

# The Impact of Dyadic Coping Intervention on Mental Health Problem and Quality of Life in Female Cancer Patients

Nurul Huda<sup>1\*</sup>, Erwin<sup>1</sup>, Rismadefi Woferst<sup>1</sup>, Made Satya Nugraha Gautama<sup>2</sup>

<sup>1</sup>Nursing of Faculty, Universitas Riau, Pekanbaru, 28293 Indonesia

<sup>2</sup>Department of Nursing, Faculty of Medicine, Universitas Pendidikan Ganesha, Bali, 81116 Indonesia

\*Corresponding Author's Email: nurul.huda@lecturer.unri.ac.id

## ABSTRACT

**Background:** The mental health and quality of life in female cancer patients are of paramount importance, as a cancer diagnosis can significantly impact every aspect of a woman's well-being. The need for interventions like dyadic coping, is crucial to address the complex emotional and psychosocial challenges these women face. **Objective:** The study investigated the effects of a dyadic coping intervention on the mental health and quality of life of female cancer patients. **Methods:** A quasi-experimental study was conducted with female cancer patients from a hospital in Riau Province, Indonesia, selected via purposive sampling. The intervention group consisted of 17 patients who underwent five dyadic coping training sessions based on the systemic transactional model, supplemented by follow-up phone calls from the researchers. An equal number of participants were assigned to the control group. The study analysed the data using descriptive statistics and independent *t*-tests, applying the DASS-21 scale for depression, anxiety, and stress, and the FACT-G scale for quality of life, both of which are validated measures. **Results:** The findings revealed that the dyadic coping intervention significantly reduced stress ( $p = 0.013$ ), depression ( $p = 0.047$ ), and anxiety ( $p < 0.001$ ), and markedly improved quality of life ( $p = 0.017$ ). **Conclusion:** These results suggest that dyadic coping interventions can effectively alleviate mental health issues and enhance the quality of life among female cancer patients, offering a viable alternative to traditional nursing interventions.

**Keywords:** *Dyadic Coping; Mental Health Problems; Quality of Life*

## INTRODUCTION

Cancer remains a formidable global health challenge. According to Global Cancer Statistics (GLOBOCAN), there were an estimated 9.6 million deaths and 19.3 million new cases of cancer worldwide in 2020 (Sung *et al.*, 2021). In Indonesia, GLOBOCAN reported 396,314 new cancer cases and 234,511 fatalities. Specifically, Riau Province recorded 4,301 cancer cases, predominantly in advanced stages and among individuals of working age. Advances in cancer treatment have improved the survival rates for patients with advanced cancer. However, as treatments progress, patients often face additional side effects, both psychological and physical (Huda, Shaw, & Chang, 2022). For instance, breast cancer patients may experience considerable anxiety, and the presence of stress and depression can further diminish their quality of life (Daño, 2018; Guo *et al.*, 2023).

Investigating the psychological challenges faced by cancer patients is crucial for identifying appropriate support and therapeutic strategies. Key risk factors contributing to stress and depression among these patients encompass the type and stage of cancer, the mode of therapy (whether outpatient, inpatient, or palliative care), and various personal factors such as family medical history, prior psychological issues, and personality traits (Yeom & Park, 2024). Furthermore, interpersonal relationships and social determinants, including past stressful events, feelings of loneliness, social isolation, socioeconomic status, and the availability of social support, play significant roles (Badger *et al.*, 2023).

Cancer and its treatments significantly influence a patient's quality of life. Patient-Reported Outcomes

Received: November 14, 2023 Received in revised form: June 27, 2024 Accepted: June 28, 2024

(PROs) encompass this aspect of health, which is subjectively and multidimensionally assessed. Quality of life pertains to an individual's physical, psychological, and social well-being. The primary goal of cancer treatment is to improve the quality of life for patients, addressing any physical, psychological, and body image concerns promptly as they arise. Enhancing the quality of life for cancer patients during treatment can increase their adherence to the prescribed therapy and provide them with the resilience needed to manage the various symptoms and issues associated with the disease (Gautama, Damayanti, & Khusnia, 2023).

Coping skills significantly affect a patient's capacity to manage the physiological and psychological impacts of their condition. Research suggests that effective coping strategies can aid cancer patients who experience depression, anxiety, or a diminished quality of life by mitigating the association between pain and stress (Huda & Chang, 2020). Moreover, coping has been observed to influence patients' functional status (Bitz *et al.*, 2020). Selecting suitable coping techniques is critical for individuals to shield themselves from stressors, anxiety, and depression, thereby improving their overall quality of life (Goyanka, Yadav, & Sharma, 2023).

