

# Influences on health-care practitioners' promotion of physical activity to their patients with prostate cancer: a qualitative study

Asmita Patel BA, MA, PGDipHSc, PhD;<sup>1,2</sup> Grant Schofield BSc(Hons), PhD;<sup>3</sup>  
Justin Keogh BHSc, BHMS(Hons), PhD;<sup>3,4</sup>

## ABSTRACT

**INTRODUCTION:** Physical activity is beneficial for the physical and psychological health of patients with prostate cancer (PCa). Health-care practitioners are ideally positioned to promote physical activity to their patients.

**AIM:** To identify factors that influenced health care practitioners to either promote or not promote physical activity to their patients with PCa.

**METHODS:** Individual interviews were conducted with 16 Auckland-based health-care practitioners, including specialists (oncologists and urologists), physiotherapists and complementary and alternative (acupuncturists) health-care practitioners. Data were analysed using an inductive thematic approach.

**RESULTS:** Treatment-related factors (ie counteracting side-effects of hormone suppression treatment), longer life expectancy and risk factors for other conditions appeared to influence the promotion of physical activity to patients. Time constraints of consultations and complex medical issues were barriers to the promotion of physical activity.

**CONCLUSIONS:** This study found that a variety of health-care practitioners are providing some degree of physical activity advice to their patients with PCa. Collaborative practice among health-care practitioners to verbally reinforce the benefits of physical activity, coupled with referral to experts in physical activity promotion/rehabilitation (such as physiotherapists), should be encouraged for best practice care.

**KEYWORDS:** Prostate cancer; physical activity; health-care practitioners; lifestyle advice; androgen deprivation treatment (ADT)

## Introduction

Prostate cancer (PCa) is the most prevalent male cancer in New Zealand.<sup>1</sup> As a result of advancements in screening procedures and treatment options, men are living longer post-diagnosis.<sup>2</sup> With an increase in survivorship, a growing focus is now being placed on factors that can help to maintain and improve the health-related outcomes of PCa survivors.<sup>3–5</sup> This is especially

pertinent as PCa survivors are at increased risk for PCa recurrence, secondary cancers, cardiovascular disease and other chronic health conditions,<sup>2,6,7</sup> as well as cancer-related fatigue, depression and other mental health conditions.<sup>8</sup> For men receiving androgen deprivation treatment (ADT), there is an additional risk for osteoporosis, type 2 diabetes, weight gain and metabolic syndrome.<sup>9</sup>

<sup>1</sup> School of Public Health and Psychosocial Studies, Auckland University of Technology, Auckland, New Zealand

<sup>2</sup> New Zealand College of Chinese Medicine, Auckland, New Zealand

<sup>3</sup> Human Potential Centre, Faculty of Health and Environmental Sciences, Auckland University of Technology, Auckland, New Zealand

<sup>4</sup> Bond University, Research Centre for Health, Exercise and Sports Sciences, Faculty of Health Sciences and Medicine, Bond University, Gold Coast, Queensland, Australia

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## CORRESPONDENCE TO: Asmita Patel

Human Potential Centre,  
Auckland University of  
Technology, Private Bag  
92006, Auckland 1142,  
Auckland, New Zealand  
asmita.patel@aut.ac.nz

## WHAT GAP THIS FILLS

**What is already known:** Physical activity is beneficial for the physical and psychological health of PCa survivors, but many PCa survivors are physically inactive. Health-care practitioners are ideally positioned to promote physical activity to their patients who have PCa.

**What this study adds:** This study found that health-care practitioners were aware of some of the benefits of physical activity for patients with PCa. The health-care practitioners in this study were more likely to promote physical activity to patients who were on androgen deprivation treatment, or for men who had longer life expectancy and risk factors for other conditions.

