



An integrated intervention on well-being: A qualitative study on relationships and emotions

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ABSTRACT

Background: Oncological treatments lead to physical and emotional difficulties with notable consequences in everyday life. Thus, integrated interventions that can promote quality of life are needed. Since current studies suggest that integrated programs of both physical exercises and psychological sessions can promote positive emotions, this pilot study aims to explore the impact of a one-week intervention that combines sailing activities and psychological support.

Methods: Twenty-nine breast cancer survivors took part in this study. Before and after the intervention, participants were invited to answer three open questions to evaluate their perceptions of personal evaluations about their relationships and emotions. A Qualitative Thematic Analysis was used to evaluate participants' answers and to compare the sub-themes that emerged in the two times.

Results: Findings highlighted three main themes: a) caregivers and emotional closeness - family members are generally a crucial point of reference for participants. Friends, colleagues, and healthcare professionals were also cited as relevant figures during the cancer journey and after the psychological intervention; b) emotions towards others - positive and negative emotions towards these figures emerged, and some women felt alone, and c) emotions towards oneself - exploring emotions related to themselves highlighted positive and negative feelings and the desire for change to promote love and care towards themselves. Interestingly, the number of negative emotions towards themselves decreased after the intervention.

Conclusions: The integrated intervention could promote the reflection on personal relationships and emotions.

1. Background

Living with breast cancer could drastically affect people's Quality of Life and daily activity (QoL; Conway, 2005; Durosini et al., 2022). Although survivorship often results in long-term physical and psychological distress and fatigue (Moore, 2020) due to, for example, pain, reduction in the mobility and strength of the upper limbs as well as lymphedema. Undesirable side effects, such as visible scarring, loss of the breast(s), hair loss, and weight fluctuation can also alter the perception of Body Image (Carreira et al., 2017; Mirandola et al., 2018; Sebri, Triberti, & Pravettoni, 2020; Yang et al., 2017). Women often perceive their bodies as less feminine, leading to feelings of betrayal and resulting in mood issues such as anxiety, depression, and anger (Rubin & Tanenbaum, 2011; Thakur et al., 2022). Moreover, women could perceive differences between “who they are” and “whom they would

like to be”, generating a discrepancy in self-perception with notable consequences on everyday life activities, future expectations, and social interactions (Esplen & Trachtenberg, 2020; Higgins, 1987).

1.1. Changes in social relationships

Self-identity and personality trait issues generally impair relationships, especially in intimate and sexual areas (Galli et al., 2021). On the one hand, positive social interactions can be a relevant resource for promoting well-being and illness adjustment by sustaining women and their sense of worth (Cheng et al., 2016; McDonough et al., 2011; Pauwels et al., 2013). Social relationships are recognized as a relevant resource during impactful life events (e.g., during COVID-19 quarantine; Durosini, Triberti, Savioni, & Pravettoni, 2021). Positive relationships with others can promote post-traumatic growth, which refers to

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realizing of new possibilities, a greater appreciation for life, and enhanced personal strengths (McDonough et al., 2011; Noriega et al., 2023). However, not all interpersonal relations are effectively supportive (Sebri, Triberti, & Pravettoni, 2020). Caregivers are highly burdened at the time of diagnosis, and current studies reported relevant breast cancer survivors' unmet care needs and relational difficulties (Segrin et al., 2020; Zhang et al., 2017). For instance, caregivers may avoid facing problems, underestimating the effects of breast cancer treatments to keep patients far from distress, or over-soliciting their loved ones (Norbeck et al., 1991; Sauer et al., 2019), giving unnecessary suggestions (Shiozaki et al., 2011; Best et al., 2021). Moreover, caregivers' over-involvement could lead patients to suppress their thoughts and feelings, decreasing their ability to handle their concerns. Referring to the literature, the optimal matching theory by Cutrona (1990) and Cutrona et al. (1990) stated that the benefits related to social support are due to the possible matching of support in some situations. If people receive adequate social support in a situation, there will be an enhancement of their quality of life compared to other contexts in which their needs are mismatched. On the contrary, a mismatching condition between individuals and their contexts can cause negative social interactions. Thus, illness adjustment and QoL enhancements are observed if the appropriate type of support is provided in a specific context (Merluzzi et al., 2016). At the same time, individuals' way of staying in relations with others is relevant regarding cancer proneness (Rymarczyk et al., 2020). In particular, the tendency to be self-interest-oriented and not totally dependent on others could let individuals maintain control, which diminishes chronic psychosocial stress and the immune system (Biondi, 2001; Whitehead et al., 2021). Regarding social relationships, studies evidenced the relevant role of interventions focused on both physical and psychological programs. Individuals come together in various environments, contributing to socialization and significantly facilitating societal interaction and mutual understanding (Ayyildiz, 2022). At the same time, psychological interventions can enhance social connections positively thanks to the peers' support as an efficacy group experience to perceive, sustain, and comprehend others (Durosini, Triberti, Sebri, et al., 2021). However, current studies lack data regarding mixed intervention, a relevant point that must be addressed.

