

“REGULAR”: Psychological Intervention Program for Women Diagnosed with Thyroid Cancer

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Abstract: This work presents a proposal for an intervention program of psychology in 6 group sessions with women from Generation X (from 44-65 years old) diagnosed with thyroid cancer. The program is based on Cognitive Behavioral Therapy (TCC) and introduces art, like a poem, as an innovative tool to implement and incite reflection among cancer patients and women. We propose a psychological intervention program that helps to "REGULATE" holistically, the psychological and physical health of people diagnosed with thyroid cancer.

Keywords: Emotional Wellbeing; Mutual Support; Emotional Sharing; Social Sensemaking; Stroke Survivors; Care Network; Communication; Social Media Platform; Social Wellbeing.

INTRODUCTION

Thyroid cancer is more common in people who have been exposed to high levels of radiation, who have a family history of the disease, or people over 40 years of age, with no specific cause in most cases (American Thyroid Association, 2022; Soares, Gomes & dos Santos Silva, 2024). The incidence of thyroid cancer has been increasing worldwide, ranking ninth worldwide, according to data from the WHO International Agency for Research on Cancer (Pathak et al, 2015; Bang et al, 2019; Sung et al., 2021). Between 2020 and 2040, there will be 449 thousand cases of thyroid cancer, and for men, the predicted total is 137 thousand cases. In 2020, thyroid cancer was responsible for 43,600 deaths. The incidence and mortality of this disease have increased worldwide to 29.9% and 67%, respectively, by 2040 (Shank et al., 2021; Soares, Gomes & dos Santos Silva, 2024). The incidence of thyroid cancer in females has been increasing, with a high risk in the reproductive years, with 10% of thyroid cases occurring during pregnancy (Gibelli et al., 2011). According to data from the World Cancer Observatory, thyroid cancer is the third most common type of cancer among women aged between 25 and 45 years (Toro-Wills et al., 2022; Soares, Vasconcelos & Faria, 2023; Soares & Correia Silva, 2023). The highest incidence is seen in countries that have higher incomes, such as the Republic of Korea, Canada, Italy, France, Israel, Croatia, Austria and the United States of America (Lortet-Tieulent et al., 2018).

Based on the European Cancer Inequalities Registry and according to the distribution of cancer incidence by gender in Portugal, in 2020, 25,306 cases of women with cancer were identified, 5% of which were caused by thyroid cancer (OECD, 2023; Soares, Vasconcelos & Faria, 2023; Soares & Correia Silva, 2023). In Portugal, thyroid cancer is the third most common type of cancer in women (Ferlay et al., 2018).

According to the Health Statistics of the Autonomous Region of Madeira, also in Portugal, in 2019 and 2020, deaths due to endocrine, nutritional and metabolic diseases represented 4.7%, while in 2020, the percentage decreased to 4.3% (Regional Statistics Directorate of Madeira, 2022). In 2020, in the Autonomous Region of Madeira, 10 cases of thyroid cancer were registered in women and 3 cases in men aged between 23 and 87 years (Madeira Oncological Registry, 2020).

Therefore, considering the increased incidence and mortality of thyroid cancer, especially in women, it is important to study and understand these aspects for effective intervention. Therefore, we seek to improve the quality of life of patients, taking into account their physical, emotional and psychological dimensions, and with this assumption, we propose a psychological intervention program that helps to "REGULATE" the psychological and physical health of people diagnosed with thyroid cancer (Santos & Soares, 2024).

The proposal is based on Cognitive-Behavioral Therapy (CBT), which seeks to identify which thoughts and behaviours maintain emotional problems. It is a structured therapy focused on the

problem and its solutions. This approach seeks to help individuals control whether a situation is appropriate or not, questioning their thinking and replacing negative beliefs with more realistic thinking (Moorey & Watson, 2015; Conceição & Bueno, 2020). CBT seeks to promote self-confidence by learning ways to deal with problems (Moorey & Watson, 2015; Soares, 2024). Thus, CBT emerges as an effective intervention to deal with emotional issues associated with cancer (Kissane & Ngan, 2021). CBT demonstrates promising results in dealing with the psychological suffering of cancer patients. This proposal will seek to include group sessions, which prove to be as beneficial as individual sessions (Kissane & Ngan, 2021; Santo & Soares, 2024). Group therapy can improve the quality of life of cancer patients by promoting emotional support, cognitive restructuring and the search for meaning together with patients who are going through the same thing. Furthermore, it also contributes to the well-being in the early or advanced stages of cancer patients by working on aspects such as body image, anxiety management and depression prevention (Kissane & Ngan, 2021).

