Non-significant relationship between recurrence of illness and PTG (n=2)

the development of PTG, with young people tending to develop PTG more frequently (e.g., Manne et al., 2004). However, there are still some studies that found a direct relationship between such variables -three articles out of a total of 22- (e.g., Jansen, Hoffmeister, Chang-Claude, Brenner, & Arndt, 2011) or an absence of relationship (e.g., Nenova, Duhamel, Zemon, Rini & Redd, 2013). The reason for the differences in the results of recent studies could be due to the type of sample, as some cancers belong more to certain older age ranges (for example, breast cancer is usually diagnosed around the age of 50), while other types of cancer, such as leukemia, tend to affect younger people.

Studies that have explored the influence of gender on PTG find that it is women who tend to develop more PTG in relation to men, probably because women also show a greater sense of threat and emotional involvement in the form of discomfort or post-traumatic stress, which has been associated with greater PTG (Barakat, Alderfer, & Kazak, 2006; Mcdonough, Sabiston, & Wrosch, 2014; Morrill et al, 2006; Mystakidou et al, 2007; Sears, Stanton, & Danoff-Burg 2003; Yi & Kim, 2014). In this sense, we have also evaluated the influence of being or not being in a relationship on the facilitation of PTG and the results show that not this does not have an influence (e.g., Svetina & Nastran, 2012), although some studies found a direct relationship (Bellizzi & Blank, 2006; Mystakidou et al, 2008; Weiss, 2004). It seems that the differences were more related to the quality of social support received from the partner. Conceivably, a relationship that provides quality support encourages PTG in a very similar way to how it provides social support. In fact, the vast majority of articles directly associated social support and PTG (e.g., Lelorain, Tessier, Florin, & Bonnaud-Antignac, 2012). Another psychosocial factor closely related to the development of PTG and social support is religious affiliation. Religious affiliation, in fact, has been linked to increased emotional support, whether from other believers, or the belief in a God (e.g., Bellizzi et al., 2010). The variables that are typically associated with a positive psychological functioning in PP, such as optimism, hope, positive affect and quality of life, do not show consensus either, since virtually the same amount of articles were found for and against their relationship with PTG (Casellas-Grau, Vives, Font, & Ochoa, 2016). However, there does seem to be consensus as to the direct relationship between well-being and PTG in the four studies that analyzed this (Danhauer et al, 2013; Lelorain et al, 2012; Olden, 2009, Ruini & Vescovelli, 2012). Finally, two studies that have analyzed concepts close to that of well-being and its relationship with PTG, namely happiness (i.e., Lelorain, Bonnaud-Antignac, & Florin, 2010) and gratitude (Ruini, Vescovelli, & Albieri, 2013), also found a direct relationship.

Finally, multiple studies have evaluated the predictive power medical variables have on the development of PTG in cancer patients. In general, it has not been observed that these factors have a significant influence on the development of PTG. Specifically, the location of the tumor, the type of surgery and cancer recurrence all appear to be unrelated to the later development of PTG in patients. Less consensus was found in relation to the tumor stage; half of the studies found a direct relationship between this variable and the development of PTG (e.g., Jansen et al., 2011), while the other half found a non-significant relationship (e.g., Mols, Vingerhoets, Coebergh, & van de Poll-Franse, 2009). One study (Lechner, Carver, Antoni, Weaver, & Phillips, 2006) articulates these results, finding a curvilinear relationship the between stage of the cancer and benefit-finding from the disease. Thus, the most benign tumors (Stage I) and the most advanced ones (Stage IV) are the ones

that least facilitate PTG. The former because the low sense of threat would not facilitate changes in the way that patients see themselves, others or the world, and the latter, because the highly life-threatening situation could block the changes precisely because the patients cannot see enough possibilities of life projection to make it worthwhile to change. Thus it is the intermediate stages (II and III) which generate sufficient uncertainty and threat to consider positive life changes and a life perspective to be able to carry them out.