1.2. Role of psychological interventions

Over the years, scientific evidence has highlighted the importance of using psychological interventions and physical activities to improve breast cancer survivors' QoL (Björneklett et al., 2013; Durosini et al., 2022). Firstly, psychological assessment and support may help people to decrease emotional issues and psychological burdens (e.g., Blanco et al., 2014; Durosini et al., 2017; Durosini & Aschieri, 2021). Psychological interventions may induce self-fragmentation avoidance and support the adjustment to the illness experience (Jabłoński et al., 2019; Sebri, Durosini, et al., 2021). Likewise, sports and physical activities are safe and accessible ways to improve physical and cognitive functioning (e.g., attention, memory, and decision-making processing; Sebri et al., 2019; Sebri, Savioni, et al., 2020; Weiner et al., 2020), emotion regulation (Mirandola et al., 2018; Penttinen et al., 2019), and individual self-esteem (Danish et al., 2004) with long-lasting effects on attitudes and behaviors (Morel et al., 2015). Furthermore, muscle tone and weight improvements let patients feel better about themselves and their bodies, becoming more willing to wear more revealing clothes and develop intimate relationships with others (Hungri et al., 2017). Additionally, feeling welcome in group activities rather than individual sports is associated with better healthcare outcomes, thanks to group belongingness (Mirandola et al., 2020). Current research reported positive effects of team-based activities such as running (Durosini et al., 2022), dragon boat racing (McDonough et al., 2019; Sabiston et al., 2007), and dance practice (Mirandola et al., 2015) on people's emotions or QoL. Interestingly, Mirandola et al. (2020) proposed a group intervention based on sailing. Sailing is considered a safe and complex activity that

integrates proprioceptive and exteroceptive stimuli with benefits on the physical health and anxiety symptoms in breast cancer survivors. In a book published by Maclachlan (2017), the author stated the efficacy of sailing to promote self-development in therapeutic and rehabilitative contexts. Reviewing research on sail training, this intervention showed positive findings about corporate performance, which is fundamental for people with disabilities and emotional issues. Additionally, in an article by Mirandola et al. (2020), the authors affirmed that sailing promotes psychophysical well-being in chronic diseases, too. As a multifaceted activity, integrating both exteroceptive and proprioceptive stimuli in a dynamic environment can foster self-esteem and overall health. It is relevant to note that the perception of group belongingness positively impacts women's well-being thanks to the opportunities for self-disclosure, schema change, and peer social support (Eime et al., 2013; He, 2023).

To our knowledge, no studies explored the positive effects of a mixed program based on both sailing and psychotherapy intervention on social and intimate relationships and their related emotions in breast cancer survivors. Thus, it is necessary to evaluate combined programs of sailing and psychotherapy to update the current literature. The present study examines whether a tailored physical and psychological group intervention may significantly improve changes in the patterns of relationships between themselves and others. Specifically, we assess if this combined intervention impact on: Hp1. Breast cancer survivors' significant social and intimate relationships, Hp2. Emotions towards others, and Hp3. Emotions towards themselves.

2. Materials and methods

2.1. Participants

Fifty Italian women with a history of breast cancer were involved in the intervention. All the participants were volunteers, not compensated, and free to withdraw from the study without the need to justify their choice. In order to be enrolled in this study, participants need to satisfy the following inclusion criteria: 1) need to be female survivors ranging from 18 to 60 years of age, with a history of breast cancer within five years; 2) have received any surgical intervention or concluded chemotherapy or radiotherapy treatments. Women 1) with metastasis, 2) who had already attended previous projects which combined sailing courses with psychotherapy sessions, or 3) with a medical history of psychopathological disease or physical limitations were excluded from this study.

Of the fifty women involved in the project, twenty-nine agreed to participate in the qualitative study and answer three open questions that explore their social and intimate relationships two times: a) at the beginning and b) at the end of the intervention (response rate: 54 %). The overall mean age of participants included in this study is 51.2 years old (age range: 40–60 years old; SD_{age} : 5.16). Most obtained a university degree or advanced training course (58.6 %) and worked as white-collar employers (86.3 %). Eighteen had one or more sons (62.1 %), and 13 were in a sentimental relationship (44.8 %). From a clinical point of view, all the women were diagnosed with breast cancer at an average age of 46.46 years old (age range: 35–56; SD_{age} : 5.19; see Table 1 for more details on the socio-demographic data of participants).