THYROID CANCER

The thyroid gland is located in the front of the neck, has the shape of a butterfly, with the right lobe and left lobe connected by a gland called the isthmus (Marganinytyas, et al 2013). Thyroid hormone is responsible for regulating metabolism and maintaining heart rate, blood pressure and body temperature. Thyroid hormones arise from the pituitary gland situated in the brain, which creates thyroid-stimulating hormones. Excess thyroid hormone (hyperthyroidism) speeds up the heartbeat. It causes insomnia, nervousness, hunger, weight loss and feeling hot, while a lack of the hormone (hypothyroidism) leads to tiredness and weight gain (American Cancer Society, 2024; Rosário & Soares, 2023).

Thyroid cancer is the most common malignant endocrine neoplasm, but it is less common compared to other cancers (American Thyroid Association, 2021). Cancer originates in follicular epithelial cells and parafollicular cells, which lead to the development of papillary thyroid carcinoma and follicular thyroid carcinoma (Carling, 2014; Laha et al., 2020). Follicular cells use iodine from the blood to create thyroid hormones, and

parafollicular cells create calcitonin, a hormone that controls the amount of calcium in the body (Pathak, et al. 2015). Many of the tumours can arise through the thyroid gland, some being benign and others being small, and can spread to other parts of the body or tissues (American Cancer Society, 2024).

Papillary thyroid carcinoma and follicular thyroid carcinoma are the most common types in most cases, with papillary thyroid carcinoma being the most common, representing 80% of cases. Follicular carcinoma has a more aggressive action (Ge, 2012; Laha et al., 2020). In addition, there is also anaplastic thyroid cancer, which is rarer, more aggressive and fatal and represents 1.7% of thyroid cases (Smallridge & Copland, 2010). Medullary thyroid cancer makes up 2% of thyroid cases and may be associated with genetics or other endocrine tumours (American Thyroid Association, 2021).

SYMPTOMS AND DIAGNOSIS

The most common symptom of thyroid cancer is that a lump appears in the neck. Other symptoms that can be identified are breathing problems, swallowing and hoarseness (Jin, 2017). Some cases of thyroid cancer may have no symptoms, especially in the early stages, and laboratory tests of thyroid function may be normal despite the presence of cancer (American Thyroid Association, 2022; Altundağ, 2021).

Thyroid cancer is only confirmed after the nodule has been removed through surgery (American Thyroid Association, 2021). The clinical history is one of the diagnoses that allows identifying the rapid increase in the size of the nodule, dyspnea, dysphagia and hoarseness. During the physical examination, factors such as firmness, lack of mobility, size and presence of lymphadenopathy of the node indicate a greater chance of developing cancer. Direct or indirect laryngoscopy is important in the preoperative analysis and evaluation of thyroid nodules, as vocal cord paralysis may indicate malignancy at a more advanced stage (Carling, 2014). Some thyroid function tests, such as thyroid-stimulating hormone, are essential for detecting dysfunction but do not distinguish between benign and malignant nodules. High-resolution ultrasound allows the detection of several nodules that are not palpable and the identification of the characteristics

of the nodule. Furthermore, it allows identifying whether a lesion is cystic or solid, with the majority of cystic lesions being benign (Carling, 2014). Fine Needle Aspiration Puncture (FNA) is a cytological analysis of cells and has an accuracy between 70% and 97%, depending on the professional's experience (Cooper et al., 2009).

