Choose the healthy way! Physical activity as a tool to improve mental health in young cancer survivors

Article *in* Acta oncologica (Stockholm, Sweden) · October 2023

DOI: 10.1080/0284186X.2023.2270154

15 authors, including:

Ambra Gentile
Università degli Studi di Palermo
49 PUBLICATIONS **548** CITATIONS
SEE PROFILE

Salvatore Ficarra
Sport and Exercise Sciences Research Unit
16 PUBLICATIONS **32** CITATIONS
SEE PROFILE

Sonia Ortega-Gómez
Universidad de Cádiz
7 PUBLICATIONS **15** CITATIONS
SEE PROFILE

David Jiménez-Pavón
Universidad de Cádiz
157 PUBLICATIONS **7,289** CITATIONS
SEE PROFILE

Acta Oncologica

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/ionc20

Choose the healthy way! Physical activity as a tool to improve mental health in young cancer survivors

Ambra Gentile, Salvatore Ficarra, Sonia Ortega-Gómez, David Jiménez-Pavón, Zoi Asimakopoulou, Apostolos Vantarakis, Paula Tavares, Vasco Vaz, Joshua Thaller, Sofia Papakonstantinou, Musa Kirkar, Francesca Glorioso, Marina Galioto, Mario Lo Mauro & Antonino Bianco

To cite this article: Ambra Gentile, Salvatore Ficarra, Sonia Ortega-Gómez, David Jiménez-Pavón, Zoi Asimakopoulou, Apostolos Vantarakis, Paula Tavares, Vasco Vaz, Joshua Thaller, Sofia Papakonstantinou, Musa Kirkar, Francesca Glorioso, Marina Galioto, Mario Lo Mauro & Antonino Bianco (14 Oct 2023): Choose the healthy way! Physical activity as a tool to improve mental health in young cancer survivors, Acta Oncologica, DOI: 10.1080/0284186X.2023.2270154

To link to this article: https://doi.org/10.1080/0284186X.2023.2270154

Published online: 14 Oct 2023.

ACTA ONCOLOGICA
https://doi.org/10.1080/0284186X.2023.2270154

Taylor & Francis
Taylor & Francis Group

EDITORIAL

Choose the healthy way! Physical activity as a tool to improve mental health in young cancer survivors

Ambra Gentile[a], Salvatore Ficarra[a], Sonia Ortega-Gómez[b], David Jiménez-Pavón[b], Zoi Asimakopoulou[c], Apostolos Vantarakis[c], Paula Tavares[d], Vasco Vaz[d], Joshua Thaller[e], Sofia Papakonstantinou[f], Musa Kirkar[g], Francesca Glorioso[h], Marina Galioto[a], Mario Lo Mauro[i] and Antonino Bianco[a]

[a]Sport and Exercise Sciences Research Unit, Department of Psychology, Educational Sciences and Human Movement, University of Palermo, Palermo, Italy; [b]MOVE-IT Research Group, Department of Physical Education, Faculty of Education Sciences, University of Cadiz, Cadiz, Spain; [c]Department of Public Health, Medical School, University of Patras, Patras, Greece; [d]Faculty of Sport Sciences and Physical Education, University of Coimbra, Coimbra, Portugal; [e]Department of Health Consulting, Research and Science, Outdoor Against Cancer, Munich, Germany; [f]Creative Thinking Development - CRE.THI.DEV, Rafina, Greece; [g]Centro Internazionale per la Promozione dell'educazione e lo Sviluppo (CEIPES), Palermo, Italy; [h]Lega Italiana per la lotta Contro i Tumori (LILT Palermo), Palermo, Italy; [i]Medical Oncology Unit, Palermo, Italy

ARTICLE HISTORY Received 8 September 2023; Accepted 4 October 2023

Mental health in young cancer survivors

The progress in medical sciences has dramatically improved the survival probability of youth affected by cancer. Nevertheless, young cancer survivors continue experiencing side effects even months or years after therapy completion, both physical and psychological [1].

From a psychological perspective, cancer can be considered as a trauma impacting individuals' mood and future perspectives. A recent meta-analysis of Lee et al. [2] reported that children, adolescent, and young adult patients with cancer are at increased lifetime risk of severe symptoms or a disorder of depression, anxiety, and psychotic disorders, especially patients receiving treatment and survivors. Concerning young cancer survivors, being older than 25 years, having lower income, less education, being unemployed, and lacking social supports had higher risks of poor mental health. Apart from depression and anxiety, young cancer survivors frequently report fear of cancer recurrence, related to the possibility that cancer could come back or progress [3,4].

Another aspect that is impacted by cancer is body self-esteem. Breast cancer is the unique form of cancer that forecasts an amputation (i.e. mastectomy), which generates negative feelings toward the body [5]. Indeed, surgical intervention, together with alopecia, changes in the skin, and alterations in body weight, impacts body image and self-esteem [6].