Physical activity has been identified as a modifiable lifestyle-related behaviour that can positively influence the physical and psychological health-related outcomes of PCa survivors.<sup>2,10–12</sup> Physical activity can help counteract some of the negative PCa- and treatment-related side-effects.<sup>2,10</sup> Regular physical activity can reduce cancer-related fatigue and improve physical function, including muscular fitness, continence and quality of life.<sup>2,10–12</sup> Engagement in regular physical activity has also been associated with lower prostate specific antigen (PSA) levels and may also delay the use of ADT treatment.<sup>13</sup> Regular physical activity may also lower the risk of cancer progression and recurrence.<sup>3,14,15</sup>

Despite the benefits of regular physical activity, many PCa survivors are physically inactive, engaging in insufficient activity to produce health-related gain.<sup>16,17</sup> Health-care practitioners have been identified as individuals who can help promote healthy behaviours such as physical activity to patients with cancer.<sup>18–20</sup> Health-care practitioners are ideally positioned to provide lifestyle-related information to their patients with PCa, as they see these men on a regular basis for PCa-related treatment, surveillance and other health-care conditions.<sup>4,21</sup>

Cancer survivors are more likely to engage in regular physical activity if advice for physical activity is imparted by their health-care practitioner.<sup>19,20,22</sup> However, patients with cancer may not always receive sufficient physical

activity advice from their health-care practitioner(s).<sup>20,23–25</sup> In the case of PCa, limited research exists both nationally and internationally that has examined influences on health-care practitioners to provide physical activity advice to their patients with PCa. Therefore, the aim of the present study was to identify influences on practitioners to promote or not promote physical activity to their patients with PCa.

## Methods

### Participants

Sixteen health-care practitioners (eight female and eight male) who frequently treat men who have had a diagnosis of PCa took part in the present study. They ranged in age from 28 to 72 years ( $49.3 \pm 12.0$  years). Participants had practised in their fields between 1 and 45 years ( $23.1 \pm 12.7$  years). Participants were three medical oncologists, one radiation oncologist, four urologists, one oncology nurse specialist and one urology nurse specialist, one radiation therapist, two general practitioners (GPs) (including one who was also an acupuncturist), two physiotherapists and two acupuncturists (including the GP above). All participants practised in the Auckland region. To be eligible to participate, participants had to have frequently provided either specialist (biomedical), allied (physiotherapy) or alternative and complementary (acupuncture) treatment to men who had received a clinical diagnosis of PCa. All urologists and oncologists taking part in the study held concurrent positions at private practices and public hospitals. All urology and oncology nurses worked in a public hospital. All other health-care practitioners worked in private practice.

### Measures

A structured interview schedule (Table 1) was developed from the literature. Questions were about the two main topic areas: (1) factors facilitating physical activity promotion by health-care practitioners to patients with PCa; and (2) barriers to the promotion of physical activity. Questions were open-ended to allow for discussion and elaboration on points made by participants. Although the interview schedule contained set

questions, there was also opportunity for participants to raise other related issues and concerns during the interview process.

## Procedure

We purposively sampled oncologists, urologists, nurse specialists, general practitioners, physiotherapists and acupuncturists who provide treatment to patients with PCa. Purposive sampling aimed to provide a breadth of understanding of different health-care practitioners. A total of 38 invitation letters detailing the study were emailed to potential participants to which 16 positive responses were received.

Participants were individually interviewed by the first author at their work place. Interviews ranged in length from 13 to 35 min. Informed written consent was obtained from each participant before each interview commenced. Ethical approval for this study was obtained from the Northern A Health and Disability Ethics Committee (Reference number: 13/NTA/241/AM01).

## Data analysis

All interviews were audio-taped and transcribed verbatim. Data were analysed using an inductive thematic approach based on Auerbach and Silverstein<sup>26</sup>. The first author transcribed all interviews and identified initial themes. The analysis process comprised four main steps: (1) reading and re-reading the transcripts for each question to understand responses to the specific question under analysis; (2) identifying text within an allocated question where participants had used the same or similar words to convey the same idea (referred to as 'repeating ideas'); (3) coding and naming the repeating ideas to generate themes; and (4) verifying the trustworthiness of the findings. Research team members independently read the transcripts to verify or disqualify themes to reduce the potential for individual researcher bias.<sup>26</sup> Data were analysed under two main topic areas: (1) factors facilitating promotion of physical activity by health-care practitioners to their patients with PCa; and (2) barriers to the promotion of physical activity by health-care practitioners to their patients with PCa.

Table 1. Interview schedule

Can you please tell me about the type of prostate cancer patients you routinely see and what your overall treatment and consultation philosophy is?
I am interested in finding out if you provide your prostate cancer patients with any physical activity or exercise advice? If so, what kind of advice?
What factors influence you in promoting or not promoting physical activity to your prostate cancer patients?