TREATMENT

Thyroid cancer is generally easy to treat, with surgery being the most common type of treatment except in cases of anaplastic thyroid cancer (Nguyen et al., 2015; Khatami et al., 2019; American Thyroid Association, 2022). The surgery may be a lobectomy, in which part of the lobe is removed, or it may be a thyroidectomy, which involves removing the entire gland. After thyroidectomy, there is no metabolic regulatory hormone, making it necessary to take thyroid hormone medication continuously. Another type of treatment is radioactive iodine therapy, which is administered through a fluid that circulates to the thyroid cells, destroying the malignant part of the thyroid. Radioactive iodine therapy may be suggested after removal of the entire gland to remove remaining tissue from the gland and destroy cancerous tissue (American Thyroid Association, 2021). External beam radiation therapy is another type of treatment in which the tumour is removed or helps stop the tumour from progressing. Patients with medullary thyroid carcinoma or anaplastic carcinoma often use radiation therapy. Chemotherapy is not recommended for other types of thyroid cancer and is integrated with external beam radiotherapy to treat anaplastic thyroid cancer or when other treatments are not effective (Khatami et al., 2019).

RISK FACTORS AND PREVENTION

One of the risk factors for thyroid cancer is hereditary predisposition, representing 5 to 10% of cases (Bonfond & Davies, 2014). Radiation exposure is the most common risk factor for thyroid cancer, especially during childhood and adolescence, which may be due to the high activity of thyroid cells during childhood development (Bonfond & Davies, 2014; Iglesias et al., 2017; Seib & Sosa, 2019). One of the prevention

factors would be the reduction of radiation exposure in children, as they are more sensitive to radiation compared to adults (Lene et al., 2016). Ionising radiation interacts with DNA, leading to mutations in cells, which can increase the likelihood of developing thyroid cancer. Furthermore, cells that were not directly exposed to radiation may contain DNA damage, contributing to genetic instability (Bonfond & Davies, 2014; Crnčić et al., 2020). Iodine deficiency is another factor that has an impact on thyroid function, as reduced levels of thyroid hormones lead to an increase in thyroid-stimulating hormone, which has the function of stimulating the growth of thyroid follicular cells (Bonfond & Davies, 2014). Low iodine intake is associated with a high risk of developing thyroid cancer in the most aggressive forms (Barrea et al., 2020). Stress is a factor that contributes to thyroid dysregulation from early in life and to the development of cancer, causing changes in the immune system, chronic inflammation, endocrine disruption, and genetic changes (Kyriacou et al., 2022; Frick et al., 2009). Environmental factors such as toxic chemicals and radiation contribute to the development of carcinomas. Contact with pesticides, persistent organic pollutants, bisphenol A (BPA), and phthalates can interfere with thyroid function and contribute to the development of thyroid cancer (Kruger et al., 2022).

Regarding diet, people with obesity are more susceptible to developing thyroid cancer due to chronic inflammation and changes in thyroid function (Barrea et al., 2020). Prevention of this factor then involves encouraging weight reduction in adults who are overweight in order to prevent the development of thyroid cancer (Kitahara et al., 2019). Finally, a risk factor for the development of thyroid cancer is the higher incidence of cancer in women, with a prevalence between 35 and 64 years of age, while in men, it is between 45 and 74 years of age (Soares et al., 2024).

QUALITY OF LIFE

Regarding the quality of life of patients with thyroid cancer, some studies show that they have a reduced quality of life, despite having a favorable prognosis (Singer et al., 2012; Soares et al., 2024). They also have a lower quality of life compared to other individuals with different types of cancer, as

they are excessively worried about the diagnosis, cancer progression, future implications, and fear of recurrence (Rubic et al., 2014; Duan et al., 2015; Singer et al., 2016; Raghunathan et al., 2020). The fear of recurrence is a concern experienced by people diagnosed with thyroid cancer, as the possibility of developing a second cancer generates anxiety. These individuals are at increased risk of developing breast cancer, kidney cancer, brain cancer, skin cancer, leukaemia and adrenal cancer, the latter being more likely to occur in people who have been diagnosed with medullary thyroid carcinoma (American Cancer Society, 2020; Kim et al., 2012). The fear of recurrence and the fear of no treatment available in the future generates anxiety and is a common feeling in patients with thyroid cancer (Hedman et al., 2017).

