p-ISSN: 2184-2205 e-ISSN: 2184-3414 ISBN: 978-989-35106-0-5 © 2023
https://doi.org/10.36315/2023inpact021

LET'S TALK ABOUT MORE THAN SEX: INTIMACY, MENTAL HEALTH, AND PSYCHOLOGICAL FLEXIBILITY AFTER CANCER

Cecile J. Proctor[1], Anthony J. Reiman[2], & Lisa A. Best[1]
[1]Department of Psychology, University of New Brunswick (Canada)
[2]Department of Biological Sciences, University of New Brunswick; Horizon Health Network (Canada)

Abstract

Cancer survivors report disruptions to their relationships, including decreased sex drive and fear of initiating sex with their partner. Although research indicates that sexual functioning is not directly related to subjective well-being, higher intimacy is positively associated with higher life satisfaction. Psychological flexibility, the ability to make practical, values-based choices among many competing options, is the measurable outcome of Acceptance and Commitment Therapy (ACT). Inflexible individuals tend to ruminate and hold grudges leading to relational strain. Although previous research indicates relationships between psychological flexibility, anxiety, and depression, little research connects the specific pillars of psychological flexibility (Openness to Experience, Behavioural Awareness, Valued Action) to these outcomes. Thus, we investigated the relationships between intimacy, psychological flexibility, and mental health. In this study, we examined: (1) the connections between intimacy and mental wellness (e.g., anxiety, depression) in cancer survivors and (2) which pillars of psychological flexibility are most closely related to intimacy in psychological outcomes of cancer. Participants who reported being in a relationship and had a previous cancer diagnosis were recruited to complete questionnaires measuring factors associated with sexual activity and intimacy, psychological flexibility, satisfaction with life, as well as symptoms of anxiety and depression. All components of intimacy (emotional, sexual, social, intellectual, recreational) were inversely correlated with depression and anxiety. Mediation analysis indicated that psychological flexibility was a significant mediator in the relationship between emotional intimacy, anxiety, and depression. This research adds to the body of research supporting acceptance and commitment therapy to improve intimacy and relationship satisfaction levels, focusing on the most salient components of this population.

Keywords: *Cancer, sexual function, intimacy, psychological/physical symptoms, psychological flexibility.*

1. Introduction

Despite increased survival rates, cancer is a severe illness that significantly impacts survivors' physical, emotional, and social lives, as well as the lives of their loved ones (Hawkins et al., 2009; Manne & Badr, 2008). Survivors, their relatives, and close connections often experience disruptions in daily life that include increased anxiety and depressive symptoms, fear of recurrence, and the fear of loss and death (Gilbert et al., 2010). Factors such as individual coping behaviours and the exchange of support in relationships (Gilbert et al., 2010) can affect wellness after diagnosis, during treatment, and remission. Survivors and their intimate partners can engage in behaviours that strengthen or destabilize close connections, and perceived closeness or intimacy predicts positive psychosocial adaptation to cancer (Manne & Badr, 2008). Given the importance of intimate relationships, this research focuses on the sexual dysfunction and intimacy of survivors and their intimate relationships with their partners.

Sexuality and intimacy are central to quality of life, and cancer and side effects can result in tremendous changes in sexuality, sexual functioning, relationships, and sense of self (Ratner et al., 2010). Cancer treatments significantly impact sexual relationships, with 30% of men and 33% of women reporting that physical barriers to sex made it difficult or impossible to have sexual intercourse (Hawkins et al., 2009). Many psychosocial aspects of cancer and its treatment affect intimate relationships. Although most couples facing cancer fare well in the long term, the experience can strain relationships and lead to marital discord. When men and women are considered together in a sample, there is no significant increase in divorce in cancer survivors compared to non-survivors; however, individuals in

longer marriages were less likely to divorce (Glantz et al., 2009). Further, Glantz et al. (2009) reported a 6-fold increase in separation or divorce in female cancer patients compared to male survivors.

Individuals with cancer report that changes in sexual functioning are significant and impairing, leading to emotional distance between couples, feelings of isolation, anxiety, depression, or inadequacy (Gilbert et al., 2010). Both medical variables (surgery, side effects of treatment; Sadovsky et al., 2010), psychological variables (body image, emotional distress; Augustinsson et al., 2018), and relationship variables (partner's reaction to the illness and treatment; Katz, 2016) contribute to sexual dysfunction after cancer. Although sexual dysfunction refers to physical limitations to sexual activity (Hawkins et al., 2009), it is only one aspect of intimacy. It is essential to acknowledge that intimacy without sexual function is possible (Schaefer & Olson, 1981). Most survivors report experiencing intimacy loss, and fewer than half said they were satisfied with their sex life after cancer (Flynn et al., 2011; Moreira et al., 2013). Thus, research on the impact of intimacy on satisfaction with life (SWL) in populations known to experience sexual dysfunctions and relationship stress is important.