## Results

Themes and sub-themes are discussed below, and direct quotes are provided to illustrate participants' views and experiences.

### Factors facilitating the promotion of physical activity

Five main themes and three sub-themes emerged within this topic.

#### Treatment-related factors

Treatment-related side-effects appeared to strongly influence whether health-care practitioners provided physical activity advice to their patients with PCa. Patients receiving ADT were more likely to receive physical activity advice than men receiving other forms of treatment for their PCa. This was mainly related to practitioners' understanding of the adverse side-effects of ADT.

'For patients on androgen deprivation treatment, I tell them how important physical activity is for this disease. I tell them about the forms of physical activity, doing gym work and weight bearing activities.' [Practitioner 2, Urologist]

'For those on hormone therapy, to focus [on] resistance exercise and aerobic exercise to maintain muscle bone mass, I give verbal advice. We have a little plan written with our hormone care plan, which talks about some simple exercises.' [Practitioner 15, Urology Nurse Specialist]

### Curative group and benefits of physical activity

Some participants discussed how physical activity would be more beneficial for men in the curative

group, as they were more likely to have longer life expectancy post-treatment. The curative group consisted of men with locally confined PCa that was treated with a radical prostatectomy.

‘I think the ones who would benefit the most from physical activity are the ones who’ve got locally confined prostate cancer and have been treated with an operation, because they’ve got a 10- to 15-year life expectancy.’ [Practitioner 4, Urologist]

‘If I have patients that have been treated radically and they are very keen on doing everything they can to maintain being cancer free, then I do mention exercise.’ [Practitioner 11, Radiation Oncology]

### Physical activity advice for other conditions

Some health-care practitioners also provided physical activity advice in relation to risk factors for other conditions, such as cardiovascular conditions, osteoporosis, as well for weight control.

‘I tell every patient that the same people who have prostate problems may have heart problems also, and that physical activity is good for their general health.’ [Practitioner 2, Urologist]

‘I think anybody who is prone to osteoporosis, which are the guys on hormone treatment can benefit from physical activity.’ [Practitioner 2, Urologist]

‘It’s important to exercise for control of weight.’ [Practitioner 11, Radiation Oncologist]

### Physical activity for better quality of life and general well-being

Physical activity was perceived to be beneficial in relation to improving quality of life and general well-being of patients with PCa.

‘If you exercise, you have a better quality of life. You feel good.’ [Practitioner 5, Urologist]

‘Getting out in the fresh air, their sense of well-being is much better than just sitting at home resting all the time.’ [Practitioner 3, Oncology Nurse Specialist]

### Physical activity advice and practitioner type

Several sub-themes emerged. Different types of health-care practitioners appeared to deliver physical activity advice differently. For example, one medical oncologist provided physical activity advice as additional information delivered during a consultation. One urologist provided physical activity advice through referral to a physiotherapist. Both physiotherapists discussed how they advised and implemented individualised treatment plans for their patients with PCa. Both acupuncturists discussed how they provided physical activity advice to their patients with PCa, as such advice is consistent with the underlying principles of the Traditional Chinese Method (TCM) model, which views physical activity as supporting health.

### Physical activity advice from specialist health-care practitioners

‘In a consultation, frequently men or their family will bring up, ‘what else can I do to help with my treatment?’ I talk to them about the fact that across the board in cancer, there is increasing evidence that there’s improved outcomes if you remain physically active.’ [Practitioner 8, Medical Oncologist]

‘If I think they would warrant with physical activity, I would normally send them to one of my physiotherapy colleagues to introduce a programme for them. They are better trained in terms of giving them the right advice for the right exercises.’ [Practitioner 16, Urologist]

### Physical activity advice from physiotherapists

‘I start off doing one-on-one assessments with clients. I see them at all times during the spectrum. After surgery, radiotherapy, chemotherapy, or during chemotherapy.’ [Practitioner 10, Physiotherapist]

‘Initially pre-surgery, I’ll see them once. We’ll do an assessment, get them started doing exercises.’ [Practitioner 9, Physiotherapist]

