

The impact of Autogenic training on women with Mamma Carcinoma

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Abstract: *Objective:* This study aimed to determine whether a psychosocial intervention, autogenic training, can positively impact overcoming difficulties arising from a breast cancer diagnosis. Does autogenic training positively affect the physical and mental health and quality of life of women with breast cancer? Thirty women with breast cancer were tested before and after autogenic training and completed a positive health questionnaire. was used to assess experience levels of physical and mental health and quality of life. The respondents were registered members of the Pink Ribbon Foundation or a patient of two physicians, general practitioners. **Results:** The results indicate that all respondents showed strong, significant and positive coping changes after autogenic training for all three variables examined: physical health, mental health, and quality of life ($p < 0.001$). **Conclusions:** This quasi-experimental study clearly demonstrated immediate positive effects on respondents' physical and mental health and quality of life experiences, including resilience, after autogenic training. Therefore, in addition to biomedical care for women diagnosed with breast cancer, the formal and structural integration of psychosocial methods, especially autogenic training, into care is recommended.

Key Words: Autogenic Training, Mamma Carcinoma, Physical Health, Mental Health, Quality of Life, Psychosocial coping, Suriname

1. INTRODUCTION :

The World Health organization declares: “Annually there are millions of women diagnosed with breast cancer. There were 2.3 million women and 685 000 deaths globally in 2020 and at the end of 2020, there were about 8 million women alive who were diagnosed with breast cancer in the past 5 years, making it the world’s most prevalent cancer. Breast cancer occurs at any age, in every country of the world in women after puberty but with increasing rates in later life. Almost 50% of breast most cancers cases arise in developing international locations and 58% of deaths According to the WHO breast cancer is currently the most commonly diagnosed cancer in the world “Breast cancer is the most frequent type of cancer and the most common cause of cancer death affecting women globally. Breast cancer causes more disability-adjusted life-years lost by women than any other cancer. The burden posed by breast cancer is disproportionately larger in developing countries, where most breast cancer deaths occur prematurely, in women younger than 70 years. The American countries accounted for nearly a quarter of new breast cancer cases in 2020. In Latin America and the Caribbean, the share of women affected by the disease before the age of 50 years (32%) is much larger than in North America (19%).”

PAHO estimates that more than 62,000 new breast cancer cases and approximately 100,000 deaths occur each year in the United States alone. They expect new cases especially in the Americas and the Caribbean. They predict: “by 2030, the number of new cases in the Americas and the Caribbean will increase to approximately 572,000, and breast cancer incidence is expected to increase.” (PAHO 2021a) Researchers have linked a number of genes, including BRCA1 and BRCA2, to the development of breast cancer. Although gene changes may increase some people’s risk of developing breast cancer, environment and lifestyle are also important factors. (Chun C. 2021)

“The younger someone is at the time of diagnosis, the greater the chance that it can be a serious form of breast cancer. Breast cancer before the age of twenty is very rare, before the age of thirty it is rare, but after that age the incidence increases (DeSantis, 2014). Research by the World Health Organization shows that 75% of breast cancer patients are older than 50 years (WHO, 2016). “Women in the Western world are two to four times more likely to develop breast cancer than women in Africa or Asia (van Leeuwen et al., 2011). “Women with a mutation of the

BRCA1 or BRCA2 genes can almost certainly become a victim of breast cancer. Research on the factors contributing to the development of breast cancer is ongoing. Cancer is believed to result from an interplay between age, genetic factors, hereditary factors, behavioral factors and psychosocial factors” (Huber et al. 2011). Factors such as long-term exposure to female hormones, early menstruation (before age 12), late conception or pregnancy (after age 30), late menopause, use of oral contraceptives and drug drugs increase breast cancer. It has been proven that when women consume three or more alcoholic drinks per day, the risk of breast cancer increases by 40%. Cancer patients do not live in a vacuum, they are in need of special social assistance and want emotional and character support. A cancer diagnosis therefore not the only and simplest concerns the patient has, but additionally his position and the acceptance of the social community, dedication to self-efficacy, increased need for private, co- existence with others. Emotional, physiological and social problems can come more to the for front. Emotional issues include tension, hopelessness, and melancholy. These issues can be remedied with interventions which includes mindfulness, especially advantageous affirmations and humanistic. Most of the breast cancer programs and screening policies do not take these issues into account and are not up to date (PAHO 2021a)

