



Effects of Inner Strength and Quality of Self Management on Survivors of Cancer Among Cancer Patients in Oncology OPD at SRM Hospital, Kattankulathur, Tamil Nadu, Chennai.

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(Received: 14 April 2024

Revised: 1 May 2024

Accepted: 18 June 2024)

KEYWORDS

Effectiveness,
Inner Strength,
Self management,
Quality of life,
Cancer patients
and Functional
assessment

ABSTRACT:

Objective: The aim of this study is to self-management strategies of patients with advanced cancer and associated experiences and personal characteristics. Also, to summaries attitudes of relatives and healthcare professionals towards patient self-management.

Design: A Quasi Experimental Pre-test Post-test Control Group Design.

Participants: Subjects diagnosed with Cancer survivors between 25-60.

Setting: SRM Hospital Oncology OPD. (Week-0) A total of 100 participants were randomized in to Experimental group (n=50) and Control group (n=50).1st week –Pre-test measurement and demographic variables and clinical characteristics and Inner strength questionnaire (ISQ),Quality of life functional assessment of cancer therapy and Self management- were taken for all participants

Intervention given Experimental group were assessed maintain emotional well being for cancer patients .Control group assessed with routine care and treatment. 12th week – Post-test measurement given as per pre-test

Outcome Measures- Inner strength questionnaire (ISQ),Quality of life for functional assessment of cancer therapy-spirituality well being (FACT-SP), Self management-Patient activation measure (PAM) given.

Results: Experimental group had shown significant improvement compared to Control group. Scales score were all increased apparently in the Experimental group (P<0.001) compared to Control group.

Conclusion: Present study suggests that self-management interventions are recommended for cancer patients as they can help individuals identify and manage these continuing symptoms.

Introduction

The prevalence of cancer is estimated to be 32.6 million worldwide. These numbers are expected to increase over the next two decades because of increasing cancer incidence and improved survival (1,2,3). For many patients, living after a diagnosis means living with long-term effects of their cancer and its treatment including chronic fatigue, depression, anxiety, cognitive changes, and new health problems such as second malignancies, cardiovascular disease, and endocrine disorders

(4,5,6,7). Survivors have ongoing medical and supportive care needs and frequently interact with multiple health care providers. (8,9) Current models of care, largely focused on detecting recurrences, do not adequately address the comprehensive needs of survivors.(10,11,12) Self-management programs may represent an effective strategy to ensure survivors' long-term physical and psychological health needs are addressed. Self-management has predominantly been studied in the context of chronic diseases, where it has



been defined as ‘the ability to manage the symptoms, treatment, physical and psychosocial consequences, and lifestyle changes inherent in living with the condition (13,14,15,16). Patients with advanced cancer experience severe, multidimensional symptoms and challenges and are increasingly expected to actively manage their health and care. Learning that one’s cancer has progressed to an advanced and incurable stage is for most patients and their relatives an overwhelming experience that often includes shifting from curative treatment to focusing on life extension and/ or quality of life (17,18,19,20). Most people dealing with cancer can take stronger ownership and do much more to feel better. Cancer patients need balance strength, support, peace, and confidence, better decision-making and optimized actions among other wonderful improvements. Reimaging helps people create better relationship with their body, cultivate a mind-body connection with induction, inspiration look for and fine inner wisdom and connect to spirit (21,22,23).

Objectives

1. Effectiveness of inner strength questionnaire and its strength of inner characteristics among cancer patients
2. Effectiveness of functional assessment of chronic illness therapy spiritual wellbeing questionnaire that measures spiritual well being and quality of life among cancer patients
3. Effectiveness of patient activation measures and its self management of health among cancer patients
4. To find the association between the effects of inner strength and quality of self management among survivors of cancer and selected demographic variables

Hypotheses

H1. There is a significant difference between inner strength questionnaire and its strength of inner characteristics among cancer patients

H2. There is a significant difference between the functional assessment of chronic illness therapy spiritual wellbeing questionnaire that measures spiritual well being and quality of life among cancer patients

H3. There is a significant difference between the patient activation measures and its self management of health among cancer patients

H4. There is association between the effects of inner strength and quality of self management among survivors of cancer and selected demographic variables

Theoretical Model

The theoretical framework adapted for this study is based on Watson’s caring theory (24).