Emotional support from family and partners is highly regarded as a vital coping mechanism for patients in Indonesia (Purba, Johnston, & Kotronoulas, 2023). Therefore, the development and selection of effective coping strategies tailored for both patients and their partners are essential. Such measures can significantly aid in alleviating stress, depression, and anxiety, thereby enhancing the quality of life for cancer patients (Elengoe & Hamdan, 2018; Bottaro, Craparo, & Faraci 2022).

Partners of cancer patients may experience psychological challenges and often have a restricted array of coping strategies. Qualitative studies have shown that cancer patients and their spouses tend to lean on spiritual experiences as a means to cope with these challenges, to strengthen their partnership, and to establish new objectives in life together (Porter *et al.*, 2019). Consequently, it is imperative to develop interventions that support both patients and their spouses throughout the cancer journey (Thiessen *et al.*, 2023).

Dyadic coping training is recognized as an effective method for bolstering the coping abilities of both patients and their spouses. The main objective of this intervention is to support couples in addressing the myriad challenges posed by cancer (Zhi *et al.*, 2024). Research has demonstrated that dyadic coping training can improve the quality of life for patients by reducing stress, anxiety, and symptoms of depression (Sharma, Saneha, Phligbua, 2021). Despite its success in mitigating psychological distress among cancer patients and their partners, the implementation of dyadic coping training faces obstacles such as limited reach in remote areas and the need for trained professionals, which can hinder its execution and sustainability (Sun *et al.*, 2024).

In light of these considerations, researchers are motivated to develop a dyadic coping training program tailored for female cancer patients. The selection of this intervention is driven by its greater accessibility, cost-effectiveness, and potential for enduring community integration. Such an intervention is relatively novel and underutilized in Indonesia, with no studies found that evaluate the efficacy of dyadic coping training within the country. This underscores the necessity of this intervention for female cancer patients, who require support in managing various challenges. Moreover, the geographical context of Riau, especially the coastal areas, positions dyadic coping training as the most feasible option to enhance the coping mechanisms of female cancer patients.

This study aimed to evaluate the impact of a dyadic coping strategy on the stress, anxiety, depression, and life quality of female cancer patients. The proposed study aims to establish a foundational framework and guidelines for nursing care that facilitate coping strategies for female cancer patients. Additionally, by focusing on coping processes, this research could serve as an alternative means to bolster psychological well-being and quality of life.

## METHODOLOGY

The research, conducted from July to September 2023, utilized a quasi-experimental design suitable for contexts where random assignment is not possible. Female cancer patients from a hospital in Riau Province, Indonesia, were selected using purposive sampling. The intervention group comprised 17 patients who

received five sessions of dyadic coping training, which was grounded in the systemic transactional model. This training was augmented by subsequent phone calls from the researchers for follow-up. A control group was also established, consisting of an equivalent number of participants. The study includes female cancer patients aged 18 and above, who are either in the midst of treatment or have completed it, and are willing to participate in dyadic coping training and follow-up activities. It excludes those with cognitive impairments or severe psychological disorders, individuals undergoing psychological therapy, and anyone unable to commit to all training sessions and follow-up calls. This ensures participants are capable of and available for the full scope of the study, while minimizing potential confounding factors.

In this study, a dyadic coping-based intervention that comprised several components was implemented (Wang *et al.*, 2024). Firstly, psychoeducation was provided to ensure that participants received comprehensive information about cancer and its management. Secondly, the intervention emphasized communication skills to openly discuss their stressors related to the cancer experience. Thirdly, emotional support was offered to participants to help them cope with the psychological distress associated with a cancer diagnosis. Lastly, problem-solving skills were taught to enable participants to navigate the practical and emotional challenges of cancer. The intervention, grounded in a systemic transactional model, entailed five sessions conducted by researchers either via phone or face-to-face (Chen *et al.*, 2023).

Data were collected through validated questionnaires. Stress, depression, and anxiety levels were measured using the Depression, Anxiety, and Stress Scale—21 Items (DASS-21) questionnaire, while the Functional Assessment of Cancer Therapy—General (FACT-G) questionnaire evaluated the quality of life (Huda *et al.*, 2021a). These instruments were administered before and after the intervention to measure changes.