2.2. Procedure

The present study was approved by an Ethical Commitment (see "Ethics approval and consent to participate"). Social networks (e.g., Facebook, Instagram) were used to recruit participants. Participants who declared their interest in participating in this study received a detailed project description and were invited to sign an informed consent form. Participants' confidentiality and privacy were protected by using alphanumeric codes that allow for pseudo-anonymization of data collected. Qualitative data were collected before the intervention and at

Table 1
Characteristics of women involved in this study.

	<i>n</i>	%
Level of education		
Primary school	0	0
Secondary school	0	0
High school	12	41.4
University degree or advanced training course	17	58.6
Employment		
Blue collars	3	10.3
White collars	25	86.3
Not-employed	1	3.4
Marital status		
In a sentimental relationship	13	44.8
Not in a sentimental relationship	16	55.2
Sons		
Having child/children	18	62.1
Absence of child/children	11	37.9

the end of the session through the Qualtrics platform.

2.3. Intervention

The intervention took place between May and October 2022, involving five teams of women (with 8–12 participants for each group). All the participants in this study participated in a one-week psychological intervention that combined daily group psychotherapy sessions with physical activities (daily sailing activities in a crew). Specifically, women were enrolled in 2-hours daily group psychological sessions with a psycho-oncologist with extensive professional experience in the oncological field. The psychological program followed the structure and contents of a published study and was based on relevant psychological constructs (Sebri, Durosini, Mazzoni, & Pravettoni, 2022a). Notably, the sessions aimed to manage breast cancer psychosocial issues by improving social and intimate relationships and emotions towards the Self, sustained by the perception of group belongingness. The psychological sessions also focused on the role of caregivers and the related perceptions of breast cancer survivors regarding emotions and cognitions (see more details on the psychological intervention in Table 2). In-group activities and individual tasks were used to elucidate individual experiences and manage personal emotions. Furthermore, women experienced daily navigation practice in the open sea aboard the cabin cruisers from 10 a.m. to 4 p.m. Lastly, theory lessons (e.g., essential right-of-way sailing rules, sailing knots, and wind direction) were conducted by a sailing trainer in the evening. Accordingly, the scientific literature states that sailing activities can foster cognitive processes, such as concentration, attention, memorization, and decision-making (Olmedilla et al., 2015). Moreover, sailing can be considered a significant experience that offers materials and metaphors used in the psychological sessions to foster reflection on themselves, their emotions, and their personal relationships (Finlay, 2015). Metaphors indeed lead women to elaborate their illness experiences by providing new healing narratives. The physical experience was also helpful in learning respect for roles, rules, and personal boundaries in the group, which are also important aspects of illness elaboration (Durosini, Triberti, Sebri, et al., 2021). During the one-week intervention, participants shared common spaces for sleeping and eating.

2.4. Measures

Before and after the intervention, breast cancer survivors were asked to take some minutes to answer qualitative questions. Participants received a Qualtrics link to respond to three open questions after a

Table 2
Contents of the group psychological intervention.

	Themes	Contents
Session 1: Setting the scene	Participants were invited to describe themselves to others to improve group belongingness and share emotions in the following days.	Introduction to psychological contents and a brief individual presentation
Session 2: Motivation and goals for change	Participants were invited to share expectations and personal goals.	Exploration of expectations and personal goals
Session 3: Emotional awareness	Participants discussed and developed with the group possible strategies to cope with negative emotions and set objectives for the future.	Exploration of emotions and strategies
Session 4: The metaphors	Group members discussed their emotions, sense of control, and difficulties during the sailing course, recognizing similarities and differences in their everyday lives and during the oncological treatments.	Understanding emotions and reflection about their attitudes towards the illness
Session 5: The relevance of taking care of ourselves and others	Women were instructed to explore their inner emotions, discovering difficulties in staying in contact with group members and receiving attention from others.	Emphasis on taking care of themselves
Session 6: Debriefing	Psychologists promoted self-monitoring of inner sensations and the impact of the illness on their behaviors and sensations.	Self-monitoring and listening to inner sensations
Session 7: Reviewing future goals to promote positive relationships daily	Participants reviewed their achieved results. The psycho-oncologist provided feedback about changes and helped participants to reflect on their future.	Revision of future goals

stimulus. Specifically, they were invited to imagine a circle symbolizing their personal relationships. Women were invited to imagine including in this “circle” people who are important to them. This exercise aims to bring various aspects of their personal relationships to the surface. Several validated psychological tests in clinical practice use symbolic drawing techniques, such as the Family Life Space (Mostwin, 1976, 1980; Tamanza, 2018).