Materials and Methods

An evaluate approach with quasi experimental pretest-posttest control group design was adopted for the current study. The target population was who are survivors in cancer at SRM Hospital oncology OPD in Kattankulathur, Chengalpattu District. The data collection Process done for 12 weeks by using convenient sampling method. The tool is prepared based on the objectives of the study. After obtaining approval and clearance from the Institutional Ethics Committee. 100 subjects who met the inclusion and exclusion criteria were included in the study. Anonymity, confidentiality, and professional secrecy were maintained for all the study subjects. The study was conducted from January 2022 to March 2022. Detailed history of who are survivors in cancer was obtained. The inclusion criteria for selection of patients who are already diagnosed to have cancer. Patient who receive Chemotherapy and Radiation therapy. Patients who are willing to participate and Patients who are attend oncology OPD in SRM Hospital. Patients with GI obstruction or other disease that could provoke nausea and vomiting. Patients who have known allergy or severe side effects on study drugs. Pregnant or lactating women or women who wish to become pregnant. Patient who are not willing to participate in this study were excluded. Content validity of the instruments was obtained from two medical experts and three nursing experts in the field of medical surgical nursing. The reliability of the tool was elicited by using test-retest method

Data collection procedure

Ethical permission for conduction of the study was obtained from the Institutional Ethics Committee. Prior to the collection of data; the investigator introduced self



to the patients and established rapport with them. The intervention was explained to the patients and a written consent was obtained prior to initiation of the intervention. The purpose of the study was explained to each subject in the language known to them (Tamil/English). Adequate privacy was ensured throughout the study. **Allocation Baseline assessment and randomization (Week-0).** Totally 100 subjects were enrolled for this study and divided in to two groups with simple randomization method. The subjects were assigned the experimental group (n=50) They have been enrolled for this study after screening based on inclusion criteria. 1st week –Pre-test measurement and demographic variables and clinical characteristics were taken for all participants 1.Inner Strength Questionnaire (ISQ), 2. Patient Activation Measure (PAM) 3. Functional Assessment of Chronic illness Therapy- Spiritual wellbeing (FACT-SP) were given. **Intervention** Experimental group were assessed 1. Maintain emotional well being for cancer patients 2. Physical activities a, Warm up exercises for 2 to 3 minutes a. Shoulder shrugs, Lifting arm overhead, toe tapping and Marching and knee lift b. Stretching or flexibility exercises Hold a stretch for about 15 to 30 seconds. Stretching and reaching overhead, Deep breathing and bending over to touch toes 3. Physical activity of daily routine and Emotional activities. The subjects were assigned the control group (n=50) Control group assessed with routine care and treatment. 12th week – Post-test measurement were given as per pre-test **Compliance assessment via phone calls (week-8) Follow-up.**

Instruments

Section A - Socio demographic: The data included the demographic variable of Cancer patients consisting of age, sex, marital status, occupation, education, income, health insurance, family history of cancer and dietary history. Clinical Variables treatment and follow-up **Section B-** Check list observation of support group

activities. **Section C-1.Inner Strength Questionnaire (ISQ)** (25) associated with social, physical, emotional and spiritual needs of patients living with a chronic health condition. The four factor structure supported with a total of 27 items. The instrument takes approximately 10-12 minutes to complete. Circle one of the choice corresponds with strongly agree, agree, slightly agree, disagree or strongly disagree. (5,4,3,2,1) and Check list observation of support group activities. **2. Patient Activation Measure (PAM)(26)** Total four levels . Level 1 Activation score is 47.0 or below (Lacking confidence in their ability to manage their health. Level-2 Activation score is 47.1-55.1 (Becoming aware but still struggling).Level-3 Activation score is 55.2 to 67 (Taking Action). Level-4 Activation score is 67.1 or above (Maintaining behaviour and pursuing further). 3. Functional Assessment of Chronic illness Therapy- Spiritual wellbeing (FACT-SP) (27). **Section D-** Association between Post-test of Socio Demographic Variables and inner strength and quality of self management among Study and Control groups