1.1. Acceptance and commitment therapy

Acceptance and commitment therapy (ACT) is a behavioural therapy that focuses on increasing psychological flexibility (PF), which is the ability to make practical, values-based choices among many competing options (Fani Sobhani et al., 2021). The goal of ACT is not to alleviate symptoms but to improve a person's sense of well-being. PF involves being consciously present in the moment and engaging in behaviours or changing behaviours to align behaviours with personal values. PF is a process amenable to change (Francis et al., 2016; Swash et al., 2017) through ACT (see Stenhoff et al., 2020).

The fear or avoidance of intimacy is an obstacle to developing and maintaining close relationships. Couples who experience fear of intimacy are more likely to lose their ability to form relationships because they develop behaviours that oppose intimacy and emotional closeness (Fani Sobhani et al., 2021). According to relationship awareness theory, couples can maintain intimacy when one partner develops cancer by incorporating the diagnosis into their relationship (Manne & Badr, 2008). Through the ACT process, survivors may approach their discomfort with their sexual challenges and move towards enhancing their connection despite them. “Relationship talk” has been linked to individual and relationship outcomes among couples dealing with illness, indicating that it may be a key mechanism by which relationship awareness facilitates intimacy (Manne & Badr, 2008). Exploring specific factors, such as aspects of PF, related to higher intimacy despite sexual dysfunction is an essential avenue of study.

1.2. Purpose of the current study

Although the effects of cancer diagnosis and treatment on sexual functioning and intimacy are significant, survivors sometimes have limited knowledge of the impact of their diagnosis and treatment, and healthcare professionals, patients, and partners are sometimes reluctant to discuss sexual functioning (Burbie & Polinsky, 1992; Naaman et al., 2009). Often neglected in research are the experiences of patients and their partner regarding sexuality and intimacy after cancer; however, there is growing recognition of these unmet relational needs (Burbie & Polinsky, 1992; Hawkins et al., 2009; Manne & Badr, 2008). Thus, we examined: (1) the connections between intimacy and mental wellness (e.g., SWL, anxiety, depression) in cancer survivors (2) how PF relates to intimacy and mental wellness and (2) how PF intersects the relationships between emotional intimacy and SWL.

2. Methods

In total, 357 cancer survivors (*M* age = 52.89 years, *SD* = 13.44) in a romantic relationship completed this study. The average time since diagnosis was 5.62 years (SD = 7.64); 23.6% (*n* = 61) reported that their cancer had relapsed. Participants completed the Comprehensive Assessment of Acceptance and Commitment Therapy Processes (CompACT; Francis et al., 2016) to measure aspects of PF, the Patient Health Questionnaire (PHQ-9; Kroenke et al., 2010) to measure depression, the Satisfaction with Life scale (SWLS; Diener et al., 1985), the General Anxiety Disorder 7-item (GAD-7; Spitzer et al., 2006) to measure symptoms of anxiety, the Changes in Sexual Functioning Questionnaire (SFQ; Keller et al., 2006) that has specific versions for males and females, and the Personal Assessment of Intimacy in Relationships (PAIR; Schaefer & Olsen, 1981) to measure personal experiences of intimacy. The University of New Brunswick Research Ethics Board (#2022-162) reviewed this cross-sectional, online questionnaire study. After providing informed consent, participants completed the demographics questionnaire followed by the other measures, which were randomized.

3. Results

The descriptive statistics for the study variables for males and females are presented in Table 1. Given the number of t-tests used to examine gender differences, we used *p<.01* as a criterion for statistical significance and included effect sizes to illustrate the magnitude of the differences. Overall, there were few differences between males and females. A high percentage of males (93%; *M* = 19.47, SD = 18.27) and females (96%; *M* = 20.42, SD = 16.16) had scores on the SFQ that were below the cut-off (47), indicating sexual dysfunction.

Table 1. Gender differences on study variables.