As for the type of cancer treatment and PTG, most studies did not find a significant relationship (e.g., Tallman, 2013), although three showed a direct relationship between chemotherapy and developing PTG (Hefferon, Grealy, & Mutrie, 2009; Jansen et al, 2011; Lee, Robin Cohen, Edgar, Laizner, & Gagnon, 2006; Lelorain et al, 2010). Finally, other variables such as the time elapsed since diagnosis (Brunet, McDonough, Hadd, Crocker, & Sabiston, 2010), or the cancer treatment (Turner-Sack, Menna, Setchell, Maan, & Cataudella, 2012) were not linked irrefutably to PTG either, although it seems that the temporary removal of the acute part of the disease can facilitate PTG, without the optimum time being clearly determined.

POSITIVE PSYCHOLOGY APPLIED IN CANCER

Applied Positive Psychology or Positive Psychotherapy (PP) in cancer has emerged in connection with the significant boost that PP has been experiencing over the last decade. Its central premise is to promote and prioritize the focus of the psychological intervention on the positive resources of people, such as positive emotions, strengths and personal meaning (including the existential and spiritual), complementing the more traditional approaches that focus on the reduction or management of psychopathological symptoms or emotional distress (Ochoa, 2014; Rashid & Seligman, 2013). One of its basic assumptions, relevant to cancer and with a clear humanistic-existential tradition, is that people have an inherent desire for growth, fulfillment, and happiness rather than merely seeking to avoid misery, worry and anxiety. Thus, it is well understood that a substantial part of suffering, emotional distress and psychopathology in cancer is created by the logical limit imposed on life by death, or its perceived threat –which is made evident with cancer-. However, another important part of the suffering with cancer has to do with the hindering of the huge and pressing need to address and make positive life changes that arises intensively after total or partial awareness of mortality with serious illnesses.

HOW CAN WE FACILITATE POSITIVE LIFE CHANGES (GROWTH) IN CANCER?

In 2010, in our study group, we created the first guide to a program of positive group psychotherapy for cancer patients (PPC, Ochoa et al., 2010). The basic objective of the PPC is to

TABLE 2
DESCRIPTION OF POSITIVE PSYCHOTHERAPY IN CANCER

INITIAL PHASES: PROMOTING THE ASSIMILATION PROCESSES			
Module	**Session**	**Objective**	**Sessions / Therapeutic elements**
1	1 and 2	To promote attitudes that facilitate growth from the disease To encourage expression/emotional processing	1. Promoting curiosity for life, group universality and openness to change 2. "The positive intention of the symptom". Working with negative and positive emotions: somatic awareness, symbolization and emotional adaptive resignification
2	3 and 5	Emotional regulation and coping	3. Emotional awareness and balance 4. Horizons of positive change and healthy lifestyles 5. Working with strengths and memories of success in coping with other adverse events
INTERMEDIATE AND FINAL PHASES: PROMOTING THE ACCOMMODATION PROCESSES			
Module	**Session**	**Objective**	**Sessions / Therapeutic elements**
3	6 - 9	Facilitating posttraumatic growth	6. Giving meaning to the experience: working with recent and remote positive autobiographical memories. 7. Giving meaning to the experience: Personal fulfillment guide and hope based interventions. 8. Relational growth: promoting or arousing interest in others and working with positive role models in adversity. 9. Relational growth: interventions based on gratitude and forgiveness.
4	10-12	Existential and spiritual aspects	10. Anticipating a relapse, awareness of increased mortality and Closing the group transience, and addressing emotional anesthesia. 11. Transcendence and repentance as a constructive path 12. Farewell letter and review of the group experience

facilitate psychosocial adaptation, promoting PTG in patients, caregivers and significant others. The PPC group program (see Table 2) consists of 12 weekly sessions of 90-120 minutes duration, with two follow-ups after 3 and 12 months of completing the intensive phase of psychological treatment. The closed groups were composed of 8-12 post-cancer treatment patients, disease-free and with moderate or severe adaptation problems. The sessions are divided into four modules (see Table 2) of varying lengths and with different objectives, which can be adapted and made more flexible to the pace of the group. The general objective of the first two modules is to facilitate the process of assimilation of the experience of cancer by working with elements that allow greater emotional regulation and better coping. The last two modules, which are more extensive, focus on promoting the processes of accommodation and personal transformation of the experience with the disease, which we understand as growth per se.