Statistical Analysis

The data obtained from the study was computed using a frequency distribution to describe the demographic characteristics and chi-square test was carried out to find the homogeneity. Both parametric and non parametric test were done for the effectiveness of Inner Strength Questionnaire, Functional Assessment of Chronic illness Therapy- Spiritual wellbeing (FACT-SP) and Patient Activation Measure (PAM). Check list observation of support group activities Mean and median were used for statistical analysis by means of parametric and nonparametric tests. A probability of 0.05 or less was taken as statistically significant. Two-way RM ANOVA Bonferroni multiple comparison test used to find out within-and between group comparison. The analysis and plotting of graph were carried out using Sigma Plot 13.0 (Systat Software Inc., USA).

Results

Table 1 : Comparison between the Experimental and Control groups as regard Socio Demographic data (N=100)

Demographic variables	Experimental Group(50)		Control Group (50)	
	Frequency	Percentage	Frequency	Percentage



1. Age in years				
1. 25-35	4	9%	4	8%
2. 36-45	30	40%	28	39%
3. 46-55	10	30%	12	33%
4. 56-60	6	21%	6	20%
2. Sex				
1.Male	38	71%	44	80%
2.Female	12	29%	6	20%
3. Occupation				
1.Working	44	85%	46	90%
2.Non working	6	15%	4	10%
4. Family history of cancer				
1.Father	26	40%	24	40%
2.Mother	14	30%	16	31%
3.Sibling	6	20%	8	24%
4.Paternal grand parent	4	10%	2	5%
5.Maternal grand parent	0	-	0	-
5. Dietary History				
1.Non-Vegetarian	42	86%	46	90%
2.Vegetarian	8	14%	4	10%
Clinical Variables				
6.Stages of cancer				
1.1 st stage	20	15%	19	14%
2. 2 nd stage	15	10%	16	10%
3. 3 rd stage	25	30%	23	29%
4. 4 th stage	40	45%	42	47%
7. History of Treatment				
1. Complete treatment	40	40%	39	30%
2. Incomplete treatment	60	60%	61	70%

Table-1 reveals that the Demographic variables of Patients indicated that 40% of the patients in experimental and 39% were in control group in the age group 26-36. In the experimental group 71% were in male 29% were in female, whereas in the control group 80% in male 20% in female. In the experimental group 85% were working, 15% were non-working whereas in the control group 90% were working 10% were non-working. Family history of cancer 40% of them had fathers in the experimental and control group respectively. 86% and 90% were non – Vegetarian in the experimental and control group.

Table 2: Check list observation of support group activities (N=100)

Contents	Groups	Mean	SD	Median Percentile	P- Value	Statistical Inference
1. Keep the lines of communication	Control group pre-test	5.94	1.53	6.0(5.0-7.0)	P< 0.001	Greater Significant
2. Anticipate possible physical changes	Control group post-test	12.58**	4.46	12.0(8.0-15.75)		