Furthermore, hormonal changes can cause strong variations in emotions, creating psychological distress (Duan et al., 2015). One of the main concerns of thyroid cancer patients is issues related to fatigue, such as exhaustion and sleep quality (Singer et al., 2016). Other problems experienced by these people are intolerance to cold and heat and weight gain, with women reporting greater difficulties than men (Rubic et al., 2014). Many patients create feelings of social isolation and anxiety due to the burden of diagnosis and medical treatment, as well as increasing concerns about fertility after treatment (Duan et al., 2015). The symptoms of this cancer vary greatly, from physical discomfort to emotional challenges, also depending on hormonal regulation, and this profoundly affects patients. Often, individuals are not informed about the symptoms and feel afraid of the diagnosis. The lack of time during medical appointments and the fear of bothering the doctor about emotional issues reinforce these insecurities.

Furthermore, when doctors present thyroid cancer with a good prognosis compared to other types of cancer, they end up not considering the emotional challenges of patients. Although the prognosis is favourable, patients focus on the negative aspects of the diagnosis. In this sense, it is important to have more sensitive and attentive communication with the patient. When patients are informed of what to expect, they are better able to cope with the effects and treatment. Furthermore, information about the diagnosis helps reduce anxiety and fear, as the person feels more prepared

for the future (Duan et al., 2015). Other neglected aspects of the quality of life of people with thyroid cancer are employment and vocational rehabilitation (Singer et al., 2016). Psychologists must have specific knowledge about thyroid cancer, such as information about treatments and specific symptoms such as hyperthyroidism and hypothyroidism (Duan et al., 2015).

Patients with thyroid cancer face quality-of-life challenges that are not always related to the severity of the disease (Duan et al., 2015). It is necessary to carry out further investigations into the specific psychological needs for intervention with patients diagnosed with thyroid cancer (Soares et al., 2024).

PSYCHOLOGICAL INTERVENTION: “REGULAR”

The psychological intervention program entitled "REGULAR" aims to regulate the emotional and psychological balance of the participants and consists of six sessions held weekly. The first two sessions will be individual in order to establish a space of trust and empathy, as well as understand the individual's needs and concerns, each session lasting 50 minutes. The following sessions are proposed to be in groups, where they can share their experiences and develop coping strategies, lasting 1 hour and 30 minutes each with the mediation of a psychologist trained in CBT.

The group will consist of 10 people, women who are undergoing treatment, aged between 44 and 64 years. They are women of Generation X, born between 1960 and 1980. It is a generation that experienced technological expansion and a period marked by political and social revolutions. This generation values patriotism and freedom of choice. Generation X also witnessed the entry of women into the job market, leading to a drop in traditional standards. As for work, generation X values financial stability and career, being more pragmatic, self-confident and results-oriented. They are considered to be focused on personal and professional success and recognise the importance of rules at work (Oliveira, 2009 cit in. Dos Santos et al., 2011).

SESSION PLANNING

SESSION 0 – INDIVIDUAL INITIAL ASSESSMENT

Session 0 will be an initial individual assessment whose objectives are to verify people's eligibility to participate in the program and carry out a clinical assessment. The inclusion criteria are women who are diagnosed with thyroid cancer in the pre-treatment phase. The exclusion criteria are women with serious mental disorders who can benefit more from individual psychological support than from a group; women who have little commitment to change, as the lack of availability can compromise group dynamics; pregnant women, as pregnancy is a special exception that involves ensuring effective treatment and the safety and health of the fetus (Gibelli et al., 2011). Once the participants have been selected, an assessment and understanding of the participant's specific needs will be carried out, and a safe space will be created so that the therapeutic relationship can be co-constructed between the therapist and the participants (Leal, Vieira, Soares, 2024). The objectives of the next sessions will also be clarified.

