

# Benefits and Barriers of Cancer Practitioners Discussing Physical Activity with their Cancer Patients

Justin W.L. Keogh<sup>1,2,3</sup> · Alicia Olsen<sup>1</sup> · Michael Climstein<sup>4</sup> · Sally Sargeant<sup>1</sup> · Lynnette Jones<sup>5</sup>

Published online: 12 August 2015

© American Association for Cancer Education 2015

**Abstract** Our aim was to synthesise the existing empirical literature and theoretical perspectives on the physical activity (PA) promotion practices and determinants of cancer clinicians and health professionals. We conducted a narrative review of theory and evidence to develop practice recommendations for improving the promotion of PA to cancer patients. Surveyed health professionals were aware of many benefits of PA for their cancer patients, although only ~40 % promoted PA to selected cancer patients. Walking was the most commonly promoted form of PA, with this promoted to assist patients control their weight and cardiovascular health risk. Barriers to promotion of PA included lack of time and knowledge of PA and behaviour change skills. Health professionals appear interested in promoting PA to their cancer patients, yet encounter several barriers. Further research is warranted to assist health professionals improve their PA promotion. An adapted reflective-impulsive model of social behaviour shows promise for assisting health professionals overcome barriers and

provides an evidence-based theoretical framework for improving communication with patients. Universities, hospitals and/or health-care accreditation organisations also have important roles to play in assisting health professionals improve their promotion of PA to patients.

**Keywords** Cancer · Counselling · Exercise · Oncology · Physical activity

## Introduction

There is growing evidence demonstrating that physical activity (PA), be it aerobic, resistance (strength) or a combination thereof, produces physical and psychosocial benefits [7, 11, 16] that counteract many of the adverse effects of common cancer treatments [8, 17]. Such research has led professional organisations, including the American Cancer Society, to develop position statements outlining the importance of PA and recommending that physically inactive patients become more active. Specifically, guidelines recommend that cancer patients perform 150 min of aerobic and 60 min of resistance training per week [16].

Health professions (e.g. general practitioners, oncologists and oncology nurses) are expected to provide high-quality, evidence-based education and counselling to their patients in relation to the potential risks and benefits of cancer screening and/or treatment [20]. However, studies have shown that health professionals report numerous barriers preventing them from discussing PA with their patients and, most importantly, assisting them to make the necessary behavioural changes to accommodate recommended PA levels [5, 6, 18, 21]. We offer a narrative review of the relevant empirical work and propose practice recommendations for health professions, hospitals

✉ Justin W.L. Keogh  
jkeogh@bond.edu.au

<sup>1</sup> Faculty of Health Sciences and Medicine, Bond University, Robina, QLD 4229, Australia

<sup>2</sup> Human Potential Centre, AUT University, Auckland, New Zealand

<sup>3</sup> Cluster for Health Improvement, Faculty of Science, Health, Education and Engineering, University of the Sunshine Coast, Sippy Downs, Australia

<sup>4</sup> Exercise, Health and Performance Faculty Research Group, University of Sydney, Sydney, Australia

<sup>5</sup> School of Physical Education, Sport and Exercise Sciences, University of Otago, Dunedin, New Zealand

and universities for improving the promotion of PA to cancer patients.

### Discussing Physical Activity with Cancer Patients

A recent study revealed that most cancer patients do not adhere to the PA guidelines of the American Cancer Society, and many are less active than their age-matched, non-cancer peers [10]. In light of research demonstrating the benefits of PA for cancer patients, it is clear that health professionals have a duty of care to more regularly discuss PA during their consultations. There is now considerable research that has examined the determinants of cancer patients' PA levels in an attempt to investigate possible ways to increase their PA [9, 19, 13, 14]. Surprisingly, very little of this research has focused on the role of the health professional in supporting the PA behaviour of the patients [18, 15]. A summary of the main issues facing cancer patients post-diagnosis, the benefits of regular PA and the possible role of health professionals in assisting their patients becoming more physically active is summarised in Fig. 1.