In this scenario, physical activity could be a valid tool to improve young cancer survivors' mental health and body esteem. The benefits experienced by young cancer survivors through physical activity practice is associated with a reduction of depressive and anxiety symptoms [7,8], and a more positive attitude toward their physical condition and sexual attractiveness [9].

Challenges when initiating physical exercise in young cancer survivors

Despite the benefits associated to physical exercise, sedentary behaviour is very common among young cancer survivors [10]. Inactivity results from several challenges that cancer survivors might face before starting.

First of all, childhood cancer survivors might find it difficult to take part in physical education classes or sports club activities because the time spent on cancer treatment might have reduced their physical literacy when returning to school. As Kim et al. [11] pointed out, pediatric oncologists and exercise therapists should educate teachers to understand childhood cancer survivors' needs for enhancing fun and enjoyment that increase, in turn, physical activity adherence [12].

About other factors, treatment-related side effects, lack of time and fatigue are often indicated by young cancer survivors as primary barriers for physical activity (PA) practice [13]. Lack of time is frequently reported by cancer survivors, and in particular, younger survivors might face difficulties in managing time for personal and professional demands. Moreover, fatigue and pain dramatically impact their possibility to engage in regular physical activity.

Finally, a recent systematic review of Adamovich et al. [14] reported that a large part of childhood cancer survivors and their parents hold a misconception about PA practice that would results in symptoms worsening. For this reason, oncologists and healthcare professionals should correctly inform cancer survivors and their families about the benefit of physical activity. For instance, Shabanian et al. [15] identified fie strategies that can be used to promote PA among child and adolescent cancer survivors, and these are: broadening patient understanding of the definition of PA, tailoring

CONTACT Ambra Gentile ambra.gentile01@unipa.it Department of Psychology, Educational Sciences and Human Movement, University of Palermo, Palermo, Italy

PA recommendations, including families, connecting patients to programming, and promoting patient motivation.

Nevertheless, healthcare professionals should not underestimate the importance of advising a correct dietary intake for young cancer survivors when promoting PA. First, a balanced nutrition would be required whenever starting a PA program, especially for young cancer survivors that are often at risk of obesity [16]. Secondly, combining nutrition and PA supports young cancer survivors behavioral change and enhances the maintenance of a healthy lifestyle [17,18].

From a psychological point of view, several studies assessed exercise adherence using the Theory of Planned Behaviour – TPB [19] applied to physical exercise, proposing that the best predictor for exercising is the intention (i.e. the motivation) to do it. The predictors of exercise intention, in turn, are: attitude (holding positive or negative attitude towards exercise behaviour), subjective norms (i.e. perceived approval/disapproval from other people towards exercise behaviour), and perceived behavioural control (i.e. perceived ease or difficulty in performing exercise behaviour) [20].

After delivering an exercise program to adult cancer survivors, An et al. [21] found that TPB dimensions predicted exercise behaviour at 6-months, 12-months and 24-months follow-up. In the group of young cancer survivors, no studies examined the TPB components associated to physical exercise practice, except for a study of Keats et al. [22]. Therefore, future studies should focus on the topic examining other factors that might better identify young cancer survivors' barriers to physical activity practice.

Final recommendations

The risk of mental disorders in young cancer survivors could be reduced through physical activity. Therefore, physical activity should be recommended by health care professionals to young cancer survivors. To this aim, physicians should assess the feasibility of physical activity considering the specific clinical picture of the patient. Moreover, health care professionals play a crucial role in initiating and maintaining an exercise routine among cancer survivors, especially when giving information about the benefits of exercising. Thus, health care professionals must be clear about the potentialities and the limits of physical activity practice, but they should encourage patients, whenever possible. Moreover, also the school system should receive some information about young cancer survivors needs, so that teachers can encourage child cancer survivors in joining physical education classes. Finally, researchers should better examine exercise practice in the perspective of TPB, that clearly describes what factors are effective in predicting the adherence also in the future.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

The current article is funded by European Commission Project – EU4HEALTH "OAC Connects Us" – Project number 101056984.

References

[1] Zhang A, Wang K, Zebrack B, et al. Psychosocial, behavioral, and supportive interventions for pediatric, adolescent, and young adult cancer survivors: a systematic review and meta-analysis. Crit Rev Oncol Hematol. 2021;160:103291. doi:10.1016/j.critrevonc.2021.103291.

[2] Lee A, Low CE, Yau CE, et al. Lifetime burden of psychological symptoms, disorders, and suicide due to cancer in childhood, adolescent, and young adult years: a systematic review and meta-analysis. JAMA Pediatr. 2023;177(8):790–799. doi:10.1001/jamapediatrics.2023.2168.