3. Maintain a healthy life style	Experimental group pre-test	6.21	1.37	6.0(5.0-7.0)		
	Experimental group post-test	20.23**	1.74	20.0(19.0-22.0)		
4. Let friends and family help 5. Review goals and priority	Control group pre-test	5.08	1.32	5.0(4.0-6.0)	P< 0.001	Greater Significant
	Control group post-test	12.58*	3.94	13.0(9.0-16.0)		
	Experimental group pre-test	5.12	1.62	5.0(4.0-6.0)		
	Experimental group post-test	17.08**	1.70	17.0(16.0-18.0)		
6. Consider how diagnosis will impact finances 7. Talk to other people with cancer	Control group pre-test	3.66	1.41	4.0(2.0-5.0)	P< 0.001	Greater Significant
	Control group post-test	6.23*	1.76	7.0(5.0-7.75)		
	Experimental group pre-test	4.23	1.11	4.0(4.0-5.0)		
	Experimental group post-test	7.28**	1.27	7.5(6.0-8.0)		
8. Fight stigma 9. Plan ahead 10. 10.Continue with daily activities	Control group pre-test	14.75	3.11	14.0(13.0-17.75)	P< 0.001	Greater Significant
	Control group post-test	31.41*	9.57	32.0(22.0-39.75)		
	Experimental group pre-test	15.56	3.13	14.0(13.0-17.0)		
	Experimental group post-test	44.60**	3.32	46.0(42.0-47.0)		

Table 2: reveals that the Comparison of Check list observation of support group activities Mean, SD and p value shows that compare to pre test post test experimental group have Greater Significant

Table 3 Effects of Inner Strength Questionnaire among Experimental and Control group (N=100)

Contents	Groups	Mean	SD	Median Percentile	P- Value	Statistical Inference
1. I tell myself I can do this. 2. I can change my attitude when I need 3. I can change my attitude 4. I am determined to get well 5. I believe I have inner strength	Control group pre-test	5.94	1.53	6.0 (5.0-7.0)	P< 0.001	Greater Significant
	Control group post-test	12.58**	4.46	12.0 (8.0-15.75)		
	Experimental group pre-test	6.21	1.37	6.0 (5.0-7.0)		
	Experimental group post-test	20.23**	1.74	20.0 (19.0-22.0)		



6. I can decide what to do.						
7. I have at least one person close to me						
8. I feel the presence of God or a Greater Source of Strength.	Control group pre-test	5.08	1.32	5.0 (4.0-6.0)	P< 0.001	Greater Significant
9. I put control of my life in God's or a Greater Power's hand.	Control group post-test	12.58*	3.94	13.0 (9.0-16.0)		
10. I feel close to God or a Greater Source of Strength.	Experimental group pre-test	5.12	1.62	5.0 (4.0-6.0)		
11. I pray for strength.						
12. I express my fears to my God or a Greater Source of Strength.	Experimental group post-test	17.08**	1.70	17.0 (16.0-18.0)		
13. I pray for others.						
14. I worry about my health						
15. I am scared about the future	Control group pre-test	3.66	1.41	4.0 (2.0-5.0)	P< 0.001	Greater Significant
16. When I first learned about my health problem, I was afraid of dying.	Control group post-test	6.23*	1.76	7.0 (5.0-7.75)		
17. There are many times when I am afraid of dying.	Experimental group pre-test	4.23	1.11	4.0 (4.0-5.0)		
18. I feel my situation is out of control						
19. I dwell on my illness	Experimental group post-test	7.28**	1.27	7.5 (6.0-8.0)		
20. When I first learned about my health problem, I felt afraid.						
21. I can live with my physical limitations.						
22. I stay active.	Control group pre-test	14.75	3.11	14.0 (13.0-17.75)	P< 0.001	Greater Significant
23. I spend time with my friends or family	Control group post-test	31.41*	9.57	32.0 (22.0-39.75)		
24. I try to balance work and play.	Experimental group pre-test	15.56	3.13	14.0 (13.0-17.0)		
25. I take time for myself	Experimental group post-test	44.60**	3.32	46.0 (42.0-47.0)		
26. I try to rest my mind periodically						
27. I set aside time to relax.						