SESSION 1 – PSYCHOEDUCATION ABOUT THYROID CANCER

This first session is intended to inform and psychoeducate about thyroid cancer and will still be individual. Patients with thyroid cancer often report a lack of support and information from doctors, and healthcare professionals must address these issues in order to clarify the patient and offer emotional support (Zhao et al., 2024; O'Neill et al., 2023). In this sense, it was also structured to provide space for clarifying doubts from the previous session. The psychologist will inform about the type of thyroid cancer, treatment and symptoms, promoting understanding of the diagnosis. We will seek to promote some emotional reflection on women's feelings when they receive the diagnosis and explain the purpose and objectives of the group intervention, referring to how the next group sessions will work as well as explaining the importance of social support and the therapeutic power of exchange of experiences in groups.

SESSION 2 – PROMOTING SELF-REGULATION OF EMOTIONS

After individual assessment and goal-setting sessions, interventions can be carried out in groups, but still considering the particularities of different types of thyroid cancer. The first group session aims to recognise and understand emotions and identify the relationship between thoughts and feelings. The session begins with a group presentation in order to provide a moment of presentation, integration and exchange of experiences. We then proceed to identify and share emotions in relation to the experience with thyroid cancer. It also seeks to explore the relationship between thoughts and feelings, thus moving on to reflect on the poem “Pensar” by Fernando Pessoa. The integration of poems in group intervention can promote greater resilience and emotional expression and reduce feelings of anxiety in cancer patients (Tegnér et al., 2009). Fernando Pessoa's poem allows us to reflect on the relationship between feelings and thoughts. We often confuse what we feel with what we think we feel (I have so much feeling/ That I am often persuaded/ That I am sentimental/ But I recognise when measuring-me/That this is all thought/That I did not feel after all). In the poem, there is a duality between the life lived and the life imagined (We have, everyone we live/ One life that is lived/And another life that is thought), which could help to reflect on how our thoughts shape emotional experience, especially in difficult times like facing an illness:

Think
 I feel a lot
 That often persuades me
 That I'm sentimental,
 But I recognise when measuring myself,
 That this is all thought,
 That I did not feel after all.
 We have everyone we live,
 A life that is lived
 And another life that is thought,
 And the only life we have
 Is the one that is divided
 Between the true and the wrong.
 Which, however, is true
 Moreover, which one is wrong? No one
 You will be able to explain it to us;
 And we live in a way
 That is the life we have
 That is what you have to think.
 - Fernando Pessoa

The poem relates to Cognitive Behavioral Therapy in that it helps to distinguish thoughts from feelings, as well as to recognise that thoughts can create negative beliefs and emotions such as fear or shame.

The "Agenda of relationships: thought x feeling" technique could be introduced following the analysis of the poem. The objective is to make participants realise the difference between what happens to themselves and the feelings associated with the event, leading them to re-interpret the situation differently (Conceição & Bueno, 2020).

As CBT suggests, participants may have an emotion diary as homework as a way of recording their feelings and thoughts during the week in order to identify thought patterns that influence their emotions and feelings.

SESSION 3 – IDENTIFYING AND DEALING WITH FEAR AND UNCERTAINTY

The third session aims to help participants deal with the fear and uncertainty they face after their diagnosis. They may feel a lack of support from health professionals and fear due to the lack of information about the disease (Duan et al., 2015). Cancer can generate several concerns, such as fear of recurrence or developing other types of cancer, effects of treatment, concerns about future health or fear of consultations (American Cancer Society, 2024). The session will also focus on identifying situations and triggers that can lead to fear. The CBT technique of "Identification of Concerns" is used, which encourages people to reflect on the origin of fear and helps to identify the concerns that arise from this fear (Conceição & Bueno, 2020). They will try to reflect on ways to manage fear, such as talking about concerns with someone close or trusted, looking for activities that control anxiety, such as watching a funny movie, outdoor activities, practising relaxation techniques or setting small goals. , realistic and achievable. As a homework assignment, it is suggested that participants practice a 1-minute meditation, a practice that helps calm the mind and reduce anxiety and stress (Conceição & Bueno, 2020).