Some theoretical models of growth in adversity make a useful distinction between the processes of assimilation and accommodation of the adverse experience (e.g., cancer). In general, they try to distinguish whether the person does or does not change their view of what they have experienced (e.g., "cancer is just another bump in the road of life"), either it is consistent with the patient's previous way of seeing things (assimilation) or they change their way of seeing things in order to incorporate the experience successfully (accommodation). For example, "Now I can clearly distinguish between what is important and what is trivial nonsense." Although they do not involve two purely sequential processes, the processes of assimilation prevail in the immediate aftermath of the adverse event (time of crisis and post-crisis) and they comprise elements of emotional expression, processing and regulation, as well as what we know as coping strategies focused on managing and the way of seeing the event itself. Different factors associated with the processes of assimilation and those of accommodation have been associated with personal growth in adverse situations (Zoellner & Maercker, 2006), but many authors understand that true, real and present growth only occurs through accommodation (Joseph & Linley, 2006; Sumalla, Ochoa, & Blanco, 2009), i.e. by profound changes in the view of the self, others and the world, resulting from the need to process the traumatic information that serious illness tends to impose. This is why our group program dedicates more sessions to the accommodative processes than to those of assimilation.

Below we briefly explain the 12 group sessions of the PPC, to complement Table 2 where we explain the specific objectives, techniques and strategies that facilitate positive life change in cancer, as described in more detail elsewhere (Ochoa & Casellas-Grau, 2015; Ochoa et al, 2010) and which have been used in a similar way to approach other adverse situations (Vázquez, Pérez-Sales, & Ochoa, 2014).

Session 1: What did it mean to be diagnosed with cancer? Promoting life curiosity, group universality and openness to change. After providing the group rules (punctuality, confidentiality, trust and support), the presentation starts with a first individual testimony regarding before, during and after the cancer process, promoting reciprocal life curiosity in the group, noting the commonalities and universal aspects in the responses (emotions, thoughts and behaviors) and exploring openness to change. Curiosity as an attitude to life is one of the survival mechanisms that facilitates the development of new skills and ways of understanding reality, and ultimately growth. Specifically, it has been seen that people who score high on personality dimensions such as "Openness to experience" characterized by being imaginative, emotionally reactive and intellectually curious have been more likely to experience growth (Tedeschi & Calhoun, 1996).

Session 2: "The positive intention of the symptom." Working with negative emotions: emotional expression, somatic awareness, emotional symbolization and adaptive re-signification. The expression and processing of primarily negative emotions is encouraged, facilitating an adaptive explanation for the symptoms of emotional distress (e.g., post-traumatic stress) and enabling them to be reconceptualized in a positive light, as a "normal reaction to an abnormal situation" (the cancer). Benefits were found of emotional expression in patients with breast cancer upon finishing the treatment, in measures of increased vigor, decreased emotional distress and improved quality of life when they were followed longitudinally (Stanton et al., 2000).

Session 3: Emotional awareness and balance. After the first interventions that primarily dealt with emotional distress, now progress is made with the aim of establishing emotional balance: exploring not only negative emotions, but also accommodating therapeutic recognition and work with positive emotions. We refer to asking not only how the disease has affected them, but also what they have done and what they are doing to survive, resist or prevail. During the interventions of the different group members, it is advised to note or make minor indications on the current presence of positive emotions, for example through increasing somatic awareness of these emotions, with the aim of being able to symbolize or nominalize the positive emotion. Pointing out to patients the moments in which positive emotions appear is especially important in the initial stages in order to cushion the emotional distress that the first group testimonies release (Fredrickson, 2001).

Session 4: Horizons of positive change and healthy lifestyles. Personal and group goals for change are developed, trying to imagine how the person would know that the group experience

has worked. For example, "How can we begin to know that you are starting to feel better? Who would be the first person closest to you to realize? How would that person observe your change?" Lifestyle changes after the disease are also explored and discussion is promoted about the personal and idiosyncratic changes the patients would like to make towards what each person understands as healthy.

Session 5: Working with strengths and memories of success in coping with other adverse events. Facilitating the detection of strengths and virtues that each member identifies in himself and in others, looking at current or past situations that have been faced successfully. Parallels are made with past situations overcome with more or less success, which can help draw lessons. "How were you able to rise above your problems then? What was helpful?" Then, the strength or virtue detected is used as a way to promote an alternative change or coping strategy. For example, "You say that you are not able to maintain interest in anything since you finished treatment, but I see that you continue fighting with your son about his homework and you take your mother for a walk daily. Could the perseverance and interest you show in getting your son to study and taking your mother for walks be of help for any other problem we are dealing with?