	Males (*n*=58)	**Females (*n*=263)**	***t* (*p*)**	**Cohen's *d****
Sexual Function (SFQ-Total)*	2.32 (.86)	2.07 (.76)	2.17 (.031)	.31
Intimacy (PAIR)				
Emotional	20.07 (6.37)	19.19 (7.04)	.799 (.425)	.129
Social	16.46 (6.97)	15.89 (6.05)	.564 (.574)	.091
Intellectual	17.61 (5.58)	17.94 (6.37)	.330 (.742)	.053
Sexual	14.58 (3.93)	14.76 (4.25)	.252 (.801)	.041
Recreational	18.60 (6.06)	18.84 (6.17)	.033 (.974)	.055
Depression (PHQ-9)	17.23 (5.83)	18.40 (6.08)		.195
Anxiety (GAD-7)	7.29 (5.20)	8.70 (6.00)	1.69 (.093)	.243
Satisfaction with Life (SWLS)	17.85 (8.40)	18.43 (8.49)	.480 (.632)	.069
CompACT Subscales				
Openness	41.77 (11.91)	40.39 (10.95)	.850 (.396)	.123
Values Added	41.48 (9.60)	42.07 (8.48)	.464 (.643)	.067
Behavioural Awareness	22.44 (7.61)	20.17 (6.77)	2.23 (.027)	.32
CompACT Total Score	105.33 (24.43)	102.69 (21.72)	.807 (.420)	.118

Note. The SFQ has male and female specific scales. * Cohen's d was used to determine small (0.2), medium (0.5), and large (0.8) effect sizes.

Given the unequal number of males and females, a partial correlational analysis was conducted to examine associations between partner intimacy and psychological wellness (see Table 2). After controlling for gender, all aspects of intimacy were positively associated with SWL and inversely associated with depression and anxiety. Higher CompACT subscales were generally associated with all aspects of intimacy except sexual intimacy. Correlations between sexual function and psychological wellness were conducted separately for males and females. Overall, among females, sexual function was associated with life satisfaction, r = .249, p<.001, depression, r = -.170, p=.03, and CompACT: Values Added, r = .159, $p=04$. Among males, only depression was associated with overall sexual function, r = .307, p=.021.

Table 2. Partial correlations between partner intimacy and psychological wellness.

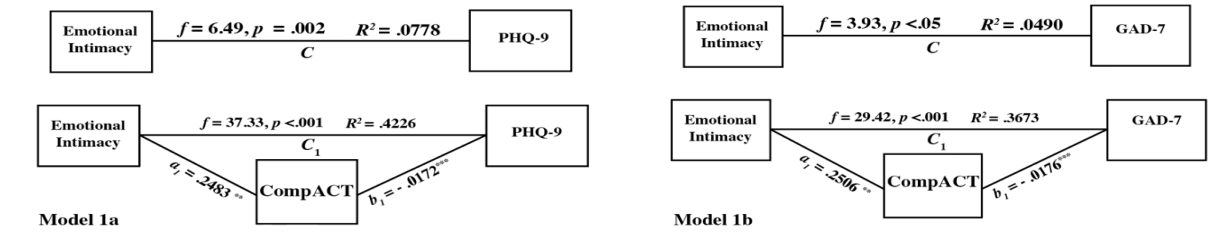
	PAIR: Emotional	**PAIR: Social**	**PAIR: Sexual**	**PAIR: Intellectual**	**PAIR: Recreational**
Depression (PHQ-9)	-.252**	-.283***	-.167*	-.245**	-.265**
Anxiety (GAD-7)	-.217**	-.247**	-.201*	-.191*	-.194*
Life Satisfaction (SWLS)	.331***	.341***	.169***	.299***	.404***
CompACT Subscales					
Openness	.197*	.251**	.136	.226**	.241**
Valued Action	.276***	.320***	.104	.382***	.368***
Behavioural Awareness	.138	.245**	.075	.205*	.214**
CompACT Total Score	.261***	.340***	.151	.316***	.345***

Note. * p<.05, ** p<.01, ***p<.001

We examined if PF mediated the relationship between emotional intimacy and depression (see Figure 1, Model 1a) and anxiety (see Figure 1, Model 1b). We tested the assumptions underlying mediation analyses (see Baron and Kenny, 1986 and Hayes, 2022) and entered CompACT total score as a mediator, with gender entered as a control. The indirect effects were tested using a percentile bootstrap estimation approach with 5000 samples, and the 95% confidence intervals were examined to determine the statistical significance of the indirect effects. In Model 1a, the indirect impact of CompACT total score was statistically significant [B= -.1330, CI: -.208, -.057] and completely mediated the relationship

between PAIR: Emotional intimacy and PHQ-9: Depression. In Model 1b, the indirect effect of CompACT total score was statistically significant [B=-.1276, CI: -.203, -.053] and completely mediated the relationship between PAIR: Emotional intimacy and GAD-7: Anxiety. Thus, when CompACT: total score was added to the regression models, the relationship between emotional intimacy and depression and anxiety was no longer significant.