Descriptive statistics were used to summarize the demographic characteristics of the study participants. This study employed paired *t*-tests to assess changes within groups and independent *t*-tests to compare average scores before and after the two-month intervention. These analyses aimed to evaluate the effectiveness of the intervention. Statistical analyses using SPSS Statistic version 26 (IBM, New York, NY) were conducted. A two-sided *P*-value  $<0.05$  was considered statistically significant.

The study adhered to the highest ethical standards to ensure the protection and dignity of all participants. Prior to the study's commencement, Informed consent was secured from all participants, guaranteeing their awareness of the study's purpose, procedures, risks, and benefits, as well as their right to withdraw at any time without penalty.

### **Ethical Consideration**

The ethical approval for this study was obtained from the Ethic Committee of Nursing and Health Research, Faculty of Nursing, Universitas Riau, Indonesia, with the approval number 608/UN 19.5.1.8/KEPK.FKp 2023 on 11<sup>th</sup> July 2023.

## **RESULTS**

### **Sociodemographic and Clinical Characteristics of Female Cancer Patients**

As shown in Table 1, this research involved 34 female cancer patients with an average age of  $46.44 \pm 9.34$  years, divided into two groups of 17. All were married, and most had basic or no formal education (61.8%). A large number were Muslim (79.4%), covered by government health insurance (94.1%), and had an income below 1 million rupiahs (79.4%). Clinically, half had thyroid cancer, most were in stage II (73.5%), and over half were receiving chemotherapy (55.9%).

### **Effect of Dyadic Coping Intervention in Female Cancer Patients**

Table 2 presents the results of the *t*-test analysis on quality of life, stress, anxiety, and depression. The paired sample *t* test showed a significant increase in quality of life scores ( $P < 0.001$ ) and a significant decrease in stress, anxiety, and depression scores ( $P < 0.001$ ) in the DCI group, while these significant changes were not observed in the control group.

Before the intervention, there were no significant differences in quality of life, stress, anxiety, and depression scores ( $P$  value  $> 0.05$  for all). Compared to the control group, the DCI group showed a notable increase in quality of life (mean difference = 12.53; 95% CI = 2.43, 22.62;  $t = 2.53$ ) and reductions in stress (mean difference = -2.71; 95% CI = -4.79, -0.62;  $t = -2.64$ ), anxiety (mean difference = -4.23; 95% CI = -6.49, -1.98;  $t = -3.88$ ), and depression (mean difference = -2.12; 95% CI = -4.21, -0.03;  $t = -2.08$ ) after intervention. These findings suggest the DCI intervention effectively improves life quality and decreases stress, anxiety, and depression among female cancer patients.

**Table 1: Sociodemographic and Clinical Characteristics of Female Cancer Patients**

Variables	All	DCI Group (n = 17)	Control Group (n = 17)
<b>Age, mean ± SD (years)</b>	46.44 ± 9.34	50.06 ± 4.48	42.82 ± 11.50
<b>Marital Status, n (%)</b>			
Married	34 (100)	17 (50.0)	17 (50.0)
<b>Education, n (%)</b>			
Nonformal-Primary Education	21 (61.8)	7 (41.2)	14 (82.4)
Secondary-Tertiary Education	13 (38.2)	10 (58.8)	3 (17.6)
<b>Religion, n (%)</b>			
Islam	27 (79.4)	13 (76.5)	14 (82.4)
Christian	7 (20.6)	4 (23.5)	3 (17.6)
<b>Health Insurance, n (%)</b>			
Government	32 (94.1)	17 (100.0)	15 (88.2)
Private	2 (5.9)	0 (0.0)	2 (11.8)
<b>Income, n (%)</b>			
<1,000,000 IDR	27 (79.4)	13 (76.5)	14 (82.4)
1,500,000 – 3,000,000 IDR	3 (8.8)	1 (5.9)	2 (11.8)
>3,000,000 IDR	4 (11.8)	3 (17.6)	1 (5.9)
<b>Cancer Type, n (%)</b>			
Thyroid	17 (50.0)	8 (47.1)	9 (52.9)
Breast	14 (41.2)	7 (41.2)	7 (41.2)
Others*	3 (8.8)	2 (11.8)	1 (5.9)
<b>Cancer Stage, n (%)</b>			
I	4 (11.8)	2 (11.8)	2 (11.8)
II	25 (73.5)	12 (70.6)	13 (76.5)
III	5 (14.7)	3 (17.6)	2 (11.8)
<b>Current Treatment, n (%)</b>			
Chemotherapy	19 (55.9)	8 (47.1)	11 (64.7)
Radiotherapy	4 (11.8)	4 (23.5)	0 (0.0)
Chemoradiation	5 (14.7)	2 (11.8)	3 (17.6)
Surgery	6 (17.6)	3 (17.6)	3 (17.6)