In 2020, about 10 million people died of cancer worldwide, nearly 1 in 6 of them from cancer. Breast cancer is the most frequently diagnosed type of cancer worldwide. Nearly 50% of breast cancer cases occur in developing countries where 58% of deaths occur. Cancer patients do not live in a vacuum, but in a social system. They need others and that comes with special social needs. These are, for example, the need for more emotional and individual support (Zhang et. al 2010). A cancer diagnosis therefore not only concerns the patient himself, but also his social network. It involves a process of acceptance of the situation, commitment of the self, also called self-efficacy, personal growth, victory and view on the quality of life among others. According to Stenberg, (2010) emotional, physiological and social problems can arise as a result of caregiving. Emotional problems include anxiety, hopelessness, and depression. From a psychological point of view, these problems can be remedied with interventions such as mindfulness, in particular positive affirmations and autogenic training. There is a difference in mortality rates between industrialized countries and most Latin America and the Caribbean. The breast cancer survival rate for at least 5 years after diagnosis ranges from more than 90% in high-income countries, to 66% in India and 40% in South Africa. Early detection and treatment have proven successful in high-income countries and should be applied in countries with limited resources where some of the standard tools are available. (WHO 2021) *“There is a need in most Latin America and the Caribbean for developing screening programs, evaluation of the feasibility of designing and implementing appropriate treatment guidelines and providing wide access to diagnostic and treatment services. Given the relevance of breast cancer in Latin America and the Caribbean, it is crucial that both women and health care providers have access to up-to-date information on which to base their decisions”.* (PAHO 2021b)

1.1. Mamma Carcinoma and Physical Health :

Women who are diagnosed with breast cancer and undergo treatment can experience all kinds of physical complaints. The physical complaints can be the result of the disease itself on the one hand and the treatment to combat the cancer on the other hand. Physical health is considered to be having control over, or the absence of, somatic symptoms and the maintenance of and independence from physical functioning.

According to the National Cancer Institute, individuals diagnosed with cancer often experience fatigue, psychosocial problems such as stress, anxiety, depression, work and relationship problems, and reduced physical abilities. (NCI 2021. Fatigue is a persistent problem in about a quarter of cancer patients after curative treatment has ended. Fatigue is reported even years after diagnosis by 30% of cancer survivors. These complaints become chronic without a somatic cause being found. They can bring up a wide range of emotions you're not used to dealing with or make existing feelings more intense. (NCI 2021)

Breast cancer diagnosis, can be extremely stressful. Women become concerned about body image which can affect interpersonal relationships, possibly leading to social isolation. There is also an increasing likelihood for mood disorders. (Borgi M et al. 2020) Having cancer apparently has an impact on the psychological functioning and well-being of patients. Stress anxiety and depression are common. Distress can be placed on a continuum that ranges from ordinary and normal feelings of vulnerability, sadness and fear to problems that can be disabling, have already been mentioned depression, anxiety disorder, but also panic, social isolation and existential and spiritual crisis.

1.2. Mamma Carcinoma and Quality of Life :

Quality of life is seen as the assessment of, satisfaction with life, current level of functioning compared to what is considered possibly Quality of life consists of physical, psychological, social and spiritual well-being. In this perception there is not only a reciprocal relationship between the four dimensions and the quality of life, but the dimensions also influence each other and mutually. Experiencing psychological distress and insufficient support from the environment are risk factors for a lower quality of life (Montazeri, 2008). Quality of life generally improves after

completion of treatment and in the long term there is little difference between cured patients and the general population. However, some treatment side effects may continue to affect patients for a long time, even years after treatment. This seems especially true for side effects of chemotherapy, such as reduced physical function, pain and problems with sexuality (Paskett et al., 2008). Resilience part of positive health, of experiencing well-being, is a broader view of health that looks at the experience of having a meaningful life and being in control. Measures include: I accept myself as I am, I see myself as a strong person.