Table 3: reveals that the comparison for **Inner Strength Questionnaire** of Mean, SD and p value shows that compare to pre test post test experimental group have Greater Significant

Table 4: Within-group comparison for PAM Level-1 and 2 PAM-Level-3and 4 (N=100)				
S. no	Parameter	Paired test	t-test value	P-value
1.	Level-1 (Lacking confidence in their ability to manage their health.	Control group (Pre to Post)	t = 13.201	< 0.001
	Level-2 Becoming aware but still struggling)	Experimental group(Pre to Post)	t = 27.857**	< 0.001
2.	Level-3 Taking Action	Control group (Pre to Post)	t = 16.867	< 0.001
	Level-4 Maintaining behaviour and pursuing further.	Experimental group(Pre to Post)	t = 26.907**	< 0.001
t and P values are by Two-way RM ANOVA Bonferroni multiple comparison test Within-group comparison for PAM Level-1&2 and PAM-Level-3&4 on pre test to post test of t and P value were shown greater significance for the experimental group over the control group (P < 0.001). ** Significantly different from the respective control group (Within group)				

Table 5: Between-group comparison for PAM Level-1&2 and PAM-Level-3&4 (N=100)				
S. no	Parameter	Paired test	t-test value	P-value
1.	Level-1 (Lacking confidence in their ability to manage their health.	Control group (Pre to Post)	t = 0.542	0.589
	Level-2 Becoming aware but still struggling)	Experimental group (Pre to Post)	t = 15.458**	< 0.001
2.	Level-3 Taking Action	Control group (Pre to Post)	t = 0.079	0.937
	Level-4 Maintaining behaviour and pursuing further.	Experimental group (Pre to Post)	t = 9.955**	< 0.001
t and P values are by Two-way RM ANOVA Bonferroni multiple comparison test Between group comparison for PAM Level-1&2 and PAM-Level-3&4 on pre test to post test of t and P value were shown greater significance for the experimental group over the control group (P < 0.001). ** Significantly different from the respective control group (Between group)				

Table 6: Within-group comparison for Functional Assessment of Chronic illness Therapy- Spiritual wellbeing (FACT-SP) (N=100)				
S. No	Parameter	Paired test	t-test value	P-value



1.	SP-1.I feel peaceful SP-2.I have a reason for living SP-3.My life has been productive SP-4.I have trouble feeling peace of mind SP-5.I feel a sense of purpose in my life SP-6.I am able to reach down deep in to myself for comfort	Control group (Pre to Post)	t = 12.203	< 0.001
		Experimental group (Pre to Post)	t = 26.567**	< 0.001
2.	SP-7.I feel a sense of harmony within myself SP-8.My life lacks meaning and purpose SP-9.I find comfort in my faith or spiritual belief SP-10.I find strength in my faith or spiritual belief SP-11.My illness has strengthened my faith or spiritual belief SP-12.I know that whatever happens with my illness, things will be okay	Control group (Pre to Post)	t = 14.887	< 0.001
		Experimental group (Pre to Post)	t = 24.908**	< 0.001

t and P values are by Two-way RM ANOVA Bonferroni multiple comparison test
 Within-group comparison for Functional Assessment of Chronic illness Therapy- Spiritual wellbeing (FACT-SP) on pre test to post test of t and P value were shown greater significance for the experimental group over the control group (P < 0.001).
 ** Significantly different from the respective control group (Within group)

Table 7: Between-group comparison for Functional Assessment of Chronic illness Therapy- Spiritual wellbeing (FACT-SP) (N=100)