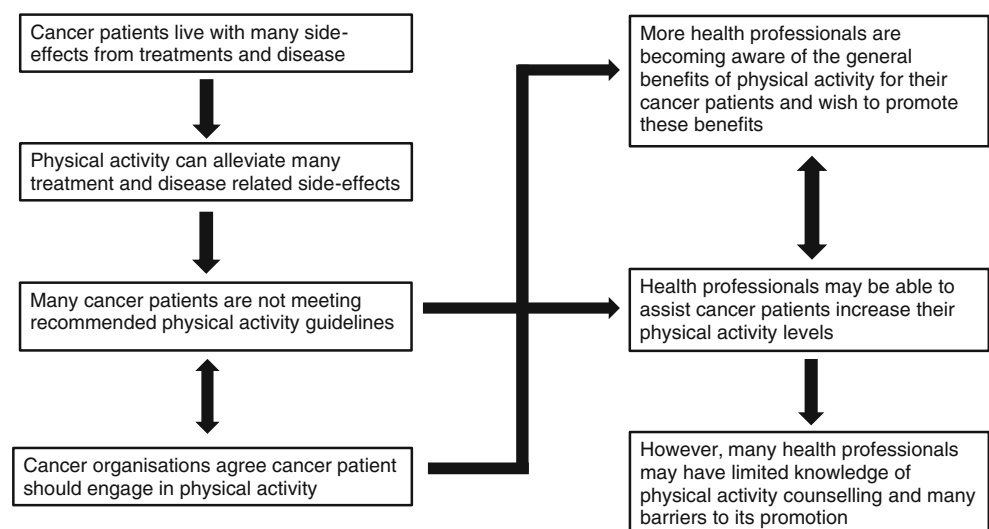
### Physical Activity Promotion Practices and Determinants of Health Professionals

Promotion of PA by health professionals has been shown to significantly improve health, physical and psychosocial outcomes for a variety of patient groups [12, 3]. The promotion of PA by a health professional to their cancer patients has demonstrated significant increases in patients' PA levels, energy expenditure, aerobic fitness, muscular strength and quality of life as well as reduction in the number of barriers to PA [2, 4]. Jones et al. also reported significantly larger increases in PA levels if patients remembered the nature of

the PA advice from the health professional [4]. However, relatively little is known about the PA promotion practices of health professionals and the factors that influence this promotion to their cancer patients [5, 6, 18, 21].

In relevant work, studies have reported that up to 40 % of health professionals only promote PA to the patients they feel would benefit from being more physically active, rather than promoting PA as a standard part of usual care for all patients [5, 6, 18, 21]. While these results are somewhat encouraging, the survey response rates were 14–62 % which may indicate a potential response bias, whereby health professionals who regularly promote PA to their patients may have more likely completed the surveys [5, 6, 18, 21]. These findings, therefore, should be interpreted with some caution. Nonetheless, the surveys revealed that many health professionals were aware that PA could reduce the physical side effects of treatment, lower the risk of developing other chronic conditions and improve physical function, mental health and quality of life. Of the health professionals who promoted PA, they also endorsed evidence-based aerobic activities such as walking for weight loss, cardiovascular health, improved mental health and quality of life [16]. Considerably fewer promoted resistance training as a form of PA to their patients, despite resistance training being more beneficial than aerobic activity in counteracting the substantial declines in muscle mass, strength and physical performance seen with common cancer treatments [7]. Most importantly, the survey data revealed that there are many barriers to PA promotion for these health professionals. For example, health professionals thought that other professionals were promoting PA to the patients, reported lacking the time needed for such discussions during patient consultations and indicated that they lacked the required knowledge in PA promotion [5, 6, 18, 21]. These barriers appeared quite similar to the concerns reported by 236 cancer patients about their regular consultations with their health

**Fig. 1** Possible role of health professionals in promoting physical activity and improving outcomes for cancer patients



**Table 1** Learning objectives for improving health professional-patient communication regarding physical activity: a proposed approach based on the reflective impulsive model of social behaviour [22]