[3] Sun H, Yang Y, Zhang J, et al. Fear of cancer recurrence, anxiety and depressive symptoms in adolescent and young adult cancer patients. Neuropsychiatr Dis Treat. 2019;15:857–865. doi:10.2147/NDT.S202432.

[4] Yang Y, Li W, Wen Y, et al. Fear of cancer recurrence in adolescent and young adult cancer survivors: a systematic review of the literature. Psychooncology. 2019;28(4):675–686. doi:10.1002/pon.5013.

[5] Paterson CL, Lengacher CA, Donovan KA, et al. Body image in younger breast cancer survivors: a systematic review. Cancer Nurs. 2016;39(1):E39–E58. doi:10.1097/NCC.0000000000000251.

[6] Fan S-Y, Eiser C. Body image of children and adolescents with cancer: a systematic review. Body Image. 2009;6(4):247–256. doi:10.1016/j.bodyim.2009.06.002.

[7] Pinto B, Maruyama N, Engebretson T, et al. Exercise participation, mood and coping in early-stage breast cancer survivors. J Psychosoc Oncol. 1998;16(2):45–58. doi:10.1300/J077V16N02_03.

[8] Fong DY, Ho JW, Hui BP, et al. Physical activity for cancer survivors: meta-analysis of randomised controlled trials. BMJ. 2012;344(jan30 5):e70–e70. doi:10.1136/bmj.e70.

[9] Pinto BM, Trunzo JJ. Body esteem and mood among sedentary and active breast cancer survivors. Mayo Clin Proc. 2004;79(2):181–186. doi:10.4065/79.2.181.

[10] Antwi GO, Jayawardene W, Lohrmann DK, et al. Physical activity and fitness among pediatric cancer survivors: a meta-analysis of observational studies. Support Care Cancer. 2019;27(9):3183–3194. doi:10.1007/s00520-019-04788-z.

[11] Kim JY, Yoo S, Yeon SJ, et al. Physical activity levels, exercise preferences, and exercise barriers in Korean children and adolescents after cancer treatment. Support Care Cancer. 2022;30:1787–1796.

[12] Lakicevic N, Gentile A, Mehrabi S, et al. Make fitness fun: could novelty be the key determinant for physical activity adherence? Front Psychol. 2020;11:577522. doi:10.3389/fpsyg.2020.577522.

[13] Rabin C. Barriers to increasing physical activity among young adult cancer survivors. J Adolesc Young Adult Oncol. 2017;6(2):372–376. doi:10.1089/jayao.2016.0056.

[14] Adamovich T, Watson R, Murdoch S, et al. Barriers and facilitators to physical activity participation for child, adolescent, and young adult cancer survivors: a systematic review. J Cancer Surviv. 2022;1–18. doi:10.1007/s11764-022-01217-9.

[15] Shabanian J, Capaldi JM, Luna-Lupercio B, et al. Healthcare providers' promotion of physical activity among child and adolescent cancer survivors: strategies and challenges. J Cancer Surviv. 2023;17(6):1546–1560. doi:10.1007/s11764-022-01218-8.

[16] Zhang FF, Saltzman E, Must A, et al. Do childhood cancer survivors meet the diet and physical activity guidelines? A review of guidelines and literature. Int J Child Health Nutr. 2012;1(1):44–58. doi:10.6000/1929-4247.2012.01.01.06.

[17] Stacey FG, James EL, Chapman K, et al. A systematic review and meta-analysis of social cognitive theory-based physical activity and/or nutrition behavior change interventions for cancer survivors. J Cancer Surviv. 2015;9(2):305–338. doi:10.1007/s11764-014-0413-z.

[18] Grimmett C, Corbett T, Brunet J, et al. Systematic review and meta-analysis of maintenance of physical activity behaviour change in cancer survivors. Int J Behav Nutr Phys Act. 2019;16(1):1–20. doi:10.1186/s12966-019-0787-4.

[19] Ajzen I. The theory of planned behaviour. Organ Behav Hum Decis Process.1991;50(2):179–211. doi:10.1016/0749-5978(91)90020-T.

[20] Husebø AML, Dyrstad SM, Søreide JA, et al. Predicting exercise adherence in cancer patients and survivors: a systematic review and meta-analysis of motivational and behavioural factors. J Clin Nurs. 2013;22(1–2):4–21. doi:10.1111/j.1365-2702.2012.04322.x.

[21] An K-Y, Kang D-W, Morielli AR, et al. Patterns and predictors of exercise behavior during 24 months of follow-up after a supervised exercise program during breast cancer chemotherapy. Int J Behav Nutr Phys Act. 2020;17(1):23. doi:10.1186/s12966-020-00924-9.

[22] Keats MR, Culos-Reed SN, Courneya KS, et al. Understanding physical activity in adolescent cancer survivors: an application of the theory of planned behavior. Psychooncology. 2007;16(5):448–457. doi:10.1002/pon.1075.