Figure 1. Models depicting psychological flexibility mediating the relationships between emotional intimacy and anxiety and depression symptoms.



4. Discussion and conclusions

Survivors of cancer are faced with challenges across all areas of life. The support of a partner is vital for overall well-being, and intimacy and sexual function are important components of romantic relationships. Both male and female survivors experience a loss of sexual function; however, some people can renegotiate their intimacy to include sexual practices that were previously unexplored (Fani Sobhani et al., 2021). In this sample, most survivors reported sexual dysfunction, but not all reported a lack of intimacy. Although sexual dysfunction refers to physical limitations to sexual activity (Hawkins et al., 2009), it is only one aspect of intimacy. In this sample, intimacy was positively related to subjective well-being and inversely associated with reported symptoms of depression and anxiety. Further, PF was positively related to aspects of intimacy, except for sexual intimacy. Previous research has established that PF is inversely related to depression and anxiety (Hayes et al., 2012). We examined how this relationship influenced the impact of these mental health concerns within romantic relationships.

This study highlights how PF can play a role in fostering emotional intimacy and managing symptoms of anxiety and depression after cancer. Although the current model does not infer causality, it does identify links between deficits in emotional intimacy and anxiety and depression. Individuals with lower PF tend to ruminate and hold grudges, which can lead to relational strain. Thus, acknowledging that intimacy without sexual function is possible.

To conclude, the goal of ACT is to help individuals become more psychologically flexible. The fear or avoidance of intimacy is a common obstacle to developing and maintaining close relationships. Couples who experience fear of intimacy are more likely to lose their ability to form relationships because they develop behaviours that oppose intimacy and emotional closeness (Fani Sobhani et al., 2021). Arguably, as a result, people's ignorance of their inner experiences, avoidance of unpleasant inner experiences, and avoidance of behaviours and actions that are important and valuable to them can lead to a lack of general discord in marital relationships. Inflexible individuals tend to ruminate and hold grudges leading to relational strain. Through the ACT process, survivors may approach their discomfort with their sexual challenges and move towards enhancing their connection despite them.

References

Augustinsson, A., Ellberg, C., Kristoffersson, U., Borg, Å., & Olsson, H. (2018). Accuracy of self-reported family history of cancer, mutation status, and tumor characteristics in patients with early onset breast cancer. *Acta Oncologica*, *57*(5), 595–603. https://doi.org/10.1080/0284186X.2017.1404635

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of personality and social psychology*, *51*(6), 1173-1182.

Burbie, G. E., & Polinsky, M. L. (1992). Intimacy and sexuality after cancer treatment: Restoring a sense of wholeness. *Journal of Psychosocial Oncology*, *10*(1), 19–33. https://doi.org/10.1300/J077v10n01_03

Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment, 49*(1), 71-75. https://doi.org/10.1207/s15327752jpa4901_13.

Fani Sobhani, F., Ghorban Shiroudi, S., & Khodabakhshi-Koolaee, A. (2021). Effect of Two Couple therapies, Acceptance and Commitment Therapy and Schema Therapy, on forgiveness and fear of intimacy in conflicting couples. *Practice in Clinical Psychology*, *9*(4), 271–282. https://doi.org/10.32598/jpcp.9.4.746.3

Flynn, K. E., Jeffery, D. D., Keefe, F. J., Porter, L. S., Shelby, R. A., Fawzy, M. R., Gosselin, T. K., Reeve, B. B., & Weinfurt, K. P. (2011). Sexual functioning along the cancer continuum: Focus group results from the Patient-Reported Outcomes Measurement Information System (PROMIS®). *Psycho-Oncology*, *20*(4), 378–386. https://doi.org/10.1002/pon.1738

Francis, A. W., Dawson, D. L., & Golijani-Moghaddam, N. (2016). The development and validation of the comprehensive assessment of acceptance and commitment therapy processes (CompACT). *The Journal of Contextual Behavioral Science*. https://doi.org/10.1016/j.jcbs.2016.05.003

Gilbert, E., Ussher, J. M., & Perz, J. (2010). Renegotiating sexuality and intimacy in the context of cancer: The experiences of carers. *Archives of Sexual Behavior*, *39*(4), 998–1009. https://doi.org/10.1007/s10508-008-9416-z