### Physical activity advice from complementary and alternative health-care practitioners

‘In the Chinese model, prostate cancer is qi stagnation, blood stasis and accumulation of damp. One would recommend qigong breathing exercises to move the qi. Specific exercises to opening the pelvis. Tai chi [and] walking I recommend.’ [Practitioner 7, General Practitioner and Acupuncturist]

‘Essential that people stay active. I give advice and examples of the things they need to be doing in terms of rehabilitation. Things like stretches, motions, [and] breathing are vital to the rehabilitation process. Yoga, Pilates and tai chi are all fantastic for rehabilitating.’ [Practitioner 14, Acupuncturist]

### Barriers to the promotion of physical activity to patients with PCa

One main theme and one sub-theme emerged within this topic area.

### Physical activity as an auxiliary issue

This theme highlighted that medical oncologists may not provide physical activity advice as part of their regular consultation. The quotes below highlight reasons for this. Medical oncologists are specialist practitioners who generally see men with advanced PCa (metastatic castrate resistance disease), and in some cases, limited life expectancy. Under such circumstances, physical activity may be an auxiliary issue, as there are other health-related issues needing to be dealt with during the limited time of consultations. Also conveyed was the view that that other health-care practitioners could address physical activity with these men.

‘We see patients at the end of their treatment line. They’ve got castrate resistance disease, metastatic disease, the cancer is spread outside of the prostate.’ [Practitioner 12, Medical Oncologist]

‘When the patient has metastatic disease or castration resistant disease they are always certainly going to die from the cancer.’ [Practitioner 13, Medical Oncologist]

‘I have half an hour. I feel that there are other people who can actually address it, because the patient comes to see me for the expert opinion for the management of their cancer. The other auxiliary issues can be dealt with by other health professionals. No one else is going to give them the advice I can give as a medical oncologist.’ [Practitioner 13, Medical Oncologist]

‘We should probably, but generally we don’t. I don’t think it’s a routine practice. Half an hour for follow up consultations seem like a lot of time, generally there are a lot of other issues to deal with. ... I can tell them about side-effects of drugs or talk about getting blood tests done. I think overwhelming them with too much information, not that I’m saying exercise is not important.’ [Practitioner 12, Medical Oncologist]

‘I would more likely advise them on other things, like their bone health. It depends on what amount of material we need to get through with the patient. There are a lot of medical information aspects and that leaves us very, very time poor to address these other issues.’ [Practitioner 13, Medical Oncologist]

## Discussion

All participants were aware of the literature about the value of physical activity in the management of patients with PCa. In this study, respondents indicated that patients felt to have a longer life expectancy were more likely to be given physical activity advice. Physical activity was also perceived to be beneficial in reducing risk factors for other comorbidities and for improving men’s quality of life and general well-being. These findings regarding the perceived benefits of physical activity for patients with cancer, have been substantiated in previous research that has examined both health-care practitioner perceptions and actual practices regarding physical activity promotion with patients who have cancer.<sup>19,23,25,27,28</sup>

As a sub-group, patients receiving ADT were identified as a priority for physical activity advice by urologists. This was related to the role that physical activity can have in counteracting treatment-related side-effects, such as loss of both muscle and bone mass and weight gain (mainly

fat mass in the abdominal region), and how these physiological changes can increase the risk of developing obesity, osteoporosis, type 2 diabetes and metabolic syndrome.<sup>9,12,29</sup> Verbal advice for a combination of resistance- and aerobic-based exercises was given by urologists. This advice is consistent with the literature, which has demonstrated that both resistance- and aerobic-based exercises are beneficial for improving body composition for men on ADT.<sup>9,10,12,29-31</sup>

Some urologists not only promoted physical activity, but also referred some of their patients to a physiotherapist. Physiotherapists were perceived to be well-trained for providing patients with PCa with physical activity advice and instruction. Urologists are ideally positioned to refer their patients with PCa to physiotherapists. In line with this, the two physiotherapists who took part in the present study discussed how they implemented individualised treatment plans for their patients with PCa.