1.3. Cancer and Suriname :

According to the PAHO (2020): Cancer is the leading cause of death in Suriname. Cervical cancer is her fourth most common cancer in women worldwide, in Suriname the second. There are 60-70 new cases each year. In terms of mortality, 20-25 people die each year despite all available technologies for early detection, screening and treatment. According to the National Cancer Control Plan (2019-2018), Suriname's cancer incidence has doubled since the period 1980-2000, The reported on average incidence 70 per 100,000 population. In 2013-2014, the most common cancer types were breast cancer (18% of all cases), prostate cancer (12%), colorectal cancer (11%), and cervical cancer (10%) was. (PAHO 2020) The International Agency for Research on Cancer estimates that: “more than 50 million people are alive within five years of their previous cancer diagnosis. Aging global population and socioeconomic risk factors remain the main drivers of this increase” (Global Scan 2020) A study by Dams, Mans and Lichtveld shows that: *“In Suriname between 2000 and 2004 237 women were diagnosed and between 2010 and 2014 this increased to 633”*. (Irving et al., 2016). In its National Cancer Control Plan 2019-2028, the Ministry of Health announced and recommended an integrated support program for the rehabilitation of cancer patients and the acceptance of families, survivors and families for treatment, including palliative care (MOH 2020). The mortality figures of Suriname indicate that in the period 1995 to 2012 a steady increase in the number of deaths due to breast cancer can be observed. Figures from the National Cancer Plan 2018-2028 show that the death rate of women from breast cancer is 16.5 per 100,000. The most common cancers in Suriname are breast cancer, cervical cancer and colorectal cancer in women and prostate cancer, lung cancer, colorectal cancer and head and neck cancer in men. Figures from MOH, the Bureau of Public Health of Suriname show that: *“More than 12% of all deaths are the result of cancer. In 2012, more than 400 people died from this disease: about 200 men and the same number of women”* *“The most common cancers in women appear to be breast and cervical cancer, while prostate, lung and colon cancer are the most common in men. In Suriname in 2012 there were 109 women diagnosed with breast cancer and 107 with cervical cancer. In the same year, 85 men in Suriname were diagnosed with prostate cancer, 55 with colorectal cancer and 49 with lung cancer”* MOH: *“Specialists suggest that the mortality rate among women with breast cancer is increasing, because women are less likely to be examined by a doctor when irregularities are found in the breast. There is a large group estimated at more than 40%, who stop treatment if an abnormality is detected. People often only come back when it is much too late and there are not many treatment options left that could be used successfully”* (MOH 2019/2022). Experts believe that the rising mortality rate among women with breast cancer is because women are less likely to see their doctor if they discover an irregularity in the breast. *“Persons stop treatment when an abnormality is detected and often only come back when it is much too late and there are not many treatment options left that could be used successfully”* (MOH, 2022). The most common types of cancer in Suriname are breast cancer, cervical cancer and colorectal cancer in women and prostate cancer, lung cancer, colorectal cancer and cancer of the head and neck area in men.