S. no	Parameter	Paired test	t-test value	P-value
1.	SP-1.I feel peaceful SP-2.I have a reason for living SP-3.My life has been productive SP-4.I have trouble feeling peace of mind SP-5.I feel a sense of purpose in my life SP-6.I am able to reach down deep in to myself for comfort	Control group (Pre to Post)	t = 0.534	0.589
		Experimental group (Pre to Post)	t = 14.488**	< 0.001
2.	SP-7.I feel a sense of harmony within myself SP-8.My life lacks meaning and purpose SP-9.I find comfort in my faith or spiritual belief SP-10.I find strength in my faith or spiritual belief SP-11.My illness has strengthened my faith or spiritual belief SP-12.I know that whatever happens with my illness, things will be okay	Control group (Pre to Post)	t = 0.076	0.937
		Experimental group (Pre to Post)	t = 9.945**	< 0.001

t and P values are by Two-way RM ANOVA Bonferroni multiple comparison test
 Between group comparison for Functional Assessment of Chronic illness Therapy- Spiritual wellbeing (FACT-SP) on pre test to post test of t and P value were shown greater significance for the experimental group over the control group (P < 0.001).
 ** Significantly different from the respective control group (Between group)



Table 8: Shows that the Association between Post-test of Socio Demographic Variables and inner strength and quality of self management among Experimental and Control groups (N=100)

Demographic Variables	Socio Demographic Variables and inner strength and quality of self management among control group and experimental group					
	Experimental Group		Chi-square & P-Value	Control Group		Chi-square & P-Value
	N	P		N	P	
1. Age in years						
1. 25-35	2	5		4	20	
2. 36-45	14	30	4.177	12	25	4.187
3. 46-55	34	65	>0.05	36	50	>0.05
4. 56-65	0	-		2	5	
2. Sex						
1.Male	40	85	0.027	46	90	0.025
2.Female	10	15	>0.05	4	10	>0.05
3. Occupation						
1.Working	4	10		2	5	
2.Non working	7	20	2.395	12	25	2.465
	18	30	>0.05	24	40	>0.05
	21	40		12	30	
4. Family history of cancer						
1.Father	25	50	0.58	25	50	0.54
2.Mother	25	50	>0.05	25	50	>0.05
3.Sibling						
4.Paternal grand parent						
5.Maternal grand parent						
5. Dietary History						
1.Non-Vegetarian	6	25	4.387	10	20	4.286
2.Vegetarian	16	30	>0.05	14	30	>0.05
	28	45		26	50	

Table-8 reveals that there was significant association between Socio Demographic Variables with the post-test and inner strength and quality of self management among Experimental and Control groups in relation to Age, Sex, Educational status, Occupation, Monthly family income, Family history of cancer and Dietary history.

Discussion

This study was conducted to find out the effects of inner strength and quality of self management among cancer patients. Present study was aimed to improve inner strength and quality of self management among Cancer

Patients. After post test inner strength and quality of self management the experimental group had greater significant improvement compared to the control group. A study stated that 4 weeks inner strength and quality of self management improve understanding of the nature of the behaviour to be changed and identify interventions components influencing successful implementation and sustainability of interventions (28,29). The present study reveals that the both the groups as per mean, standard deviation on support group activities of total aspects in the post test experimental group shown (M=20.23, SD=1.74) was higher than that of in the post test control group(M=



12.58, SD=4.46). The difference was found to be statistically significant at $P < 0.001$ level which indicates the effectiveness of inner strength and quality of self management to improve understanding of the nature of the behaviour to be changed. This study results depicted that the demographic variables of patients indicated that 40% of the patients in experimental and 39% in control group were in the age group 26-35. Within and Between group comparison for PAM Level-1&2 and PAM-Level-3&4 in pre test to post test of t and p value were shown greater significance for the experimental group over the control group (** $P < 0.001$). There is significant association between demographic variables and inner strength and quality of self management among cancer patients (** $P < 0.001$). The prognosis is on the whole favourable. According to Philip EJ, Merluzzi TV, et al. (2013) supporting cancer survivors in self management can empower them to take an active role in managing the long term physical and psychosocial consequences of cancer treatment (28). According to Catherine Dingley and Gayle Roux the strongest predictors of self management were depressive symptoms and inner strength accounting for 17% of the variance. Results contribute to theory development and suggest the value of supporting inner strength to enhance QOL in cancer survivors (29). Ferrell, Dow, Leigh, Ly stated that the increase in cancer survival presence a challenge to expand knowledge on human responses to this chronic yet potentially fatal condition. Significant gender differences in quality of life, spiritual well being, Psychological distress and managing the demands of illness Matud and Saranya transferred the information about raise the importance of inquiry in to how individual strengths, such as coping strategies, developed by cancer survivors relate to or influence their quality of life or ability to manage the challenges of their condition (30). Jeannine Walston stated that the Reimagine Core Program the seven pillars programe provides very meaningful improvements even in the midst of serious challenges with cancer (31),