Session 6: Giving meaning to the experience. Working with positive, recent and remote autobiographical memories. In attempting to give continuity and life coherence to the experience, narratives arise in cancer survivors searching for new meanings that aim to integrate and respond to events that the disease has questioned, and which for many are the essence of posttraumatic growth (Ochoa, Casellas-Grau, Vives, & Font, 2017; Park, Chmielewski, & Blank, 2010; Tedeschi & Calhoun, 1998). Some searches are posed as questions, such as: "What are my priorities now? Who has been close to me in this illness and tuned in with my new concerns and difficulties? In order to provide a constructive and transformative view of the disease, working with positive autobiographical memories (PAM) is suggested. Updating memories either in writing or using guided imagery of positive autobiographical episodes is encouraged; although it may initially bring awareness of what has been lost or what is now in the past, it also causes the reliving of pleasant sensations, the fulfilling of personal and relational autobiographies, a sense of progress or fullness and in all probability personal growth. In addition, returning to a positive memory makes the experience remembered or similar ones more likely to recur or activate behaviorally (Wirtz, Kruger, Scollons, & Diener, 2003).

Session 7: Giving meaning to the experience: Personal guidelines for fulfillment and interventions based on hope. To create personal guidelines for fulfillment, we mean the attempt to formally establish connections between what is repeated successfully, generating meaning, fulfillment and purpose in life. The personal fulfillment guidelines that are easiest to establish in cancer patients are those corresponding with significant anchors that help maintain a sense of improved continuity after the illness (e.g., "My family who have been here for me, my partner who continued to help me to feel loved, hobbies that make me feel useful and valid, etc.") Based on these items of personal fulfillment that arise in the previous sessions, the aim is to see how they can be maintained or increased in the present and future. To this end, an intervention is begun based on hope and focused on setting goals, developing skills to find ways or itineraries in order to reach them and self-motivation for achievement (Snyder, 2002).

Session 8: Relational growth: Promoting or arousing interest in others and working with positive role models in adversity. One of the clinical indicators of improvement in mental health and personal growth is the ability to transcend one's own "ego" (Joseph, 2011). Relational growth has to do with the decentering of the self, the capacity to care, worry and engage with others, and in a more affective sense, to love and be loved. A recent review on cancer survivors and their significant others (Ochoa, Castejón, Sumalla, & Blanco, 2013) suggests that personal growth in the significant other of a patient with cancer is a vicarious experience closely linked to the growth of the survivor. Some therapeutic elements that have been clinically associated with relational growth are: (1) **Encouraging concern for others,** asking how their significant others have responded to and been affected by the illness, and how they have shared and helped each other. Thus the emotions of the other (relational empathy), and their intentions are experienced, and their limitations are understood. (2) **Working with positive role models in adversity**. In adverse situations, it is easy to find oneself without a reference for understanding what one is going through and finding ways of useful coping. This is why many people try to find in their loved ones (present or absent) or in other people going through the disease, positive role models or references, especially in cancer. Group therapies, associations or collectives of people affected reflect this willingness to share and cope collectively, from and with each other. One study (Weiss, 2004) demonstrated the importance of this modeling in women that had contact with other breast cancer survivors who perceived benefits from their experience, noting in them significantly greater benefit-finding (positive life changes) in contrast with women that had not had contact with other survivors. In working with positive role models, first one must identify the person, distill their virtues, values and skills for which they are admired, and then one must explore the possibilities of positive modeling that the person has had and may continue to have on the patient.