SD, Standard Deviation; DCI, Dyadic Coping Intervention

**Table 2: Quality of Life, Stress, Anxiety, and Depression Across Time between Two Groups**

	DCI Group (n = 17)	Control Group (n = 17)
<b>QoL</b>		
Before, mean (SD)	59.12 (21.05)	66.35 (14.65)
$P$ value <sup>a</sup>		0.23
After, mean (SD)	81.18 (15.09)	68.65 (13.78)
$P$ value <sup>b</sup>	<0.001	0.149
$t^a$		2.53
$P$ value <sup>a</sup>		0.017
Mean difference (95% CI)		12.53 (2.43, 22.62)

<b>Stress</b>		
Before, mean (SD)	11.65 (3.41)	10.06 (3.05)
<i>P value</i> <sup>a</sup>	0.16	
After, mean (SD)	7.12 (2.73)	9.82 (3.22)
<i>P value</i> <sup>b</sup>	<0.001	0.45
<i>t</i> <sup>a</sup>	-2.64	
<i>P value</i> <sup>a</sup>	0.013	
Mean difference (95% CI)	-2.71 (-4.79, -0.62)	
<b>Anxiety</b>		
Before, mean (SD)	9.18 (2.80)	9.12 (3.65)
<i>P value</i> <sup>a</sup>	0.96	
After, mean (SD)	4.65 (2.03)	8.88 (4.01)
<i>P value</i> <sup>b</sup>	<0.001	0.543
<i>t</i> <sup>a</sup>	-3.88	
<i>P value</i> <sup>a</sup>	<0.001	
Mean difference (95% CI)	-4.23 (-6.49, -1.98)	
<b>Depression</b>		
Before, mean (SD)	9.29 (3.51)	7.53 (3.94)
<i>P value</i> <sup>a</sup>	0.18	
After, mean (SD)	7.53 (3.94)	6.76 (3.65)
<i>P value</i> <sup>b</sup>	<0.001	0.165
<i>t</i> <sup>a</sup>	-2.08	
<i>P value</i> <sup>a</sup>	0.047	
Mean difference (95% CI)	-2.12 (-4.21, -0.03)	

SD, Standard deviation; DCI, Dyadic coping intervention

<sup>a</sup>Independent *t* test.

<sup>b</sup>Paired sample *t* test.

## DISCUSSION

This recent study shows the dyadic coping intervention, which is informed by the systemic transactional model, has shown a significant decrease in stress levels among cancer patients. This intervention is based on the premise that stress and coping are processes shared between patients and their caregivers, forming a dyadic system where both parties influence each other's psychological well-being (Wang *et al.*, 2024). The reduction in stress levels can be attributed to several factors inherent in dyadic coping strategies. Firstly, these interventions often involve open communication and emotional support, which are essential for managing the psychological distress associated with cancer (Huda, Shaw, & Chang, 2022; Zhi *et al.*, 2024). By fostering a supportive environment, patients are likely to feel less isolated in their experience, thereby reducing stress. Furthermore, dyadic coping interventions typically include problem-solving and emotion-regulation strategies that are executed jointly by patients and their caregivers (Paschali *et al.*, 2021).

In terms of mental health, the intervention has demonstrated a noteworthy average decrease in anxiety and depression symptoms, suggesting a substantial alleviation of psychological distress among participants. This intervention operates on the principle that coping with illness is not an individual but a shared process within a dyad, typically involving the patient and a close family member or partner (Otto *et al.*, 2022). Research has also indicated that positive psychology approaches, which focus on developing positive cognitions, emotions, and behaviors, can be beneficial when delivered to interdependent dyads in the context of cancer (Rajaei, Heshmati, & Giesemann, 2024). Including technology-based psychological interventions, such as virtual reality for cancer patients (Gautama *et al.*, 2024), which may be combined with dyadic coping interventions. These approaches may include meaning-making activities, which help patients and their partners find purpose and value in their experiences, contributing to reduced depression and anxiety (Huda *et al.*, 2021b).