We specify that in this study, this stimulus is only used to facilitate the reflection of women on themselves, guiding the participants towards the real core aim of the research. Indeed, after this stimulus, women were invited to describe which people were closest to them in the circle and which were outwards in the circle. Thus, the data analyzed is related only to the answers that participants provided to the following questions, which were asked to describe: 1) the weight of mentioned people in their life, 2) which ones they would like to keep, and 3) which ones they would like to abandon. These questions were created by psychotherapists (V.S. and I.D.) to elicit the free expression of women's emotions and thoughts about their social and intimate relationships. There was no time restriction or word limit for these answers. Participants described their thoughts freely and in a narrative way at two times: (a) before and (b) after the intervention sessions. Qualtrics platform collected all the textual answers provided about the questions, which were analyzed by the researchers involved in this study (V.S. and I.D.). Moreover, basic socio-demographic data were collected through an ad-hoc questionnaire.

2.5. Data analysis

In order to assess changes in women's experiences and feelings related to their social and intimate relationships, qualitative thematic analyses were performed on the whole data with a bottom-up approach that allows a process of coding and theme development (Braun & Clarke, 2006). We used an inductive approach, and we did not try to include the collected data in pre-existing frames (Clarke et al., 2015). Following the coding process, the steps of qualitative thematic analysis (Braun & Clarke, 2006) were implemented to identify themes:

1. Two researchers (V.S. and I.D.) read each text several times to fully comprehend the contents;
2. They coded the data to identify segments in the text that relate to the semantic content. They considered a single segment when the answer reported a single main content related to meaning and distance between participants and their social and intimate relationships;
3. The codes were categorized into potential main themes and sub-themes;
4. Researchers (V.S. and I.D.) reviewed the thematic map and solved possible discrepancies through discussion. To ensure the validity of the thematic map, an external rater (G.P.) reviewed the coding process and the identified sub-themes. Additionally, in case of discrepancies, all the research was discussed to solve possible doubts, reaching a final consensus;
5. The sub-themes were labeled to provide a clarification of the contents.

3. Results

3.1. Theme and sub-themes

A qualitative thematic analysis following a bottom-up approach pointed out three main themes about emotions and thoughts related to social and intimate relationships (the same before and after the intervention) and their related sub-themes. The identified themes differ in frequency (i.e., the number of participants who cited a specific theme) and contents (e.g., perception of others' devaluations). Only one new sub-theme (i.e., Health Professionals) emerged from the participants' answers after the intervention. The first theme, namely "Caregivers and emotional closeness," refers to significant personal relationships during the cancer journey. This theme comprised three sub-themes (before the intervention) and four sub-themes (after the intervention). The second theme was "Emotions towards others," which refers to women's emotions towards others. This theme comprised two sub-themes that emerged for the first and the second data collection. Lastly, the third theme, namely "Emotions towards oneself," regards emotions that people have about themselves. This theme comprised three sub-themes from data collected before and after the intervention (Table 3). Thus, the findings highlighted the comparison of emotions and relationships that

emerged from participants' responses in the two-times of data collection. In this manuscript, quotations were included using participants' ID numbers. Here are the themes and subthemes that emerged. We showed the results obtained by comparing participants' responses before and after the intervention.

1. Caregivers and emotional closeness

The first analyzed theme regards the significant personal relationships during the cancer journey.