Session 9: Relational growth: Interventions based on gratitude and forgiveness. The status of significant relationships after the disease is evaluated in the group, exploring the outcome between what was received and what was expected to be received. Awareness and expression of gratitude are facilitated and the possibility is valued of repairing relationships that have been affected after the disease through therapeutic work with "forgiveness". In the research, experiences of gratitude have been associated with higher levels of well-being and happiness (Ruini & Vescovelli, 2012). In positive psychology, various interventions based on gratitude have been described (Hervás, Sánchez & Vázquez, 2008). In the group, we propose the following exercise in order to become aware of "that positive something" received from others: "Before and after the illness, there are things in your life for which you are grateful. For the next week I ask you to note down each day between one and three things for which you feel grateful." In the next session we analyze and work on these. Showing gratitude deepens the sense of connection with people, reinforces the belief in the goodness of others and promotes expression, communication and intimacy in relationships. Sequentially, after the interventions based on gratitude, we introduce more complicated ones, based on forgiveness. These interventions are usually more complex and care must be taken not to transmit "pressure to forgive", which can be misconstrued. The act of forgiveness can allow the release of negative emotions of pain, resentment and anger which can prevent more positive emotions. Forgiveness tends to be associated positively with psychological well-being, physical health and desired results in interpersonal relationships (Worthington & Scherer, 2004). We practice forgiveness through this task: "Before and after the illness, there are things in our lives that are hard to forgive. Some are already forgiven, forgotten or are no longer important, but others persist in your head with worry, resentment or anger. I ask you, for the following week, to note down between 1 and 3 things that you wish you could forgive." Our intervention for cancer patients includes a number of common elements of interventions focused on forgiveness (Ochoa et al, 2010 Worthington & Scherer, 2004). These include: (1) encouraging empathy with the aggressor, (2) recognizing one's own faults and defects, (3) assessing the type of attribution and the behavior of the aggressor, trying to determine whether it is possible to reduce the perception of locus of control (intentionality) of the aggression, and (4) reducing the rumination on the aggression received, because it encourages revenge and reduces the possibility of forgiveness.

Session 10: Anticipating a relapse, an increase in the awareness of mortality and transience, and addressing emotional anesthesia. Cancer confronts the problematic elements of our existence that refer to transcendental issues such as death, freedom, loneliness and meaninglessness (Yalom, 2000). Thus, positive life changes after the disease are also understood as a different existential positioning, which emerges from greater awareness, clarity and depth around these existential concerns. The question that initiates a turning point for addressing existential issues at a deeper level in the group comes from anticipating the possibility of a relapse in the disease. "How do you think you would cope with a relapse of the disease?" The most frequent response is worry about losing loved ones. Others have to do with fear of suffering, deterioration, loss of autonomy or being a burden to others, to name a few. It is also frequent in the narratives to hear of an existential vacuum or anesthesia shown by expressions of disappointment, helplessness and a feeling of "going through it because you have to", without expecting anything good. Pointing out strategically how these emotional reactions of anesthesia may be part of a kind of dysfunctional preparation for a relapse or death can tend to produce reactions and greater involvement in life, faced with the image of "letting oneself die whilst still alive."

Session 11: Transcendence and repentance as a constructive path. Following the theme of the previous session, we work on transcendence, reflecting on how the patients wish to remember this period free of disease in the face of a possible relapse and how they would like to be remembered in general when they consider that the disease could end their lives. Questions are included such as: "How you would you like your loved ones to remember you if your fears (of death) are met? What values would you like to convey even in that situation or during this time prior to it happening?" These questions seek to promote the inter-generational transmission of values to loved ones and standing as a model for one's own kin, facilitating transcendence. Similar to the previous section, we use repentance as a constructive path, anticipating the future and trying to mobilize change. What would you not want to regret, looking back, if you reached that situation?

Session 12: Farewell letter and review of the group experience. To reflect upon any learnings and considerations arising from being in the group, aiming to respond to the post-therapy challenges: "What has it meant for you to participate in this group? What are some things that still remain to be done now that the group is over? "

EVIDENCE OF PP APPLIED IN CANCER

With regards to the evidence of PP applied in various clinical problems, the meta-analytic studies show it to be effective (Bolier et al, 2013; Sin & Lyubomirsky, 2009), although more studies that use better control groups are required, as well as longer follow-ups. A recent systematic review (Casellas-Grau, Font, &

Vives, 2014), based on positive psychology interventions for survivors of breast cancer, concludes that these interventions can increase the quality of life, well-being, PTG, hope, meaning, happiness, optimism, life satisfaction and benefit-finding. Evidence from the clinical studies conducted so far reveals that the interventions are most effective when they are longer, when the samples come from hospital settings, and when they are more individual than group or self-help style (Bolier et al., 2013).