In addition to including specialists and physiotherapists in this study, we also felt it was important to include complementary and alternative (CAM) practitioners, due to the high uptake of CAM therapies by a range of cancer survivor groups, who perceive that CAM treatment modalities can help provide a holistic treatment approach and improve well-being.<sup>32,33</sup> Acupuncturists were included in the study, as acupuncture is one of the most common CAM treatment modalities.<sup>34</sup> The TCM-trained acupuncturists who took part in the present study discussed how they provided their patients with PCa with physical activity advice consistent with their underlying philosophical principles, which view gentler activities such as walking, yoga and tai chi as healing the body from within.<sup>35</sup>

The three participating medical oncologists stated that providing physical activity advice to their patients with cancer was not routine practice. In general, these oncologists viewed physical activity as an auxiliary issue, as they typically see men with advanced PCa who, in most cases, have limited life expectancy. Previous studies have also cited cases where medical oncologists have not provided their patients with lifestyle-related advice, such as physical activity

advice.<sup>23,36</sup> This practice of the medical oncologists is consistent with the medical ethos of not causing additional harm, as men with advanced PCa also have a higher prevalence of bone metastases and other comorbidities that have traditionally been considered contraindications to many forms of exercise.<sup>31,37</sup> However, there is emerging evidence indicating that regular physical activity, including resistance and aerobic training, can be effective and safe adjunct therapy for men with advanced PCa and bone metastases.<sup>2,37</sup>

Medical oncologists also indicated that time constraints in patient consultations were a major barrier prohibiting them from providing physical activity advice. Other pressing medicine-related issues need to be dealt with during consultations. Medical oncologists held the view that patients with PCa see medical oncologists for their expert advice regarding the treatment of their PCa. They also thought that if they discussed physical activity advice in addition to the medical information they needed to discuss with patients, it would be too much information for patients to process in one consultation. These findings are consistent with other research that found oncologists viewed their primary role as providing patients with specialised knowledge and information regarding treatment options, explaining test results, and discussing other medical-related issues, all of which can be time-consuming.<sup>38</sup> Previous studies designed to ascertain if oncologists provided physical activity advice to their patients with PCa and other populations of patients with cancer also reported that time constraints of consultations prevented discussions regarding physical activity.<sup>23,25</sup> Oncologists were more likely to leave discussions regarding physical activity to other health-care practitioners, such as specialist nurses and physiotherapists.<sup>23,38</sup>

A strength of the present study relates to the methodology used. Specifically, most of the health-care practitioner research in this area has involved quantitative surveys. The qualitative interview-based methodology used allowed participants to voice their views and experiences relating to the topic areas covered. It also allowed participants to discuss other factors they thought pertinent but were not covered by the interview schedule. Another strength of this study relates to

the range of health-care practitioners interviewed, thus providing more insight into how a variety of health-care practitioners view the importance of promoting physical activity to their patients with PCa. A limitation of the present study was that only a small number of practitioners from each type of practitioner group named in the study were interviewed. However, we used purposive sampling to provide a breadth of understanding in terms of different practitioner types. This can aid in the potential transferability of findings to similar health-care practitioner groups.

## Conclusion

A variety of health-care providers (especially urologists) who frequently see patients with PCa were aware of some of the benefits of physical activity to reduce treatment-related side-effects and promoted these benefits to their patients. Some urology practitioners also referred their patients to physiotherapists. While the medical oncologists in this study were less likely to provide physical activity advice, this was because they focused on their primary area of expertise; they are not experts in physical activity promotion. Collaborative practice should be encouraged to verbally reinforce the benefits of physical activity and then to refer patients to appropriate experts (such as physiotherapists) to ensure that patients receive best practice care.