Before the intervention, most breast cancer survivors placed some **family members** close to them, considering their imagined personal space (i.e., circle exercise). Some participants highlighted their partner and parents as significant figures, especially after the oncological experience. For example, a woman who expressed relevant emotional troubles related to her intimate relationship affirmed that: "I put my partner and my parents inside the circle; the others outside. The most relevant people in my life are those in the circle" (ID1). On the contrary, other women used the circle to point out the relevance of intimate relationships with her family, as follows: "Within the circle, I place people who supported me during the acute phase of the disease. They are my family members, especially my brother and sister-in-law, mom, cousin, and aunt. All these people never left me alone even in the darkest moments of my illness journey" (ID9). These aspects highlighted family members' role for participants during the oncological diagnosis and their support in different phases of the treatments, even if some reasons behind their choices remain vague in their answers. At the same time, ten women highlighted the relevance of **friends and/or colleagues** during oncological care. In particular, they stressed the closeness of friends and colleagues during cancer care. For example, a woman highlighted that "In the circle, I put my friends who are very helpful. I can count on them, even if I do not talk about my oncological issues daily" (ID19). However, some participants reported that some family members and friends are not always perceived as supporters during their cancer journey. Thus, they were put outside of the circle, evidencing the absence of support during the illness pathway. For instance, a woman stated: "The people closest to me are my husband and two children. On the contrary, I put one of my sisters outside my circle while the other components are on the circle's edge. I chose this because my husband and children are very close to me, while my sister, mother, and other family members are too involved in other issues. I leave friends out of the circle because the relationships have cooled down after breast cancer diagnosis" (ID13). Interestingly, some women highlighted that relatives were not always supportive, putting them outside their personal circle: "On the inside, I place my sister, a couple of friends, my ex-partner, and my niece. They are the few people I can really rely on. On the outside of my circle, I put many ex-friends who ditched me after my breast cancer diagnosis" (ID25). Finally, three women imagined themselves as **alone** in their personal circle. Specifically, they highlighted the need for a personal space to cultivate their needs and desires, as follows: "Inside the circle, I am alone, but I have many people right outside" (ID17) and "Not any person is very close to me because I want to protect my space. I want to be in the center of this circle without allowing anyone to move me away" (ID8).

After the intervention, **family members** remained the main point of reference for breast cancer survivors (e.g., "Right now, I put my husband, my daughter, and my son. Everybody else is outside!"; ID11). Interestingly, the intervention allowed participants to better understand the reasons behind their choices to put inside or outside of the "personal circle of relationships" some people. In this regard, a participant highlighted that some family members are so relevant and close to her because they are able not to be judged by them: "I am afraid of being judged for what I do and how I do it. This way, I put only my family into the circle because they think about me without passing judgment" (ID18). Additionally, one woman reported the fundamental role of her **friends**, more than her family, explaining the relevant role in emotional support, as follows: "I have some friends very close to me because they love me so much. My family is a little more on the edge of the circle; I had to support them more than they

Table 3
Three main themes and sub-themes emerged in the thematic analysis.

	Before the psychological intervention	n	After the psychological intervention	n
Caregivers and emotional Closeness	1.1 Family members	20	1.1 Family members	17
	1.2 Friends and colleagues	3	1.2 Friends and colleagues	1
	1.3 Nobody	10	1.3 Nobody	6
	/		1.4 Health Professionals	1
Emotions towards others	2.1 Positive emotions	14	2.1 Positive emotions	14
	2.2 Negative emotions	11	2.2 Negative emotions	11
Emotions towards oneself	3.1 Positive emotions	16	3.1 Positive emotions	16
	3.2 Negative emotions	9	3.2 Negative emotions	4
	3.3 Desire for change	10	3.3 Desire for change	8

helped me” (ID20). Interestingly, the overall number of women who placed family and friends very close to them decreased after the intervention, highlighting changes in the perception of their significant others. However, as emerged before the intervention, some participants reported the controversial role of both family and friends in supporting them. Additionally, six participants confirmed after the intervention their perception of being **alone** inside their “circle of personal relationships,” and one participant recognized the fundamental role of health professionals after the intervention as essential people during her cancer care. Thus, she added healthcare professionals in her personal space: “In my circle, I include physicians who I met during my illness (doctors and all medical staff). They took me by the hand during the most critical moments of the illness journey” (ID7).

2. Emotions towards others

At the beginning of the intervention, women reported **positive emotions towards others**. This is particularly evident when breast cancer survivors feel welcomed and cared for by others. For example, a woman stated: “On the inside of my circle, I would place my manager and some of my colleagues who supported me in returning to work after the period of absence due to treatment. And I would also place all my friends who still helped me never to make me feel different, which helps me feel good about myself” (ID9). However, seven participants evidenced **negative emotions towards others**, evidencing the perception of being distant from their loved ones. In this regard, they affirmed that: “I feel my brother strongly distant. I perceive mixed feelings: concern, disapproval, “basic” affection (because he is my brother; however, we do not have a real relationship)” (ID4) and “Outside the circle: My brother who should learn to know me and communicate with me, especially saying thank you. I am very angry about this” (ID10), highlighting that family members are not always perceived as supporters. Referring to emotional issues, other women reported feelings of anger and sadness due to the relationship changes after cancer, as follows: “Outside the circle, I put part of my colleagues who changed their attitude toward me after my return to work as well as all those people who, noticing that something had changed in me physically (e.g., wig), avoided me. This makes me feel very angry and sad” (ID9).