The intervention also had a positive impact on the participants' quality of life. This is in line with current research suggesting that dyadic coping can lead to improvements in relationship satisfaction, which is closely linked to overall quality of life (Chen *et al.*, 2023). In addition, a prior meta-analysis has demonstrated that the intervention enhances life quality by aiding patients and their partners in adjusting to cancer (Sun *et al.*, 2024).



Dyadic coping interventions often include components that promote positive communication, empathy, and understanding within the relationship (Muijres *et al.*, 2023). This holistic approach ensures that the interventions are not solely patient-centered but also caregiver-inclusive, which is essential for improving the quality of life for the entire dyadic unit.

From a nursing practice perspective, the implications of dyadic coping interventions are profound. Nurses, often the first point of contact in patient care, are in a prime position to implement these interventions. They can facilitate sessions that teach coping skills, encourage effective communication, and provide emotional support tailored to the needs of both patients and caregivers. Moreover, nurses can assess the dyad's coping strategies and offer guidance to optimize their effectiveness. In addition, nursing research can contribute to the refinement of dyadic coping interventions by exploring their applicability across different diseases, cultural contexts, and healthcare settings. Nurses engaged in research can also investigate the long-term effects of these interventions on patient and caregiver outcomes, providing valuable insights for evidence-based practice.

At a glance, this is the first study to investigate the impact of dyadic coping interventions on mental health problems and quality of life in female cancer patients in Indonesia. The research provides valuable insights into the potential benefits of collaborative coping strategies in oncology care within the Indonesian context. By focusing on dyadic interventions, the study addresses a critical gap in understanding how social support systems can be leveraged to improve patient outcomes in non-Western healthcare settings.

## CONCLUSION

This study reveals that an intervention focusing on dyadic coping skills, grounded in systemic transactional theory, effectively diminished stress, depression, and anxiety. Additionally, it enhanced the patients' quality of life. Consequently, this intervention could serve as an alternative nursing approach to mitigate mental health issues and augment the quality of life for individuals with cancer. As the body of evidence grows, it becomes increasingly clear that such interventions should be considered a vital component of comprehensive cancer care. Future research should continue to explore the long-term benefits and adaptability of dyadic coping strategies across various cancer types and patient demographics to further solidify their role in clinical practice. Additionally, future studies could investigate the potential for integrating these interventions into different healthcare settings, such as community-based care and using other platforms such as telemedicine and web based platforms for intervention. Furthermore, cultural adaptations of these interventions for diverse populations and the development of standardized training programs for healthcare providers represent important areas for future investigation.

## Limitations

However, several limitations warrant careful consideration when interpreting the results. The study's participant pool was notably homogeneous, with a predominance of Muslim patients diagnosed with thyroid cancer. This lack of diversity may limit the generalizability of the findings to other religious groups or cancer types. Additionally, the research was conducted at a single referral hospital in Riau province, potentially introducing regional biases and failing to capture the full spectrum of cancer care experiences across Indonesia's diverse healthcare landscape. Future studies should aim to include a more diverse sample of patients from multiple healthcare facilities across different regions to enhance the external validity of the findings and provide a more comprehensive understanding of dyadic coping interventions in Indonesian cancer care.

## Conflict of Interest

The authors declare that they have no competing interests.

## ACKNOWLEDGEMENT

The authors would like to thank Lembaga Penelitian dan Pengabdian Masyarakat (LPPM) Universitas Riau, for supporting this study with under award number 8288/UN 19.5.1.3/AL.04/2023. Researchers would also like to thank all participants for their generous participation in this study.