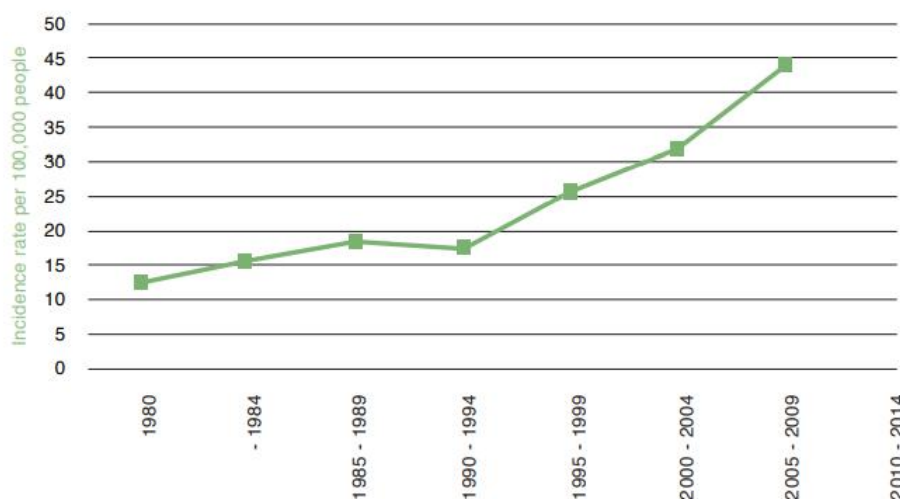


Figure 1 Cancer Mortality figures 1980 to 2014

Figures from the MOH, the Public Health department show that more than 12% of all deaths are the result of cancer. In 2012, more than 400 people died from this disease: about 200 men and the same number of women.

The most common cancers in women appear to be breast and cervical cancer, while prostate, lung and colon cancer are the most common in men. Figures from the World Health Organization (WHO 2021) show that in Suriname in 2012 no less than 109 women were diagnosed with breast cancer and 107 with cervical cancer. In the same year, 85 men in Suriname were diagnosed with prostate cancer, 55 with colon cancer and 49 with lung cancer. Specialists suggest that the mortality rate among women with breast cancer is increasing because women are less likely to be examined by a doctor when irregularities are found in the breast. In addition, there is a large group, estimated at over 40%, who discontinue treatment if an abnormality is detected. People often only come back when it is much too late and there are not many treatment options left that could be used successfully (MOH 2022).

1.4. Breast Cancer in Suriname :

In the Americas, also in Suriname, breast cancer is the most common cancer in women. Since 2010, cancer has been the second leading cause of death in Suriname, preceded only by cardiovascular disease. In women, the highest death rate has been recorded for breast cancer, closely followed by cervical cancer. Breast cancer is a condition that occurs frequently in today's society (Leeuwaarde van, 2011). When this diagnosis is made, it has a major impact on the patient's life (Spiegel & Moore, Despite the fact that the disease in the world is declining considerably, many women in Suriname still die from breast cancer. In 2009 164 women have died from various forms of cancer. Of this group, 28 women died of breast cancer, which amounts to 17%. A previous study conducted by the Anton de Kom University of Suriname registered 384 cases of breast cancer in a period from January 1, 2003 to December 31, 2007 (ADEK 2020). That equates to 31 cases per 100,000 women. After therapy, the breast cancer patient may still face the side effects of cancer and treatment. Where previously the patient was closely monitored and felt surrounded by a medical team, this framework disappears once active treatment has ended. However, the physical and psychosocial impact remains. In some patients, the complaints can persist and progress, affecting the quality of life, self-reliance and reintegration. The period immediately after treatment is therefore a critical period in which patients should in principle be guided in order to live as competently as possible as a former cancer patient and cancer survivor. Breast cancer is a condition that needs to receive even more attention within the health care system, in the medical, psychological and social fields.