## References

- Ministry of Health. Cancer: new registrations and deaths 2012. Wellington, New Zealand: Ministry of Health; 2015.
- Schmitz KH, Courneya KS, Matthews C, et al. American College of Sports Medicine Roundtable on Exercise Guidelines for Cancer Survivors. *Med Sci Sports Exerc.* 2010;42(7):1409–26. doi:10.1249/MSS.0b013e3181e0c112
- Chan JM, Van Blarigan EL, Kenfield SA. What should we tell prostate cancer patients about (secondary) prevention? *Curr Opin Urol.* 2014;24(3):318–23. doi:10.1097/MOU.0000000000000049
- Demark-Wahnefried W, Aziz NM, Rowland JH, et al. Riding the crest of the teachable moment: promoting long-term health after the diagnosis of cancer. *J Clin Oncol.* 2005;23(24):5814–30. doi:10.1200/JCO.2005.01.230
- Demark-Wahnefried W, Pinto BM, Gritz E. Promoting health and physical function among cancer survivors: potential for prevention and questions that remain. *J Clin Oncol.* 2006;24(32):5125–31. doi:10.1200/JCO.2006.06.6175
- Mosher CE, Sloane R, Morey MC, et al. Associations between lifestyle factors and quality of life among older long breast, prostate, and colorectal cancer survivors. *Cancer.* 2009;115(17):4001–9. doi:10.1002/cncr.24436
- Ornish D, Weidner G, Fair WR, et al. Intensive life-style changes may affect the progression of prostate cancer. *J Urol.* 2005;174:1065–70. doi:10.1097/01.ju.0000169487.49018.73
- Wooten AC, Burney S, Foroudi F, et al. Psychological adjustment of survivors of localised prostate cancer: investigating the role of dyadic adjustment, cognitive appraisal and coping style. *Psychooncology.* 2007;16:994–1002. doi:10.1002/pon.1159
- Galvão DA, Nosaka K, Taaffe DR, et al. Resistance training and reduction of treatment side effects in prostate cancer patients. *Med Sci Sports Exerc.* 2006;38(12):2045–52. doi:10.1249/01.mss.0000233803.48691.8b
- Galvão DA, Taaffe DR, Spry N, et al. Exercise can prevent and even reverse adverse effects of androgen suppression treatment in men with prostate cancer. *Prostate Cancer Prostatic Dis.* 2007;10(4):340–6. doi:10.1038/sj.pcan.4500975
- Monga U, Garber SL, Thornby J, et al. Exercise prevents fatigue and improves quality of life in prostate cancer patients undergoing radiotherapy. *Arch Phys Med Rehabil.* 2007;88:1416–22. doi:10.1016/j.apmr.2007.08.110
- Segal RJ, Reid RD, Courneya KS, et al. Resistance exercise in men receiving androgen deprivation therapy for prostate cancer. *J Clin Oncol.* 2003;21(9):1653–9. doi:10.1200/JCO.2003.09.534
- Frattaroli J, Weidner G, Kemp C, et al. Clinical events in prostate cancer lifestyle trial: results from two years' follow-up. *Urology.* 2008;72:1319–23. doi:10.1016/j.urolgy.2008.04.050
- Antonelli J, Freedland SJ, Jones LW. Exercise therapy across the prostate cancer continuum. *Prostate Cancer Prostatic Dis.* 2009;12(2):110–5. doi:10.1038/pcan.2009.4
- Richman EL, Kenfield SA, Stampfer MJ, et al. Physical activity after diagnosis and risk of prostate cancer progression: data from the cancer of the prostate strategic urologic research endeavor. *Cancer Res.* 2011;71(11):3889–95. doi:10.1158/0008-5472.CAN-10-3932
- Boisen S, Krageloh CU, Shepherd D, et al. A cross-sectional comparison of quality of life between physically active and under-active older men with prostate cancer. *J Aging Phys Act.* 2016;24:642–8. doi:10.1123/japa.2015-0195
- Thorsen L, Courneya KS, Stevinson C, et al. A systematic review of physical activity in prostate cancer survivors: outcomes, prevalence, and determinants. *Support Care Cancer.* 2008;16:987–97. doi:10.1007/s00520-008-0411-7
- Daley AJ, Bowden SJ, Rea DW, et al. What advice are oncologists and surgeons in the United Kingdom giving to breast cancer patients about physical activity? *IJBNPA.* 2008;5:46.
- Jones LW, Courneya KS, Fairey AS, et al. 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.* 2004;28(2):105–13. doi:10.1207/s15324796abm2802\_5
- Keogh JW, Patel A, MacLeod RD, et al. Perceptions of men with prostate cancer on the role of physical activity in maintaining quality of life: influence of androgen-deprivation therapy. *Psychooncology.* 2013;22:2869–75. doi:10.1002/pon.3363
- Rabin C. Promoting lifestyle change among cancer survivors: when is the teachable moment? *Am J Lifestyle Med.* 2009;3(5):369–78. doi:10.1177/1559827609338148