**REFERENCES**

- Badger, T. A., Segrin, C., Crane, T. E., Chalasani, P., Arslan, W., Hadeed, M., & Sikorskii, A. (2023). Social determinants of health and symptom burden during cancer treatment. *Nursing Research*, *72*(2), 103-113. <https://doi.org/10.1097/NNR.0000000000000636>
- Bitz, C., Kent, E. E., Clark, K., & Loscalzo, M. (2020). Couples coping with cancer together: Successful implementation of a caregiver program as standard of care. *Psycho-Oncology*, *29*(5), 902-909. <https://doi.org/10.1002/pon.5364>
- Bottaro, R., Craparo, G., & Faraci, P. (2023). What is the direction of the association between social support and coping in cancer patients? A systematic review. *Journal of Health Psychology*, *28*(6), 524-540. <https://doi.org/10.1177/13591053221131180>
- Chen, M., Gong, J., Lin, C., Luo, H., & Li, Q. (2023). A couple-based dyadic coping intervention for couples coping with colorectal cancer: A pilot feasibility study. *European Journal of Oncology Nursing*, *63*, 102226. <https://doi.org/10.1016/j.ejon.2022.102226>
- Daño, J. C. (2018). The journey of salubrious women with cancer: a phenomenological study. *Malaysian Journal of Medical Research (MJMR)*, *2*(1), 10-18. <https://ejournal.lucp.net/index.php/mjmr/article/view/235>
- Elengoe, A., & Hamdan, S. (2018). Hyperthermia and its clinical application in cancer treatment. *International Journal of Advancement in Life Sciences Research*, *1*(1), 22-27. <https://ijalsr.org/index.php/journal/article/view/4>
- Gautama, M. S. N., Damayanti, A., & Khusnia, A. F. (2023). Impact of early palliative care to improve quality of life of advanced cancer patients: A meta-analysis of randomised controlled trials. *Indian Journal of Palliative Care*, *29*(1), 28. [https://doi.org/10.25259/IJPC\\_153\\_2022](https://doi.org/10.25259/IJPC_153_2022)
- Gautama, M. S. N., Haryani, H., Huang, T. W., Pertiwi, A. A. P., Sholihatun, D. R., & Noviana, U. (2024). Feasibility, acceptability, and preliminary efficacy of smartphone-based virtual reality relaxation in chemotherapy patients: A pilot study. *Nursing Practice Today*, *11*(2), 158-171. <https://doi.org/10.18502/npt.v11i2.15408>
- Goyanka, R., Yadav, J., & Sharma, P. (2023). Financial burden and coping strategies for cancer care in India. *Clinical Epidemiology and Global Health*, *20*, 101259. <https://doi.org/https://doi.org/10.1016/j.cegh.2023.101259>
- Guo, Y.-Q., Ju, Q.-M., You, M., Liu, Y., Yusuf, A., & Soon, L. K. (2023). Depression, anxiety and stress among metastatic breast cancer patients on chemotherapy in China. *BMC Nursing*, *22*(1), 33. <https://doi.org/10.1186/s12912-023-01184-1>
- Huda, N., & Chang, H. J. (2020). 291MO Coping strategies and performance status among patients with advanced cancer in Indonesia. *Annals of Oncology*, *31*, S1355. <https://doi.org/10.1016/j.annonc.2020.10.284>
- Huda, N., Yun-Yen, Deli, H., Shaw, M. K., Huang, T. W., & Chang, H. J. (2021). Mediation of coping strategies among patients with advanced cancer. *Clinical Nursing Research*, *30*(8), 1153-1163. <https://doi.org/10.1177/10547738211003276>
- Huda, N., Shaw, M. K., & Chang, H. J. (2022). Psychological distress among patients with advanced cancer: a conceptual analysis. *Cancer Nursing*, *45*(2), E487-E503. <https://doi.org/10.1097/NCC.0000000000000940>
- Huda, N., Lin, Y., K., Shaw, M., K., Chang, H., J. (2021b). Psychometric properties of the Indonesian version of the brief COPE in a sample of advanced cancer patients. *Annals of Oncology*, *32*, S1275. <https://doi.org/10.1016/j.annonc.2021.08.683>
- Li, M., Zhang, L., Li, N., Luo, X., Chen, J., Zhang, Y., ... & Yan, J. (2023). Effects of couple-based dyadic interventions on breast cancer patients and their intimate partners: A systematic review and meta-analysis. *Journal of Advanced Nursing*, *79*(9), 3192-3213. <https://doi.org/https://doi.org/10.1111/jan.15639>