Based on extensive research and review of the literature on trauma and the growth process after experiencing cancer (Sumalla et al., 2009), positive psychotherapy in cancer (PPC) was created as explained above. The program has already been evaluated and its effectiveness proven in pilot studies, achieving greater reduction of emotional distress, post-traumatic stress and facilitation of PTG compared to a waiting list group (Ochoa et al., 2017) and in comparison with another cognitive behavioral stress management therapy proven for improvement in psychosocial adjustment (Antoni et al., 2001). In the pilot study, it was found that, in comparisons after three and twelve months of follow-up, PPC was superior to cognitive behavioral stress management therapy in reducing emotional distress, post-traumatic stress and facilitating post-traumatic growth (Ochoa, 2012). In studies with larger samples (Ochoa et al., 2017), it has been found that a significant reduction of post-traumatic stress promoted by the PPC is associated with increased PTG. Thus, and as shown in other studies, it is confirmed that patients who experience PTG, or in whom its development is facilitated, are better adapted after the disease, showing better mental health, as well as a better subjective state of physical health (Helgeson et al., 2006; Sawyer et al., 2010). The fact that there is an association between high levels of post-traumatic stress and loss of quality of life in patients with cancer (Cordova et al., 1995), and that this loss is lessened when PTG is experienced (Morrill et al., 2006), suggests that growth can be a therapeutic path to be enhanced in order to facilitate quality of life in survivors. PTG has also been associated with more salutogenic behaviors (Milam, 2006) and greater adherence to routine check-ups in women with breast cancer (Sears et al., 2003).

CONCLUSIONS

With regards to the predictive value of sociodemographic, psychosocial and medical variables in the development of PTG in cancer, we highlight several points. The socio-demographic variable that has most consensus in its results is age, with younger people tending to develop more PTG. In fact, young people tend to perceive cancer as more aggressive and disruptive, not only because of its commonly worse prognosis, but also because being diagnosed at an early age breaks the natural and social story of getting ill and dying that is associated with being old. On the other hand, the social environment is the psychosocial variable most studied in patients with cancer, in terms of PTG. There seems to be consensus on the fact that the greater the social support, the more PTG manifests. Associated with this social support, people who have some kind of religious affiliation also show more PTG. So, ensuring social support throughout the process is key in adaptation to cancer. During the stage of diagnosis and treatment, it is often family, friends and medical staff who most guarantee PTG; however, in the post-treatment stage, quality social support must be ensured among the people that are most affected emotionally, through support or therapy groups, like the PPC described above.

On the other hand, with regards to the medical variables, we note that despite the large number of studies no significant influence has been observed in PTG. For example, only in some studies has a significant direct relationship been established between the act of going through chemotherapy and developing PTG; or between the time since diagnosis and PTG. One possible explanation for the first relationship could be that chemotherapy has worse side effects than other cancer treatments, as well as a longer duration, which could cause the patient to have an increased sense of threat and finding new meanings that would facilitate the development of PTG. In the same vein, a longer time period since diagnosis may facilitate greater distance from the negative effects of treatments and yet maintain the permanent and mobilizing threat of medical checks-up. This threat, sustained but tolerable, can drive positive life changes as greater future projection develops due to reducing the physical threat of the disease and its treatments.

Despite the emergence of PTG, which for many people occurs naturally, designing therapies to promote it is highly useful and important in cases of patients who, after treatment, exhibit significant emotional distress. Recent studies find that part of the emotional distress in cancer is associated with the inability to make positive life changes after the illness (Ochoa et al., 2015). This need for change after the illness can be compelling and urgent, and it can also prove to be very frustrating and distressing if it is not achieved. For this reason, a positive psychotherapy is presented which is particularly focused on facilitating PTG in cancer survivors with adjustment difficulties. The results indicate the effectiveness of this type of therapy not only in facilitating PTG, but also in reducing distress in cancer survivors who experience high levels of stress.

Overall, this review provides useful information for professionals in the field of psycho-oncology, since it points out elements associated with the development of PTG and defines and establishes the keys to facilitate it through interventions based on PP, which have been showing promising results.

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