Conclusion

From the above it is clear evidence suggests that Self-management as a key strategy to enable survivors to achieve optimal physical and psychological well-being, there remains a large knowledge gap with respect to the science and corresponding translation of these interventions into practice. Further research is needed to

understand if self-management interventions are an important type of support for cancer survivors and to provide more robust evidence regarding the most effective type of intervention. Current study shows that the different was found to be statistically significant at $P < 0.001$ level which indicates the post test Effects of inner strength and quality of self management on survivors of cancer among cancer patients.

Conflict Of Interest

The authors have no conflict of interest to declare.

Recommendation

The Grading of Recommendations Assessment, Development and Evaluation (GRADE) system was often used to evaluate the quality of evidence. A similar study can be undertaken on a larger scale for more valid generalization. The study can be replicated in different settings. It can be conducted with different audio visual aids like video films, filmstrips on involvement care of Cancer.

Acknowledgement

Author express sincere thanks to all the experts for their valuable suggestions. Dr. C. Kanniammal Dean, SRM College of Nursing, Kattankulathur

Financial support and sponsorship

Nil

Conflicts of Interest

There are no conflicts of interest

References

1. Shneerson C, Taskila T, Holder R, Greenfield S, Tolosa I, Damery S, Gale N (2015) Patterns of self-management practices undertaken by cancer survivors: variations in demographic factors. *Eur J Cancer Care* 24(5):683–694.
2. Foster C, Fenlon D (2011) Recovery and self-management support following primary cancer treatment. *Br J Cancer* 105(S1):21-28
3. Naidoo J, Hayes E, Teo MY, Horgan A, Calvert P, O'Connor M (2013) An Irish breast cancer survivorship study 106(9):262,264.
4. Barlow J, Wright C, Sheasby J, Turner A, Hainsworth J (2002) Self-management approaches