Learning objectives	Examples of how health professionals may implement this approach
Goal-directed communication	Ensure that the promotion of PA and the discussion of potential barriers, facilitators, risk and benefits are considered a priority for discussion on a regular basis
Control over the conversation and relationship	Develop a consensus with the patient on the primary and secondary goals of each consultation, how discussions of PA may be relevant to these goals and respond flexibly to any concerns raised by the patient
Eliciting and synthesising information	Be attentive when listening to the patient so to get an overview of the patient’s concerns as well as their perceptions on the determinants of these concerns and the impact these have on their cancer survivorship. Determine what issues raised by the patient may be improved by PA and/or what strategies could be used to increase PA levels in these patients if they can identify barriers to their PA engagement
Conveying information	Provide an overview of the evidence-based literature of the benefits of PA for cancer survivorship in a simple and straightforward manner. As this level of PA understanding may be beyond some health professionals, it is recommended that hospitals and health-care systems look to develop better referral networks between cancer clinicians and PA specialists such as exercise physiologists and physiotherapists who may provide more detailed PA prescription details and/or offer cancer-specific PA or rehabilitation classes
Developing and implementing a shared plan of care	Discussion of PA should be regularly scheduled with at least one member of the health professional health-care team to assist the patient regularly perform PA. This should involve the primary cancer clinician and, if required, the PA and psycho-oncology specialists. Regardless of whose primary responsibility this is, a shared plan needs to be developed between the patient and relevant health professionals in regards to the primary and secondary goals of the PA program as well as developing strategies to overcome some of the barriers to regular PA participation

professionals [1]. Brandes et al. [1] reported that patients indicated their primary barriers to discussing their concerns with health professionals related to the health professionals’ behaviour (e.g. a lack of empathy, not inviting the patients’ to identify their concerns and an inability to provide accurate information) as well as the consultation environment (e.g. lack of time to listen to concerns).

Taken together, these findings warrant health professionals being more proactive in the promotion of PA to their

patients. This may be achieved by health professionals initiating such discussions with their patients, attentively responding to questions from their patients and assisting their patients develop strategies to overcome any barriers that may make regular PA difficult. However, there is still much to learn about the primary determinants influencing health professionals’ promotion of PA to their patients. If these determinants are better understood, behavioural interventions using evidence-based behavioural change models

**Table 2** Teaching and assessment methods of clinical communication skills with respect to patient physical activity: a proposed approach for universities and training hospitals based on the reflective impulsive model of social behaviour [22, 23]

Teaching methods	Setting	Examples of how universities and/or hospitals may implement this approach
Assignments	Universities	Utilise assignments whereby health professional students are provided case studies and are required to practice short conversations with peers, relatives or patients on issues whereby PA may be a relevant adjunct therapy. Audio or video taping of these communication scenarios would be useful to collect as it will allow the students to obtain objective feedback on their performance and allow them to reflect on ways in which to improve in the future
Simulation	Universities	This can involve role play, feedback and small groups involving communication scenarios whereby PA may be a relevant adjunct therapy. Students should receive frequent opportunities for feedback, reflection and correction as they are important components of this process
Workplace-based learning	Hospitals	The use of video-on-the-job whereby the health professional can view videotapes of their outpatient and clinical consultations and perhaps feedback from supervisory staff is a crucial aspect of workplace-based learning [20]. The focus when viewing these video recordings could be on the general communication style, the frequency with which PA was discussed where relevant and the accuracy of the PA information provided as well as the use of relevant behavioural change theories in promoting PA participation

can assist health professionals' in promoting healthy behaviours like PA and result in significantly improved outcomes for their patients.

### Possible Ways to Improve the Physical Activity Promotion Practices of Health Professionals

When discussing PA and other healthy behaviours with their patients, it is recommended that health professionals utilise evidence-based behavioural change practices [3]. In an extensive review of approaches to improve patient-physician communication, Woulda and van de Weil proposed using an adapted version of the reflective-impulsive model of social behaviour [22]. While Woulda and van de Wiel [22] acknowledge that the full implementation of the reflective impulsive model requires considerable effort, they recommended its use as a benchmark for improving patient-physician communication and identified five key learning objectives and teaching methods for communication education. Specific examples of how health professionals may use this approach when discussing PA with their cancer patients are highlighted in Table 1.