- Muijres, P., Weitkamp, K., Bodenmann, G., & Jenewein, J. (2023). Discrepancies in dyadic coping: associations with distress and quality of life in couples facing early-stage dementia. *Frontiers in Psychology, 14*, 1056428. <https://doi.org/https://doi.org/10.3389/fpsyg.2023.1056428>
- Otto, A. K., Ketcher, D., Reblin, M., & Terrill, A. L. (2022). Positive psychology approaches to interventions for cancer dyads: a scoping review. *International Journal of Environmental Research and Public Health, 19*(20), 13561. <https://doi.org/10.3390/ijerph192013561>
- Paschali, A., Palli, A., Thomadakis, C., & Karademas, E. C. (2021). The interplay between individual and dyadic/common coping in female patients with cancer. *European Journal of Psychology Open, 80*(4), 143–151. <https://doi.org/10.1024/2673-8627/a000012>
- Porter, L. S., Samsa, G., Steel, J. L., Hanson, L. C., LeBlanc, T. W., Bull, J., ... & Keefe, F. J. (2019). Caregiver-guided pain coping skills training for patients with advanced cancer: Background, design, and challenges for the CaringPals study. *Clinical Trials, 16*(3), 263-272. <https://doi.org/10.1177/1740774519829695>
- Purba, C. I. H., Johnston, B., & Kotronoulas, G. (2023). An Exploration of Family Caregivers' Health Care Needs When Caring for Patients with Cancer in the Resource-Challenged Context of West Java, Indonesia. *Seminars in Oncology Nursing, 39*(3), 151369. <https://doi.org/10.1016/j.soncn.2022.151369>
- Rajaei, A., Heshmati, S., & Giesemann, X. (2024). Mindfulness in patients with cancer is predictive of their partners' lowered cancer-related distress: An actor-partner interdependence model of spirituality and mindfulness in dyads facing cancer. *The American Journal of Family Therapy, 52*(3), 276-294. <https://doi.org/10.1080/01926187.2022.2106460>
- Sharma, A., Sanaha, C., & Phligbua, W. (2021). Effects of dyadic interventions on quality of life among cancer patients: an integrative review. *Asia-Pacific Journal of Oncology Nursing, 8*(2), 115-131. [https://doi.org/https://doi.org/10.4103/apjon.apjon\\_63\\_20](https://doi.org/https://doi.org/10.4103/apjon.apjon_63_20)
- Sun, Q., Wang, K., Chen, Y., Peng, X., Jiang, X., & Peng, J. (2024). Effectiveness of dyadic interventions among cancer dyads: An overview of systematic reviews and meta-analyses. *Journal of Clinical Nursing, 33*(2), 497-530. <https://doi.org/https://doi.org/10.1111/jocn.16890>
- Sung, H., Ferlay, J., Siegel, R. L., Laversanne, M., Soerjomataram, I., Jemal, A., & Bray, F. (2021). Global Cancer Statistics 2020: GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries. *CA: A Cancer Journal for Clinicians, 71*(3), 209–249. <https://doi.org/10.3322/caac.21660>
- Thiessen, M., Raffin Bouchal, S., Tang, P. A., & Sinclair, S. (2023). Navigating the cancer journey using web-based information: Grounded theory emerging from the lived experience of cancer patients and informal caregivers with implications for web-based content design. *JMIR Cancer, 9*, e41740. <https://doi.org/10.2196/41740>
- Wang, Y., Wang, S., Tong, L., Zhuang, J., Xu, Y., Wu, Y., & Chen, L. (2024). Relationships between body image, dyadic coping and post-traumatic growth in breast cancer patients: a cross-sectional study. *Frontiers in Psychology, 15*, 1368429. <https://doi.org/https://doi.org/10.3389/fpsyg.2024.1368429>
- Wang, Z., Chen, M., Gong, J., Zhou, J., Chen, X., Zhao, J., ... & Li, Q. (2024). A couple-based dyadic coping intervention for colorectal cancer patient-spousal caregiver dyads: A randomized controlled study. *European Journal of Oncology Nursing, 70*, 102565 <https://doi.org/https://doi.org/10.1016/j.ejon.2024.102565>
- Yeom, H. E., & Park, D. S. (2024). Mediating and Moderating Effects of Uncertainty on the Relationship between Family Function, Self-Care, and Depression among Blood Cancer Survivors. *Behavioral Sciences, 14*(3), 170. <https://doi.org/10.3390/bs14030170>
- Zhi, S., Gu, W., Miao, R., Zhang, L., Jing, X., Ramachandran, H. J., & Wang, W. (2024). Associations between dyadic communication and dyadic coping of patients with cervical cancer and their spouses: a study utilizing the actor-partner interdependence model. *Supportive Care in Cancer, 32*(2), 90. <https://doi.org/10.1007/s00520-023-08304-2>