SESSION 4 – FATIGUE, WELL-BEING AND SELF-CARE PRACTICES

The fourth session will be held outdoors, in nature, with the aim of educating people about the encounter between well-being and nature. The

importance of treating fatigue before, during and after treatment will be explained. After this introduction, a yoga exercise will be performed for 5 to 10 minutes, which is beneficial to reduce fatigue, stress, and depression and improve quality of life (Danhauer et al., 2019). Next, the "Jacobson Progressive Muscle Relaxation" technique is introduced, an exercise that helps reduce physical symptoms of stress and contributes to improving sleep quality. Self-care practices will then be discussed, such as the importance of a healthy diet, maintaining sleep hygiene and practising light physical exercise (Conceição & Bueno, 2020). Finally, a reflection will be made on the session. As homework, they will be asked to complete the 7-day self-care challenge with activities such as going for a walk, mindfulness techniques, meditation, yoga, avoiding processed food, practising identifying moments of gratitude and enjoying green spaces.

SESSION 5 – SELF-IMAGE

The session on self-image is intended to help participants explore their body self-perception. Body changes can negatively influence self-image and self-esteem, which affects individuals' psychological well-being. The creation of interventions focused on promoting a positive body image can contribute to the reduction of maladaptive strategies, better psychological well-being and self-acceptance. Therefore, building a more positive perception can also help improve coping strategies (Matera et al., 2024).

The psychologist begins the session by explaining how each person's perception of their own body can influence their self-esteem and psychological well-being, also discussing the concept of self-image. From there, a sharing is created about physical changes and how these transformations can change the lives of the participants and their self-esteem. To promote reflection, the "Mirror Technique" is used, in which participants must position themselves in front of the mirror and express positive self-affirmation phrases in order to strengthen their self-image (Conceição & Bueno, 2020). After the exercise, a brief group reflection is created about the feelings and emotions that arose when confronting self-image. Finally, participants must point out three things they like about themselves, whether external or internal qualities, in order to focus on positive aspects. As a homework assignment, it is suggested that they repeat the mirror technique throughout the week.

SESSION 6 – FEEDBACK AND FUTURE PLANNING

The beginning of the session begins with a reflection on progress throughout the intervention. At this time, participants share their learning and explore how the strategies discussed in previous sessions contributed to their well-being. Then, participants will make a list of future goals and identify new life goals, even with the diagnosis of thyroid cancer. The importance of planning the next steps towards reintegration into the world of work is also highlighted. As such, the "Definition of Legacy" technique is presented, an exercise that seeks to help participants reflect on what they would like to leave in the world or what they would like to transmit to others, promoting a sense of purpose, identity and belonging.

CONCLUSION

Psychologists can play a very important role in promoting the quality of life of patients with chronic illnesses. It may contribute to the development of emotional and reflective skills based on scientific evidence that promotes the general well-being of individuals. In the context of thyroid cancer, psychological support becomes even more important, as the lack of information can create anxiety and fear. In this way, the psychologist can help promote greater well-being through clarifying doubts, developing coping strategies and emotion management.

Well-being is a comprehensive concept that encompasses several dimensions of life, such as

physical, emotional, social, professional and spiritual health. Spirituality, for example, emerges as an important source of support and integrates several aspects, such as life purpose, connection with something greater, and personal and religious beliefs that promote greater resilience and hope in difficult times (Biswas et al., 2024).

One of the other challenges that Generation X faces after treating cancer is returning to work. This phase, although it is an important step towards regaining autonomy and identity, can also be marked by physical and emotional difficulties. Therefore, it is essential to create constructive return strategies in order to face the demands of the world of work more positively (Kazemi et al., 2017; Cooke et al., 2016).

Finally, it is important to highlight the importance of developing and validating instruments that assess the well-being of people with cancer more effectively to understand better the challenges that hinder the quality of life of these people. It would also be advantageous to validate instruments for the portuguese population that assess the health perception of people with cancer. Understanding how these women perceive their health and quality of life is essential in order to understand better the challenges that influence quality of life and, thus, provide more effective support (Souto et al., 2018). A holistic approach must also be considered, which values all dimensions of well-being (physical and psychological) and allows these women to not only recover their quality of life but also find purpose in their lives after cancer.

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