As alluded to in Table 1, it is understood that the behaviour, knowledge and/or work environment of the health professional may act as facilitators or barriers to effective patient-centred communication about PA. Many health professionals may identify aspects of their own behaviour or work environment that would act as barriers to effective PA communication with their patients; therefore, we recommend the development of referral networks, whereby patients are referred to specialists in PA (e.g. exercise physiologists or physiotherapists or psychosocial/behavioural counselling).

The reflective impulsive model [22] also has major implications for training models used by universities and hospitals. It is recommended that universities and hospitals provide a series of educational experiences which progressively develop the clinical communication skills of their students, interns and staff [22, 23]. An overview of how this may be applied to improving PA promotion and counselling for cancer patients is provided in Table 2.

### Conclusions

Health professionals appear interested in promoting PA to their patients, but evidence suggests that they experience several barriers to this activity. It is vital that health professionals use evidence-based behavioural change approaches in promoting the proven benefits of PA during their patient consultations. Universities, hospitals and accreditation bodies can all play important roles in assisting health professionals achieve this goal.

More research is required to continually improve practice in this area. Relevant studies may examine the following: patient benefits obtained through behavioural theory-based PA promotion programs led by primary cancer clinicians such as oncologists, the determinants and current PA promotion practices of a wider variety of health professionals, and how differences in health professional and patient characteristics may impact PA promotion and patient outcomes.

Based on the strong evidence for the benefits of PA for cancer survivorship [7, 11, 16], health professionals, universities, hospitals and national health-care accreditation organisations are encouraged to consider the conversational value and implementation processes of PA promotion as part of their usual care for all cancer patients, not just those for those who are subjectively assessed by health professionals to need it. We recommend that evidence-based practice educational modules include discussions on the benefits of PA as well the behavioural change models that may best increase PA levels for cancer patients. Hospitals should examine ways they can better encourage their primary cancer clinicians to work more collaboratively with PA and counselling specialists in this endeavour. This may be achieved by hospitals developing improved PA resources and/or referral pathways to cancer-specific PA programs that are more accessible to patients. Collectively, these approaches may improve PA promotion by health professionals and result in improved outcomes for patients [14, 19].

**Acknowledgments** We would like to thank Elizabeth Edwards from Bond University for her constructive criticisms on this manuscript prior to submission.

**Conflict of Interest** The authors declare that they have no competing interests.

### References

1. Brandes K, Linn AJ, Smit EG, van Weert JCM (2015) Patients' reports of barriers to expressing concerns during cancer consultations. *Patient Educ Couns* 98(3):317–322. doi:10.1016/j.pec.2014.11.021
2. Damush TM, Perkins A, Miller K (2006) The implementation of an oncologist referred, exercise self-management program for older breast cancer survivors. *Psycho-Oncology* 15(10):884–890. doi:10.1002/pon.1020
3. Gagliardi AR, Faulkner G, Ciliska D, Hicks A (2015) Factors contributing to the effectiveness of physical activity counselling in primary care: a realist systematic review. *Patient Educ Couns* 98(4):412–419. doi:10.1016/j.pec.2014.11.020
4. Jones LW, Coumeya KS, Fairey AS, Mackey JR (2004) Effects of an oncologist's recommendation to exercise on self-reported exercise behavior in newly diagnosed breast cancer survivors: a single-blind, randomized controlled trial. *Ann Behav Med* 28(2):105–113
5. Jones LW, Courneya KS, Peddle C, Mackey JR (2005) Oncologists' opinions towards recommending exercise to patients