Glantz, M. J., Chamberlain, M. C., Liu, Q., Hsieh, C.-C., Edwards, K. R., Van Horn, A., & Recht, L. (2009). Gender disparity in the rate of partner abandonment in patients with serious medical illness. *Cancer*, *115*(22), 5237–5242. https://doi.org/10.1002/cncr.24577

Hawkins, Y., Ussher, J., Gilbert, E., Perz, J., Sandoval, M., & Sundquist, K. (2009). Changes in sexuality and intimacy after the diagnosis and treatment of cancer: The experience of partners in a sexual relationship with a person with cancer. *Cancer Nursing*, *32*(4), 271–280. https://doi.org/10.1097/NCC.0b013e31819b5a93

Hayes A. (2022). Introduction to Mediation, Moderation, and Conditional Process Analysis: Third Edition: A Regression-Based Approach [Internet]. Guilford Press. Available from: https://www.guilford.com/books/Introduction-to-Mediation-Moderation-and-Conditional-Process-Analysis/Andrew-Hayes/978146254903

Hayes, S. C., Pistorello, J., & Levin, M. E. (2012). Acceptance and Commitment Therapy as a unified model of behavior change. *The Counseling Psychologist*, *40*(7), 976–1002. https://doi.org/10.1177/0011000012460836

Katz, A., & Dizon, D. S. (2016). Sexuality after cancer: A model for male survivors. *The Journal of Sexual Medicine*, *13*(1), 70–78. https://doi.org/10.1016/j.jsxm.2015.11.006

Keller, A., McGarvey, E. L., & Clayton, A. H. (2006). Reliability and construct validity of the changes in sexual functioning questionnaire short-form (CSFQ-14). *Journal of Sex & Marital Therapy*, *32*(1), 43–52. https://doi.org/10.1080/00926230500232909

Kroenke, K., Spitzer, R. L., & Williams, J. B. W. (2001). The PHQ-9. *Journal of General Internal Medicine*, *16*(9), 606–613. https://doi.org/10.1046/j.1525-1497.2001.016009606.x

Manne, S., & Badr, H. (2008). Intimacy and relationship processes in couples' psychosocial adaptation to cancer. *Cancer*, *112*(S11), 2541–2555. https://doi.org/10.1002/cncr.23450

Moreira, H., & Canavarro, M. C. (2013). Psychosocial adjustment and marital intimacy among partners of patients with breast cancer: A comparison study with partners of healthy women. *Journal of Psychosocial Oncology*, *31*(3), 282–304. https://doi.org/10.1080/07347332.2013.778934

Naaman, S., Radwan, K., & Johnson, S. (2009). Coping with Early Breast Cancer: Couple Adjustment

Processes and Couple-Based Intervention. *Psychiatry: Interpersonal and Biological Processes*, *72*(4), 321–345. https://doi.org/10.1521/psyc.2009.72.4.321

Ratner, E. S., Foran, K. A., Schwartz, P. E., & Minkin, M. J. (2010). Sexuality and intimacy after gynecological cancer. *Maturitas*, *66*(1), 23–26. https://doi.org/10.1016/j.maturitas.2010.01.015

Sadovsky, R., Basson, R., Krychman, M., Morales, A. M., Schover, L., Wang, R., & Incrocci, L. (2010). Cancer and sexual problems. *The Journal of Sexual Medicine*, *7*(1pt2), 349–373. https://doi.org/10.1111/j.1743-6109.2009.01620.x

Schaefer, M. T., & Olson, D. H. (1981). Assessing intimacy: The PAIR Inventory. *Journal of Marital and Family Therapy*, *7*, 47–60. https://doi.org/10.1111/j.1752-0606.1981.tb01351.x

Spitzer, R. L., Kroenke, K., Williams, J. B. W., & Löwe, B. (2011). *Generalized Anxiety Disorder 7* [Data set]. American Psychological Association. https://doi.org/10.1037/t02591-000

Stenhoff, A., Steadman, L., Nevitt, S., Benson, L., & White, R. G. (2020). Acceptance and commitment therapy and subjective wellbeing: A systematic review and meta-analyses of randomised controlled trials in adults. *Journal of Contextual Behavioral Science*, *18*, 256–272. https://doi.org/10.1016/j.jcbs.2020.08.008

Swash, B., Bramwell, R., & Hulbert-Williams, N. J. (2017). Unmet psychosocial supportive care needs and psychological distress in haematological cancer survivors: The moderating role of psychological flexibility. *Journal of Contextual Behavioral Science*, *6*(2), 187–194. https://doi.org/10.1016/j.jcbs.2017.02.005