

## Commentary on Lifestyle Interventions Are Feasible in Patients with Colorectal Cancer with Potential Short-Term Health Benefits

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### The problem

With the increasing incidence and heavy disease burden of colorectal cancer, there is a new need to improve the quality and length of survivorship in patients with this illness. The management of colorectal cancer involves multi-disciplinary working through multi-modal treatment pathways and in itself has significant effects on the physical and psychological health of patients. Major surgery, adjuvant and neo-adjuvant chemotherapy and radiotherapy, and the possibility of a stoma are included in the list of challenges patients must overcome in their journey through the treatment of this illness.

One such strategy to improve the quality and length of survivorship is lifestyle interventions. Modification of lifestyle factors has been shown to play a role in reducing the risk of developing colorectal cancer, including modifications in excess weight, poor diet, smoking, alcohol excess and physical inactivity [1-6]. However, given the difficulty in performing randomised controlled trials in lifestyle interventions in colorectal cancer, there is doubt about the feasibility of such interventions [7,8]. With this in mind, we have recently published a systematic review [9] which sought to collate the evidence for the feasibility of performing lifestyle factor interventions in patients with colorectal cancer, allowing conclusions on the short and long-term health benefits to be drawn.

### Feasibility

We identified 14 randomised controlled trials investigating either physical activity or diet/excess body weight, or both, in patients with colorectal cancer - there were no randomised controlled trials investigating smoking or alcohol consumption [10-25]. The interventions consisted mainly of telephone-prompted walking or cycling interventions and were mostly in the adjuvant setting. Dietary interventions focused on low-fat, high-fibre diets and were mostly part of multi-modal lifestyle interventions. We noted a low drop-out rate among these interventions, suggesting they are feasible. Although the majority were performed in the adjuvant setting, we also noted interventions being performed in the neo-adjuvant setting (including pre-habilitation) and even many years after completion of treatment.

### Short-term outcomes and crossover benefits

In addition to a low drop-out rate among these randomised controlled trials we also noted short-term improvements in both physical health (dietary quality, physical fitness) and quality of life. It

should also be mentioned that many of these trials recruited from populations of patients with no one individual cancer, i.e. not specifically colorectal cancer. These findings reinforce the importance of correcting lifestyle factors not solely in colorectal cancer, but in many other cancers. Furthermore, given the well-documented and widely accepted role of lifestyle factors in the development of many other widespread diseases (cardiovascular disease, cerebrovascular disease, diabetes) [26], any lifestyle interventions to improve the quality of physical and psychological survivorship in patients with cancer will undoubtedly have crossover benefits for risk management of these diseases also. Quality of life and psychological/spiritual health are also likely to benefit.

### Limitations

In spite a low drop-out rate, we noted heterogeneity in the type and duration of interventions being performed. In physical activity studies, exact interventions varied and contained aerobic and/or strength components and follow-up varied between 1 month and 24 months. In dietary studies, follow-up was equally varied and interventions consisted of telephone-based programmes, individualised nutrition counselling, and psychological intervention. Such heterogeneity suggests there is uncertainty surrounding the ideal type, duration and intensity of intervention. Given the similar heterogeneity present in the many treatment pathways for colorectal cancer it is likely that the ideal lifestyle intervention will be tailored to each individual patient.

### Linking in with established treatment pathways

Following on from the above, given the individualised treatment pathways of each patient with colorectal cancer, several possibilities for lifestyle intervention may need to be made available to each patient, and the final one chosen will be most suited to their pathway but will also take account of their choice. Furthermore, interventions which are designed to integrate with current, well established treatment pathways will likely have higher uptake and less drop-out. As such, this is our recommendation for future trial design and for any lifestyle factor interventions being proposed.

### Implications for nursing

Given the multidisciplinary nature of colorectal cancer treatment, lifestyle factor interventions are of great relevance to nursing, medical and allied health professional staff alike. Opportunities for intervention exist at multiple stages along treatment pathways and could be facilitated by many of the multiple individual nursing roles in colorectal cancer management (e.g. in the adjuvant setting with specialist colorectal cancer nursing or stoma nursing; or in the neo-

adjuvant or preventative setting with community nursing). Furthermore, due to the commonly increased contact time between nurses and patients in comparison with medical staff or other allied health professionals, and strong working relationships developed as a result of treatment pathways lasting from months to years to lifetimes, nursing staff will be well placed to deliver such interventions. Finally, the public health benefits of lifestyle factor interventions not only in improving cancer incidence and survival, but also in improving outcomes for many other widely prevalent diseases (cardiovascular disease, cerebrovascular disease, diabetes), will have downstream benefits for patients and nursing staff alike, and will allow the focus of care to be shifted from disease management to disease prevention.

## Conclusion

Our systematic review has shown that lifestyle factor interventions in patients with colorectal cancer are feasible and bring significant short-term benefits in both physical and psychological health. Such interventions are also likely to bring improvements to survival in other diseases where lifestyle factors are heavily implicated. Treatment of colorectal cancer is defined by pathways specific to each individual patient and there is opportunity for intervention at many stages along these pathways, interventions to which the profession of nursing would lend itself well.

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