22. Karvinen KH, McGourty S, Parent T, et al. Physical activity promotion among oncology nurses. *Cancer Nurs*. 2012;35(3):E41–8. doi:10.1097/NCC.0b013e31822d9081
23. Spellman C, Craike M, Livingston PM. Knowledge, attitudes and practices of clinicians in promoting physical activity to prostate cancer survivors. *Health Educ J*. 2014;73:566–75. doi:10.1177/0017896913508395
24. Stevinson C, Fox KR. Role of exercise for cancer rehabilitation in UK hospitals: a survey of oncology nurses. *Eur J Cancer Care (Engl)*. 2005;14:63–9. doi:10.1111/j.1365-2354.2005.00514.x
25. Williams K, Beeken RJ, Fisher A, et al. Health professionals' provision of lifestyle advice in the oncology context in the United Kingdom. *Eur J Cancer Care (Engl)*. 2015;24:522–30. doi:10.1111/ecc.12305
26. Auerbach C, Silverstein L. *Qualitative data. An introduction to coding and analysis*. New York: New York University Press; 2003.
27. O'Hanlon E, Kennedy N. Exercise in cancer care in Ireland: a survey of oncology nurses and physiotherapists. *Eur J Cancer Care (Engl)*. 2014;23(5):630–9. doi:10.1111/ecc.12206
28. Park JH, Minsuk Oh, Yoon YJ, et al. Characteristics of attitude and recommendations of oncologists toward exercise in South Korea: a cross sectional survey. *BMC Cancer*. 2015;15:249. doi:10.1186/s12885-015-1250-9
29. Gardner JR, Livingston PM, Fraser SF. Effects of exercise on treatment-related adverse effects for patients with prostate cancer receiving androgen-deprivation therapy: a systematic review. *J Clin Oncol*. 2014;32(4):335–46. doi:10.1200/JCO.2013.49.5523
30. Culos-Reed SN, Robinson JW, Lau H, et al. Physical activity for men receiving androgen deprivation therapy for prostate cancer: benefits from a 16-week intervention. *Support Care Cancer*. 2010;18:591–9. doi:10.1007/s00520-009-0694-3
31. Galvão DA, Taaffe DR, Cormie P, et al. Efficacy and safety of a modular multi-modal exercise program in prostate cancer patients with bone metastases: a randomized controlled trial. *BMC Cancer*. 2011;11:517. doi:10.1186/1471-2407-11-517
32. Fouladbakhsh JM, Stommel M, Given BA, et al. Predictors of use of complementary and alternative therapies among patients with cancer. *Onco Nurs Forum*. 2005;32(6):1115–22.
33. Patterson RE, Neuhouser ML, Hedderson MM, et al. Types of alternative medicine used by patients with breast, colon, or prostate cancer: predictors, motives and costs. *J Altern Complement Med*. 2002;8(4):477–85. doi:10.1089/107555302760253676
34. Patel A, Toossi V. Traditional Chinese medicine practitioners in New Zealand: differences associated with being a practitioner in New Zealand compared to China. *N Z Med J*. 2016;129(1444):35–42.
35. Hicks A. *88 Chinese medicine secrets. How to cultivate lifelong health, wisdom and happiness*. How to Books. London: United Kingdom; 2011.
36. Anderson AS, Caswell S, Wells M, et al. Obesity and lifestyle advice in colorectal cancer survivors – how well are clinicians prepared? *Colorectal Dis*. 2013;15:949–57. doi:10.1111/codi.12203
37. Cormie P, Galvao DA, Spry N, et al. Functional benefits are sustained after a program of supervised resistance exercise in cancer patients with bone metastases: longitudinal results of a pilot study. *Support Care Cancer*. 2014;22(6):1537–48. doi:10.1007/s00520-013-2103-1
38. Leahy M, Krishnasamy M, Herschtal A, et al. Satisfaction with nurse-led telephone follow up for low to intermediate risk prostate cancer patients treated with radical radiotherapy. A comparative study. *Eur J Oncol Nurs*. 2013;17(2):162–9. doi:10.1016/j.ejon.2012.04.003

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**COMPETING INTERESTS**

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