EDITORIAL

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Physical activity advice could become part of routine care for colorectal cancer survivors

“With significant collaborative efforts between research and clinical teams, and with appropriate funding, physical activity could become part of usual care for colorectal cancer patients.”

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Physical activity in colorectal cancer survivors

Colorectal cancer (CRC) is the fourth most common cancer in the UK [1]. In observational studies, regular participation in physical activity by CRC survivors has been found to be associated with positive health outcomes [2–4]. For example, in a recent meta-analysis of prospective cohort studies those who participated in high levels of physical activity after diagnosis (vs low levels) had a significantly lower risk (relative risk: 0.65; 95% CI: 0.47–0.92) of CRC-specific mortality, and a similar inverse association was found for all-cause mortality [3]. However, despite potential benefits, physical activity levels in this population are low during and after treatment [5,6].

Meta-analytic data from randomized controlled trials (RCTs) of physical activity in cancer survivors of mixed diagnoses (but mostly breast cancer) show improvements in many outcomes that are of particular importance to patients, including reductions in cancer-related fatigue and improved quality of life [7,8]. A recent review and meta-analysis of physical activity trials specifically in CRC found only five RCTs including a total of 238

patients [9], strongly highlighting the need for more research. However, despite the small numbers included, physical activity had strong positive effects on fitness [9]. An RCT to examine effects of physical activity on disease-related outcomes in CRC ‘CHALLENGE’ [10] is currently underway, and findings from this important trial have the potential to impact on guidelines for treatment. Simultaneously, ‘real-world’ pragmatic trials that demonstrate that physical activity can be embedded into usual care are required.

Physical activity interventions in medical settings

It is feasible that a physical activity recommendation from a health professional could influence behavior. Receiving physical activity advice in primary care has been shown to increase physical activity levels in sedentary adults [11]. Interestingly, emerging research suggests receiving advice from medical professionals on the benefits of physical activity may be an effective strategy to increase activity levels in cancer survivors. Fisher *et al.* investigated the association between recalling receiving physical activity advice and physical activity levels in a sample of 15,254 CRC

KEYWORDS

• advice • colorectal cancer
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survivors residing in England [12]. It was found that 31% of participants recalled receiving advice and those who recalled receiving this advice were more likely to participate in brisk physical activity (51% in the advice group vs 42% in the no advice group) and meet the physical activity guidelines (25 vs 20%). An important point to note is that this study was cross-sectional and relied on patient recall. However, findings of an RCT in breast cancer survivors demonstrated that oncologist's advice significantly increased physical activity, although follow-up was only 5 weeks [13]. While a clinician's advice may be motivating in a patient enrolling in a physical activity program, for sustained behavior change to be observed, additional support would likely be required. One promising notion is the idea of using or adapting services that exist for other chronic conditions (e.g., exercise referral services). However, the efficacy of these services in increasing physical activity in CRC must first be demonstrated. Promising pilot work by Hubbard *et al.* in the UK suggests that cardiac rehabilitation exercise services may be feasible for use in CRC survivors [14], and this important work should be continued.

When & who should give advice on physical activity?

Limited literature exists on when in the care pathway physical activity advice should be given to those diagnosed with CRC. CRC survivors express desire to increase physical activity levels [15], but the proportions who recall receiving any advice is currently low [12]. However, surveys are often limited by the use of retrospective recall, and valuable research could test the feasibility, acceptability and efficacy of physical activity advice and support at different points in the care pathway. Early intervention would be particularly important if research can demonstrate benefits of being fit before colorectal surgery, demonstrating that physical activity enhances responses to treatments or prevents disease progression (although these factors remain to be established in trials in patients with CRC and are an important area for future research). Additionally, patients with more advanced disease are an under-researched group in the lifestyle context, and trials examining the benefits in these patients would certainly be warranted.

Clinicians dealing with cancer survivors are in a good position to offer activity advice and they are often the patients' reported preferred source

of information. For example, O'Leary *et al.* critically assessed the literature focusing on information use by early-stage breast cancer patients [16]. A total of 25 articles were included and the highest ranked information sources accessed and preferred were physicians. After receiving lifestyle advice from a medical professional a patient may be more motivated to change their behavior. In support, Russell *et al.*'s seminal study on the effect of general practitioners advice against smoking found that motivation and intention to stop smoking increased after receiving the advice [17]. However, clinicians face a number of significant barriers to being able to give physical activity advice. In a survey completed by 323 CRC clinicians in Scotland, only 52% reported being familiar with any lifestyle advice for patients with CRC and many felt they lacked the skills, confidence and knowledge to discuss it [18]. One option may be to embed programs specifically designed to train health professionals in physical activity for cancer, such as the UK-based program CanRehab [19], in continued professional development.

Lack of specific guidelines are another barrier; in a survey of 274 oncology nurses working with CRC patients, being 'unsure what to recommend' was strongly related to whether they gave advice or not [20]. This is unsurprising, since the question of how much and what to recommend still remains unclear in CRC. However, until robust evidence exists that can define the doses required to improve health outcomes, it seems appropriate to follow the American College of Sports Medicine roundtable recommendations that cancer survivors should follow the guidelines of ≥ 150 per week of at least moderate activity, and that some appropriate strength-based training is likely beneficial [21]. Any physical activity recommendation must take into account specific diagnosis, treatments, current condition, comorbidities and exercise history. However, it has been recommended that clinicians should at least advise all cancer survivors to 'avoid inactivity' where possible [21]. An additional (and not insignificant) barrier for clinicians in providing physical activity advice is lack of time, and this is a barrier that will likely increase, rather than diminish, in future.

Therefore, it is our role as researchers working in the field of physical activity oncology to bridge these significant gaps by conducting rigorous research to demonstrate beneficial effects of physical activity on disease-specific outcomes

and identifying the appropriate dosages for CRC patients, and identifying/developing evidence-based referral pathways to enable clinicians to 'prescribe' physical activity for their CRC patients.

Conclusion

Evidence of the benefits of physical activity after a diagnosis of CRC are continually emerging. With significant collaborative efforts between research and clinical teams, and with appropriate funding, physical activity could become part of usual care for CRC patients.

Dedication

In memory of Professor Jane Wardle (1950–2015).

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