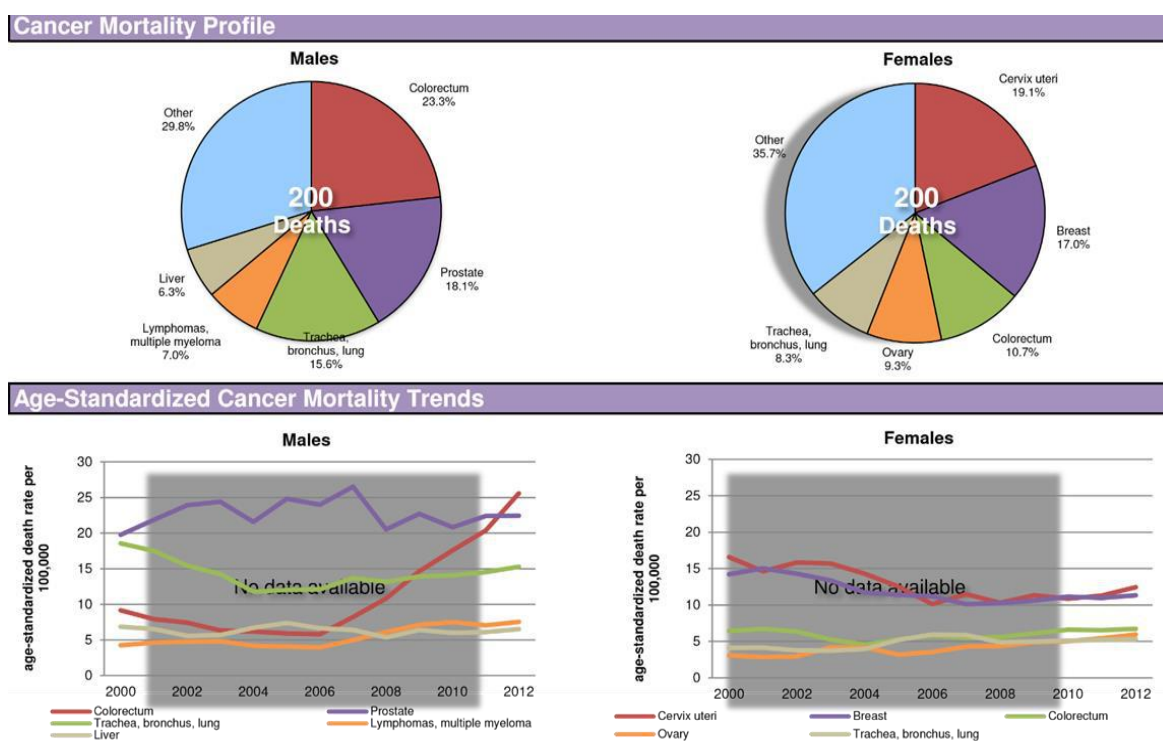


Figure 2 World Health Organization - Cancer Country Profiles, Suriname, 2014.

1.5. Autogenic Training

"Autogenic" means "coming from within." Autogenic training is a self-guided relaxation technique developed in the early 20th century by the psychiatrist J.H. Schultz. It is based on the fact that physical relaxation can be initiated through mental concentration and people's imagination, and has evolved to also treat emotional stress. It aids coping with difficult

situations as tensions are eased and stress responses reduced to restore balance to the mind-body relationship. AT helps create awareness of physical sensations and eventually encourages a state of calm and relaxation, learning persons to face stress and daily events more easily from a calm attitude and functional cognitive interpretations giving behavioral interventions get a better chance. It can be thought of as a mindfulness therapeutic modality (Garcia M.2020)

2. METHODOLOGY:

To assess the impact of the autogenic training on women with breast cancer, the positive health questionnaire PGV was used to determine: the respondent's perception of physical, mental health and quality of life before the autogenic intervention and after the autogenic intervention. The Dutch Positive Health Questionnaire (PGV) originating from positive psychology has been used for mapping the variables. The dimensions used are 1) physical health, 2) mental health, 3) meaning, 4) quality of life, 5) resilience. The physical health domain measures physical health and attention to a healthy lifestyle. Mental health looks at mental health, such as the ability to concentrate or socialize. Quality of life measures the extent to which a client is satisfied with their living circumstances and the level of happiness experienced. Resilience measures qualities that enable individuals to maintain or regain psychological balance when faced with stressful events. The measured questionnaire Cronbach's alpha was $\alpha=0.777$. Due to the Covid pandemic, operative interaction regulations required minimal physical contact. Consequently, the training was conducted virtually. The sample consisted of 30 respondents selected through Pink Ribbon, an organization dedicated to women with breast cancer, and two general practitioners known for their breast cancer care. They informed patients/respondents about the study and initiated the consent process. Respondents who contacted the polyclinic to participate in the study underwent a repeated consent procedure before signing consent forms.