Emotions towards others did not change after intervention. Participants highlighted **positive emotions** towards family and friends, who remained the most relevant people in their lives. For example, participants stated that: “Within the circle, there are my family members (such as parents and brothers/sisters). In addition, there are some other family members, such as my uncles/aunts and cousins. They make me feel welcomed and accepted as I am” (ID7). As happened before the intervention, some participants reported **negative emotions towards others**. It is paramount to note that the perception of distance from significant others did not always disappear after intervention. This aspect represents a difficult point in the breast cancer survivors' lives, highlighting the emotional suffering experienced: “Inside the circle, there is my son who will not be so able to give me courage, but I want to think of him always near in my time of need. My husband stands with one foot in and one foot out. He has to be able to solve some issues of his own first. I would like to have my parents inside the circle; however, they are outside, and they take care only of my brother... a great suffering for me” (ID13). Before intervention, four participants reported emotions of anger and sadness, as follows: “Outside of my circle, I see no one as if I do not care of people who do not want to stay close to me” (ID3) and “In the circle, there are my friends whom I can turn to if I need. I think they are close to me. I put my family more distant because I do not feel understood, although they are available if I have needs. This makes me feel very sad” (ID12), trying to distance myself from others who are not perceived as a point of reference.

3. Emotions towards oneself

Sixteen women reported **positive emotions towards themselves** before the intervention, evidencing personal resources and positive

characteristics. Women specifically referred to their emotional abilities at the time of diagnosis and during oncological treatments as critical phases of their life. For example, a woman can recognize their strengths, which were helpful during oncological care especially, as follows: “I define myself as cheerful, sarcastic, curious, sporty, brave, a little bit indecisive, and lonely. Cheerfulness and sense of humor helped me to find the funny side of every situation during the illness and in life in general” (ID5). Some participants highlighted the desire to improve some aspects of themselves and their inner world. For example, a participant reported: “Now I feel restless about so many events in recent times, even though I would like to perceive lightness. I feel like experiencing new things. I hunger for life!” (ID12). This is in line with the presence of **negative emotions towards themselves**, which participants recognized in terms of the need for control: “I feel a high level of anxiety at certain times; I tend to control everything, and I would like to feel good without needing that. I want to do things that make me feel good” (ID19). Accordingly, participants reported their **strong desire for emotional adjustment**: “I would like to be able to get excited, avoiding that underlying sadness that accompanies me daily” (ID13) and “I hope to maintain my independence and cheerfulness. I struggle to ask for help” (ID17).

After the intervention, a part of the sample maintained **positive emotions towards themselves**, highlighting their efficacy resources and capacities in having relationships with others: “Right now, I feel fulfilled and peaceful” (ID4) and “I feel very selfless and helpful at work and with people around me” (ID13), appreciating their personality traits and characteristics. Interestingly, the **desire for changes** in their life slightly decreases after the intervention. This could be in line with the aim of the psychological program that promoted participants' ability to accept themselves. At the same time, participants reported a better awareness of their personal goals, as follows: “After this week, I would like to maintain: calmness and serenity to let go of the distress that I feel around me; the strength to face everyday commitment; self-confidence to make effective decisions. At the same time, I would like to abandon my negative thoughts and insecurities” (ID4), and “I would persist in decreasing anxiety and promoting love for myself. I would like to change my comfort zone and I know it depends only on myself. I want to change my habits. I would like to give up anxiety because I know it hurts me” (ID5). In line with the intervention goals, women highlighted their new contents of awareness after breast cancer issues, giving them the possibility to revise expectations and relevant relationships: “The illness made me much more sensitive and focused on my issues, but also on others' difficulties. I seek happiness without expecting others to want to share it with me any longer. I am discovering new people I would never have chosen before. In general, I am seeking inner well-being, which is now even more important for me” (ID2). Lastly, four participants felt **negative emotions towards themselves** (e.g., “I am cheerful, smiling, grumpy, and caged. My disposition is cheerful, but I feel unsatisfied with my current situation. As sociable and companionable as I am, I have a lot of longing for loneliness and independence”; ID20). Interestingly, the number of participants who reported these emotions strongly decreased at the end of the intervention.