- with cancer: a Canadian national survey. *Support Care Cancer* 13(11):929–937. doi:10.1007/s00520-005-0805-8
6. Karvinen KH, McGourty S, Parent T, Walker PR (2012) Physical activity promotion among oncology nurses. *Cancer Nurs* 35(3): E41–E48. doi:10.1097/NCC.0b013e31822d9081
  7. Keogh JWL, MacLeod RD (2012) Body composition, physical fitness, functional performance, quality of life and fatigue benefits of exercise for prostate cancer patients: a systematic review. *J Pain Symptom Manag* 43(1):96–110. doi:10.1016/j.jpainsymman.2011.03.006
  8. Keogh JWL, Patel A, MacLeod RD, Masters J (2013) Perceptions of physically active men with prostate cancer on the role of physical activity in maintaining their quality of life: possible influence of androgen deprivation therapy. *Psycho-Oncology* 22:2869–2875. doi:10.1002/pon.3363
  9. Keogh JWL, Patel A, MacLeod RD, Masters J (2014) Perceived barriers and facilitators to physical activity in men with prostate cancer: possible influence of androgen deprivation therapy. *Eur J Cancer Care (Engl)* 23(2):263–273. doi:10.1111/ecc.12141
  10. LeMasters TJ, Madhavan SS, Sambamoorthi U, Kurian S (2014) Health behaviors among breast, prostate, and colorectal cancer survivors: a US population-based case–control study, with comparisons by cancer type and gender. *J Cancer Surviv* 8(3):336–348. doi:10.1007/s11764-014-0347-5
  11. Mishra SI, RW Scherer, PM Geigle, DR Berlanstein, O Topaloglu, CC Gotay, and C Snyder (2012) Exercise interventions on health-related quality of life for cancer survivors. *Cochrane Database Syst Rev* 8. doi:10.1002/14651858.CD007566.pub2.
  12. Orrow G, Kinmonth A-L, Sanderson S, Sutton S (2012) Effectiveness of physical activity promotion based in primary care: systematic review and meta-analysis of randomised controlled trials. *BMJ* 344:e1389
  13. Ottenbacher A, Sloane R, Snyder DC, Kraus W, Sprod L, Demark-Wahnefried W (2013) Cancer-specific concerns and physical activity among recently diagnosed breast and prostate cancer survivors. *Integr Cancer Ther* 12(3):206–212. doi:10.1177/1534735412449734
  14. Pinto BM, Ciccolo JT (2011) Physical activity motivation and cancer survivorship. *Recent Results Cancer Res* 186:367–387. doi:10.1007/978-3-642-04231-7\_16
  15. Robertson L, Richards R, Egan R, Szymlek-Gay EA (2013) Promotion and support of physical activity among cancer survivors: a service provider perspective. *Psycho-Oncology* 22(2):441–446. doi:10.1002/pon.3032
  16. Rock CL, Doyle C, Demark-Wahnefried W, Meyerhardt J, Courneya KS, Schwartz AL, Bandera EV et al (2012) Nutrition and physical activity guidelines for cancer survivors. *CA Cancer J Clin* 62(4):242–274. doi:10.3322/caac.21142
  17. Schmitz KH, Speck RM, Rye SA, DiSipio T, Hayes SC (2012) Prevalence of breast cancer treatment sequelae over 6 years of follow-up. *Cancer* 118(S8):2217–2225. doi:10.1002/cncr.27474
  18. Spellman C, Craike M, Livingston P (2014) Knowledge, attitudes and practices of clinicians in promoting physical activity to prostate cancer survivors. *Health Educ J* 73(5):566–575. doi:10.1177/0017896913508395
  19. Stacey FG, James EL, Chapman K, Courneya KS, Lubans DR (2015) 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* 9(2):305–338. doi:10.1007/s11764-014-0413-z
  20. Trikalinos TA, Wieland LS, Adam GP, Zgodic A, Ntzani EE (2014) AHRQ comparative effectiveness reviews. In: *Decision aids for cancer screening and treatment*. Agency for Healthcare Research and Quality (US), Rockville (MD)
  21. Williams K, RJ Beeken, A Fisher, and J Wardle. in press. Health professionals’ provision of lifestyle advice in the oncology context in the United Kingdom. *Eur J Cancer Care (Engl)*. doi:10.1111/ecc.12305.
  22. Wouda JC, van de Wiel HBM (2013) Education in patient–physician communication: how to improve effectiveness? *Patient Educ Couns* 90(1):46–53. doi:10.1016/j.pec.2012.09.005
  23. Wouda JC, van de Wiel HBM (2014) The effects of self-assessment and supervisor feedback on residents’ patient-education competency using videoed outpatient consultations. *Patient Educ Couns* 97(1):59–66. doi:10.1016/j.pec.2014.05.023