3. RESULTS:

The power analysis recommended a sample size of 32 respondents for this study. The definite number of respondents was thirty (30). The 30 respondents with breast cancer were selected through one women's organization especially for women with carcinoma and two general practices. None of them had experienced the autogenic training They had already undergone one or more treatments via the biomedical model.

Therapy	No of treatments	% , n=30
Surgery	18	60.0
Chemotherapy	3	10.0
Radiotherapy	18	60.0
Hormone treatment	12	40.0
Targeted treatment	13	43.3

Table 1 therapeutic treatments of the respondents

Some respondents had more than one treatment. The most common therapeutic treatments are surgery, radiotherapy followed by targeted treatments and hormone treatment and least chemotherapy.

Dimension	Moment	Average	SD	Average Difference	SD Difference	Significance	Cohen's d
Physical Health	Pretest	9.800	1.827	11.033	2.414	.000	4.571
	Posttest	20.833	.834				
Mental Health	Pretest	9.500	1.815	11.067	1.856	.000	5.964
	Posttest	20.567	1.654				
Quality of life	Pretest	10.267	2.242	10.433	3.191	.000	3.269
	Posttest	20.700	1.44				
Resilience	Pretest	11.433	1.924	9.400	2.787	.000	3.373
	Posttest	20.833	1.533				

Table 2, Paired T-test physical health, mental health, quality of life, resilience. $p<.001$

The statistical analysis presented in tables 2 shows that the respondents' assessments of the difference in the pre and posttest of their physical health, mental health, their quality of life and resilience. are all significantly higher after the autogenic training measured at $p<.001$.

The respondents significantly of the opinion that the autogenic training has helped them with their physical health, they score higher after the autogenic training ($M=20,833$, $SD=.834$), compared to the period before the training ($M=9,800$, $SD=1,827$), which is a significant increase of 11,033 points, 95% CI [10,132, 11,935], $t(29) = 25,036$, $p<.001$, $d=4.57$.

The respondents also claim that the autogenic training has helped them with their mental health. They score higher for mental health after the autogenic training ($M=20,567$, $SD=1,654$), compared to the period before the training ($M=9,500$, $SD=1,815$), which is a significant increase of 11,067 points, 95% CI [10,373, 11,760], $t(29) = 32,664$, $p<.001$, $d=5,964$.

With regard to perceived quality of life, the respondents indicate that after the autogenic training ($M=20,700$, $SD=1.44$), compared to the period before the training ($M=10,267$, $SD=2,242$), which is a significant increase of 10,433 points, 95% CI [9,242, 11,625], $t(29) = 17,906$, $p<.001$, $d=3.27$

The attitude resilience as part of the perceived quality of life is also scored higher by the respondents after the autogenic training ($M=20,700$, $SD=1.44$), compared to the period before the training ($M=10,267$, $SD=2,242$), which has a significant increase of 10,433 points, 95% CI [9,242, 11,625], $t(29) = 17,906$, $p<.001$, $d=3.27$.