4. Discussion

Starting from the complex pathways of illness adjustment and the renewal of social connections after breast cancer (McDonough et al., 2011), this study investigated changes in personal relationships after a tailored one-week intervention that integrated psychological and sailing sessions for a group of breast cancer survivors. The results obtained are in line with the current literature, as reported in an article published by Mirandola et al. (2020), who demonstrated the positive outcomes of sailing on breast cancer survivors' well-being. Moreover, it is paramount to evidence that a one-week program could help people promote an initial understanding and assessment of their inner world, focusing attention on some emotional aspects related to their cancer journey. Accordingly, a study by Hetzeld and colleagues (2022) reported the effectiveness of a quasi-experimental one-week intervention, which

sustains the feasibility of our intervention. Implementing tailored interventions that combined psychological and physical sessions could act as an initial prompt for women to better understand their thoughts, and their emotional issues and improve their care of themselves. The use of metaphors related to the sailing experiences and active imagination can promote self-focused attention (Bräuninger, 2014), while physical exercise can increase interest in one's bodily well-being (Durosini, Triberti, Sebri, et al., 2021; Knapen et al., 2015). Moreover, metaphors may help participants to make a point more vivid in their minds, facilitating recalling of past experiences and new insights (Barlow et al., 1977; Cirillo & Crider, 1995; Witztum et al., 1988).

Thus, this combined intervention on both sailing and psychotherapy sessions could influence the results obtained after the intervention. In particular, this type of program gave the possibility to reflect and discuss the impact of breast cancer, exploring changes in personal and intimate relationships as well as the main emotions. Specifically, elaborating negative emotions towards oneself and others needs specific interventions with expert psychotherapists. Promoting emotion-related abilities is relevant to people's well-being and quality of life, especially after an oncological diagnosis (Durosini et al., 2022). Helping people be self-oriented is important to perceive and recognize inner sensations to deal with physical cancer-related issues (Harris et al., 2017). Additionally, managing emotions thanks to tailored psychological interventions is particularly beneficial to empower breast cancer survivors in the long term, leading to the application of positive psychological intervention as a clinical development direction (Tu et al., 2021). Psychological interventions in groups allow for decreasing the perception of shame, self-doubt, and negative body image, which strongly affect intimate and social relationships (Canzona et al., 2019). Peers could play a relevant role in leading participants to freely share thoughts and feelings without the fear of judgment. Indeed, a recent study published by Antoni et al. (2023) evidenced that improvements in social relationships foster a deepened and effective sense of self, managing meanings that are attributed to stressful experiences in the long run. Positive changes, such as enhanced life appreciation, improved social relationships, and a deepened sense of self and meaning that individuals attribute to stressful life experiences like cancer, have been referred to as benefit finding, post-traumatic growth, and personal growth.

Specifically, regarding Hp1, findings showed that family is generally perceived as the main point of reference before and after intervention. This aspect is interesting also because the psychological intervention was not specifically focused on improving family relationships. However, it is paramount to note that family relations remain the most cited theme by participants and, consequently, the most important supportive figure for participants. This is in line with the literature that highlighted that positive relationships with family members can promote patients' self-esteem and QoL (Noorhidayah et al., 2020; Pardede et al., 2020). In particular, Pardede et al. (2020) demonstrated that instrumental support and increasing information requested positively impact patients' QoL. Moreover, family members can sustain patients in accepting their health condition and adhering to oncological treatments, providing a loving and caring environment to the patient. Thus, being loved and cared for brings positive emotions that make it easier for patients to overcome illness challenges and carry out daily commitments (Stuart, 2014). However, relatives, friends, and colleagues are sometimes perceived in a conflicting way, since both intimate and social relationships are not always supportive (Sebri, Mazzoni, et al., 2021; Tolbert et al., 2018). Accordingly, some women perceive themselves as alone, without someone close to them. It is paramount to note that participants who felt negative emotions and the perception of loneliness decreased after the intervention. Therefore, it is possible that the psychological intervention may help them be more aware of their personal relationships and address negative emotions. Accordingly, literature evidence that psychological intervention can promote a positive emotional state, increasing hope and rebuilding their life beliefs (Tu et al., 2021; Wang et al., 2022). It aligns with the current studies that support the relevance

of psychological interventions to foster efficacy emotions, considering also the relevant role of personal relationships. In line with this, the sense of belonging to the group of women who participate in the integrated intervention could play a relevant role, too. As demonstrated by several studies (Dong & Wang, 2018; Scott, 2017), group belongingness, as the individuals' perception of belonging to a participating group consciously, can increase positive feelings and self-confidence. Interestingly, a woman recognized the relevant role of healthcare professionals after the intervention. As known, the doctor-patient relationship is indeed fundamental throughout the oncological trajectory thanks to the possibility of having professional support (MacArtney et al., 2020). The authors affirmed that patients and survivors need to be reassured and have an expert opinion regarding their disease and physical issues. In particular, Kvåle et al. (2020) reported the relevance of continuity of care in follow-up and trust acquired over time, based on the physician's knowledge combined with sensitive communication and empathy. On this basis, clinical implications could be focused on the physicians involvement in the process of care, as they provide the dedicated time and attention that patients need. For this reason, it would be fundamental to train physicians in communication and relational skills to improve doctor-patient relationships. No changes were reported after intervention regarding emotions towards the self (Hp2). In general, the majority part of the sample reported positive emotions towards themselves, which is in line with the current literature that sustains breast cancer survivors' need to stay good with themselves (Lemole et al., 2015; Sebri, Durosini, Mazzoni, & Pravettoni, 2022a). Negative emotions could be the result of cancer-related issues, which need more time to be elaborated. In this regard, a study by Awick et al. (2017) evidenced that improvements in physical well-being were no longer linked to changes in barrier self-efficacy, for example. We assume that self-efficacy improvements could be difficult in a short time for breast cancer survivors who have to deal with complex aspects of their psychological words (e.g., the individual acceptance of personal experience of cancer) and the fear of cancer recurrence (Curran et al., 2020). Relevant emotional changes towards ourselves could request specific psychological interventions.