- for people with chronic conditions: a review. *Patient Educ Couns* 48(2):177–187.
5. McCorkle R, Ercolano E, Lazenby M, Green DS, Schilling LS, Lorig K, Wagner EH (2011) Self-management: enabling and empowering patients living with cancer as a chronic illness. *CA Cancer J Clin* 61(1):50–62
 6. Lorig KR, Holman HR (2003) Self-management education: history, definition, outcomes and mechanisms. *Ann Behav Med* 26(1):1–7
 7. Purcell A, Fleming J, Burmeister B, Bennett S, Haines T (2011) Is education an effective management strategy for reducing cancer-related fatigue? *Support Care Cancer* 19(9):1429–1439.
 8. Schjolberg TKR, Dodd M, Henriksen N, Asplund K, Smastuen MC, Rustoen T (2014) Effects of an educational intervention for managing fatigue in women with early stage breast cancer. *Eur J Oncol Nurs* 18(3):286–294.
 9. Cheville AL, Shen T, Chang M, Basford JR (2013) Appropriateness of the treatment of fatigued patients with stage IV cancer. *Support Care Cancer* 21(1):229–233.
 10. Meneses-Echávez JF, González-Jiménez E, Ramírez-Vélez R (2015) Effects of supervised exercise on cancer-related fatigue in breast cancer survivors: a systematic review and meta-analysis. *BMC Cancer* 15(1):345–349
 11. Gao WJ, Yuan CR (2011) Self-management programme for cancer patients: a literature review. *Int Nurs Rev* 58(3):288–295.
 12. Hammer MJ, Ercolano EA, Wright F, Dickson VV, Chyun D, Melkus GD (2015) Self-management for adult patients with cancer an integrative review: an integrative review. *Cancer Nurs* 38(2):10–26
 13. Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009) Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *Ann Intern Med* 151(4):264–269
 14. Higgins JPT, Green S (Eds) (2011) *Cochrane handbook for systematic reviews of interventions* version.37(3) 564–568
 15. Beatty L, Oxlad M, Koczwara B, Wade TD (2010) A randomised pilot of a self-help workbook intervention for breast cancer survivors. *Support Care Cancer* 18(12):1597–1603.
 16. Foster C, Grimmett C, May CM, (2016) A web-based intervention (RESTORE) to support self-management of cancer-related fatigue following primary cancer treatment: a multi-centre proof of concept randomised trial. *Support Care Cancer* 24(6):2445–2453.
 17. Forrest C (2011) Setting goals with patients to promote behavioural change. *Ind Nurse* 38–39
 18. Lee MK, Yun YH, Park H-A, Lee ES, Jung KH, Noh D-Y (2014) A web-based self-management exercise and diet intervention for breast cancer survivors: pilot randomised controlled trial. *Int J Nurs Stud* 51(12):1557–1567.
 19. May AM, Korstjens I, van Weert E, van den Borne B, (2009) Long-term effects on cancer survivors' quality of life of physical training versus physical training combined with cognitive-behavioural therapy: results from a randomized trial. *Support Care Cancer* 17(6):653–663.
 20. Mishel MH, Germino BB, Gil KM, Belyea M, Laney IC, Stewart J, Porter L, Clayton M (2005) Benefits from an uncertainty management intervention for African-American and Caucasian older long-term breast cancer survivors. *Psychooncology* 14(11):962–978.
 21. Van den Berg S, Gielissen MFM, Custers JAE, van der Graaf WTA, Ottevanger PB, Prins JB (2015) BREATH: web-based self-management for psychological adjustment after primary breast cancer—results of a multicenter randomized controlled trial. *33(25):2763*
 22. Blacklock R, Rhodes R, Blanchard C, Gaul C (2010) Effects of exercise intensity and self-efficacy on state anxiety with breast cancer survivors. *Oncol Nurs Forum* 37(2):206–208
 23. Buffart LM, Ros WJG, Chinapaw MJM, Brug J, Knol DL, (2014) Mediators of physical exercise for improvement in cancer survivors' quality of life. *Psychooncology* 23(3):330–335.
 24. Jean Watson's (2008) *Philosophy and Science of Caring how nurses care for their patients*. University of Colorado
 25. Roux G& Dingley.C (2014) *The Role of Inner Strength in Quality of Life and Self-Management in Women Survivors of Cancer*. 37(1): 32–41.
 26. Hibbard (2018). *Patient Activation Team Personalised Care Group Quarry House, Quarry Hill*



27. Jason M. Bredle, John M. Salsman, Scott M.(2011) Spiritual well-being as a component of health-related quality of life: The Functional Assessment Of Chronic Illness Therapy-Spiritual Well-Being Scale.(18)pp. 77-94.
28. Philip EJ, Merluzzi TV, Zhang Z, Heitzmann CA (2013) Depression and cancer survivorship: importance of coping self-efficacy in post-treatment survivors. *Psychooncology* 22(5):987-989.
29. Catherine Dingley and Gayle Roux (2014).The role of Inner strength in Quality of life and self management in women survivors of cancer.37(1):32-41.
30. Ferrel.Dow,Leigh.Ly and Gulasekaram.(1996).The quality of lives.*Oncology Nursing Forum*:(23):907-916.
31. Jeannine Walston (2016).Finding Inner Strength and Self care for Cancer Patients (26):67-70