4. DISCUSSION:

Borgi (2020) An improved understanding of the biological mechanisms linking stress-management resources to health-relevant biological processes in breast cancer patients could reveal novel therapeutic targets and help clarifying which psychosocial interventions can improve cancer outcomes, ultimately offering a unique opportunity to improve contemporary cancer treatments. (Borgi M et al. 2020) Autogenic training has positive effects on all measured variables, physical, mental and quality of life. Psychosocial models in health assessment explicitly take into account subjective experience, social and cultural factors. Psychology focuses on managing illness, promoting well-being in life, minimizing discomfort, and promoting strengths. It assumes that it is more than the physical condition, but that other dimensions—mental health, fitness, quality of life, and daily functioning—are important coping mechanisms. This does not negate the biomedical model, but enriches the diagnostic and interventions with the interaction of biological processes with psychological and social influences. The medical and psychological models complement each other. This research provided important support for the biological, psychological, social and spiritual management of those diagnosed with breast cancer. Supports need a more holistic assessment and approach. In Machteld Huber's concept, health is no longer seen as the presence or absence of disease, but as a person's ability to cope with and control as much as possible the physical, mental and social challenges of life. (Hoover M. 2016/2021) The approach from a positive health perception focuses on resilience and self-determination. This study demonstrates that a psychological intervention, autogenic training, has a significant impact on perceptions of physical and mental health, well-being, and resilience in women with breast cancer. It advocates seeing and addressing health through a systematic disease intervention model. This multifaceted approach requires more time, but is inherently patient-centered and holistic Krahn (2021) states that the World Health Organization first defined health in 1948 as "a state of complete physical, mental and social well-being, not simply the absence of disease or infirmity". He articulates that the understanding of health has changed significantly. These changes include reconceptualizing health as a continuum rather than a static state, adding existential health to physical, mental and social well-being. Health is a dynamic balance of physical, mental, social and existential well-being while adapting to living conditions and environments. This new definition will have implications for research, policy and practice, especially as it relates to health related to disability and chronic disease. (Krahn G.2021) The application of the biomedical model of disease, in which health is viewed primarily as the absence of disease and, when disease occurs, cure can be achieved through medical intervention. Recovery is achieved primarily by eliminating the cause of the disease, the disappearance of symptoms. This approach has been very successful and certain diseases no longer occur. Vaccines prevent diseases and allow early detection and adequate treatment of certain diseases, including breast cancer. This model contributes to the fact that life expectancy has increased. In contrast to biomedical models, psychosocial models explicitly take subjectivity or experience, social and cultural factors into account when assessing health. This model does not negate the biomedical model, but enriches it with the interplay between biological processes and psychological and social effects. This study showed that a psychological intervention, autogenic training, significantly affects women with breast cancer positively, their perceptions of physical and mental health, well-being, and resilience. This emphasizes the assessment and approach to health through biopsychosocial disease models. This multifaceted approach requires more time, but is patient-centered and holistic in nature. Emphasis is placed on the ability to adapt and self-manage in the face of social, physical and emotional challenges, resilience and self-orientation. Patients feel empowered by not treating them only as illnesses. The Autogenic training for persons who have or had to endure a medical procedure or surgery is a good psychological intervention or preparation which needs to be introduced structurally.

5. CONCLUSION:

Does autogenic training affect the physical and mental health and quality of life of women diagnosed with breast cancer? This study confirms the positive impact of autogenic training on the health variables examined statistically high at $p 0.001$. Significant improvements were noted in all factors after completing autogenic training, with participants

assessing physical and mental health and quality of life, subjective fatigue, anxiety and depression problems, and self-efficacy. This study demonstrates the importance of a holistic approach to the sick and the fact that autogenic training can play an important role in promoting the experience of physical and mental health. As part of perceived well-being, the variable resilience was measured. It is highly recommended that you pay attention to the practice of psychological relaxation and relaxation exercises as training after a breast cancer diagnosis. More than just biological factors are involved. For instance, psychological, emotional, as well as social and relational. It is important to consider all factors because the way clinicians conceptualize illness has a significant impact on setting boundaries of professional responsibility and attitudes toward patients. Psychological interventions, like autogenic training which are commonly used by psychologists to reduce stress and anxiety and improve well-being, should be structurally incorporated into counseling for women diagnosed with breast cancer and after breast cancer surgery.

Study Limitations

Due to its quasi-research nature, this study was conducted with selected patients participating in a health care program as physician patients and some members of a social intervention program, especially for women with breast cancer. The study did not include a random sample of all patients diagnosed with breast cancer during a given time period nor was there a control group.

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