Lastly (Hp3), most of the participants reported positive emotions towards others, both before and after intervention. It supports the effective role of social support when helpful during illness journeys. Negative emotions mainly decreased, in line with the aims of the present intervention. As supported by the literature (Durosini, Triberti, Sebri, et al., 2021), psychological and integrative intervention can promote breast cancer survivors' well-being and illness adjustment. Interestingly, the need for changes decreased too. It is interesting to consider that the process of post-traumatic growth can sustain the development of individual and social resources, leading to positive changes in QoL (Fu et al., 2022). We hypothesized that this intervention would address the participants' needs, promote self-esteem, and facilitate desired change for perceived difficulties (Simeus, 2016).

5. Conclusions

In conclusion, this qualitative study highlighted some relevant aspects related to the "circle of relationships" that people have during the oncological experience and the relative emotions towards themselves and others. Participants reported changes in their mental representation of their relationships after the intervention, which is fundamental to the structure and providing interventions that can be helpful in promoting breast cancer survivors' well-being. However, the present study has some limitations. Firstly, the lack of a control group does not make a comparison with a healthy group, for example; thus, we cannot fully attribute the results to the program only. For example, the supportive environment could have played a significant role in the group's belongingness and psychosocial improvements. Larger studies with a control group and longer follow-up periods will be required. Additionally, it is important to highlight that this intervention is conducted in a

neutral environment, far from the daily routine and everyday issues. This might have favored the elaboration of some aspects of their inner world and their motivation to change positively (Durosini, Savioni, Triberti, et al., 2021). However, returning to everyday life could be difficult for some participants who need help to integrate personal psychological achievements into their routines. Future studies should consider these aspects, improving the individuals' reflections on how to merge the new understanding of their psychological needs with their everyday lives. In this way, it is important to promote participants' motivation to adhere to the program and to promote and sustain conscious and purposeful changes (Durosini, Savioni, Triberti, et al., 2021; Savioni et al., 2022; Sebri, Durosini, Mazzoni, & Pravettoni, 2022b). Lastly, the limited age range, the high dropout rate of participants, and the process of recruitment (e.g., through social networks) may lead to the involvement of a convenience sample, which could have an impact on the generalizability of the findings and potential self-selection bias. Future studies need to improve the number of participants and include longitudinal research studies across different phases of cancer survivorship to map the trajectory of possible improvements. The present results could be interesting to the promotion of future clinical practices. Considering the positive outcomes obtained, it could be proposed as an available intervention after oncological care, aiming at supporting breast cancer survivors' well-being. Moreover, future research could apply this program to people with other types of cancers and in different settings. As known, literature reported the efficacy also of other physical activities (e.g., pilates and running) that could be integrated into psychological sessions (Leite et al., 2021; Malchrowicz-Moško, 2022). Moreover, this pilot study may inform physicians, clinical psychologists, and academics about the importance of programs that integrate psychological and physical activities. It appears necessary to develop effective interventions to improve breast cancer survivors' positive emotions towards themselves. In conclusion, providing combined physical and psychological interventions could foster a holistic overview of managing breast cancer issues, stressing the role of physicians in the care pathway.

Ethics approval and consent to participate

The present study was approved by an Ethical Committee by the University of Milan (n. 45/23).

Consent for publication

Participants of the study provide their consent to publish their data in an online.

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CRedit authorship contribution statement

Valeria Sebri: Conceptualization, Investigation, Methodology, Writing – original draft. **Iaria Durosini:** Formal analysis, Methodology, Writing – original draft. **Gabriella Pravettoni:** Conceptualization, Writing – review & editing.

Declaration of competing interest

We have no known declaration of interest to disclose.

Data availability

Data will be made available on request.

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