A multidisciplinary intervention to facilitate return to work in cancer patients: intervention protocol and design of a feasibility study.

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Supplementary file.

Development of the intervention

Methods

To develop the intervention, we 1) searched scientific literature, 2) conducted interviews, and 3) organised an expert meeting with relevant care providers. First, we used PubMed to search for publications on the effects and content of interventions aimed at RtW of cancer patients, and on the effects and content of interventions for cancer patients that consisted of physical exercise. In our search, we used the following text words: 'return to work', 'work resumption', 'occupational rehabilitation', vocational rehabilitation', 'counselling', 'cancer rehabilitation', 'physical exercise', 'exercise training', 'cancer patient', cancer survivor', 'intervention', 'program', 'trial', and 'effect*'. We also searched for qualitative studies on cancer patients' needs for and experiences with RtW by using the text words 'experiences', 'needs', 'views', 'opinions', 'interviews', and 'qualitative'. Second, we performed interviews and conducted an expert meeting to assess care providers' opinions on counselling and physical exercise for cancer patients. With regard to work-related counselling, we interviewed two Dutch occupational physicians because they were qualified as clinical occupational physicians and specialised in counselling of cancer patients following primary treatment. In the Netherlands, these two oncological occupational physicians (OOPs) were unique in their expertise. We also interviewed a social worker who was involved in in-hospital counselling on RtW of cancer patients during and after primary treatment as part of a randomised controlled trial.[1] We asked these three care providers for their opinions on the appropriate moment to initiate counselling and on the optimal frequency and content of counselling sessions. Moreover, we asked what medical information would be required to support counselling. For the physical exercise aspect of the intervention, we held an expert meeting with two sports medicine physicians and a physiotherapist. These three care providers were recruited because they were employed in one of the few hospitals in the Netherlands that offers in-hospital physical exercise for cancer patients. One sports medicine physician and the physiotherapist had been involved in a randomised controlled trial on physical exercise following cancer treatment.[2] The other sports medicine physician had been involved in a physical exercise program conducted during cancer treatment. Because of their experience, these three care providers were involved in the current feasibility study. Using open questions, we asked for their opinions on the initiation point, the frequency, and the content of physical exercise for cancer patients during treatment. To enable determination of baseline exercise work load in cancer patients, we also asked for

appropriate methods of exercise testing. Additionally, we interviewed an oncologist regarding the appropriate timing of physical exercise and possible interference of physical exercise with chemotherapy.

Results: Literature search

Three systematic reviews were obtained that detailed interventions aimed at RtW of cancer survivors.[3-5] The most recent systematic review showed moderate-quality evidence of positive effects of multidisciplinary interventions comprising education or counselling, and exercise on RtW.[3] In the studies showing positive effects, the counsellor provided information and discussed coping skills[6] or encouraged RtW.[7] In more recent studies on RtW in cancer patients, we found determinants of RtW that were addressed during counselling, e.g., self-reported ability to work,[8] positive attitude towards RtW, and social support.[9] From the qualitative research, we learned that cancer patients expressed a need for emotional and practical support from their supervisor and occupational physician,[10-13] such as the provision of disease-related information on RtW, adjustments in workplace and working hours, and development of a comprehensive plan for RtW.[12;13] Some patients indicated that RtW counselling should be incorporated into regular cancer care.[10] With regard to physical exercise, we found a recent guideline on physical exercise for cancer survivors from the American College of Sports Medicine (ACSM). The ACSM concluded that moderate-to-high-intensity physical exercise during and after treatment can be safe and can have positive effects on cardiorespiratory fitness, muscle strength, fatigue, and quality of life.[14] The training intensity should be individualised according to pre-treatment fitness and monitored throughout the exercise program.[14] In exercise prescriptions, comorbidities, response to treatment, and the persistent and immediate negative effects of treatment should be taken into account.[14] Training should preferably include both aerobic and resistance exercises. Interval training during treatment appeared safe[15] and had greater effects on cardiorespiratory fitness than endurance training.[16] Moderate-to-high-intensity resistance training appeared feasible and more effective than low-intensity resistance training.[17] To prevent loss of cardiorespiratory fitness, initiating exercise soon after diagnosis was recommended, which enabled the patient to remain physically active in daily life and ensured a higher motivation to start exercising.[17] Based on this literature, we concluded that multidisciplinary interventions can be effective in RtW. Counselling could include the provision of information and a discussion on work ability and social support. Physical exercise could consist of carefully monitored moderate-to-high intensity interval and resistance training.

Results: interviews and expert meeting

During the 3 interviews with the OOPs and social worker, we learned that some cancer patients return to work during treatment, whereas others do not return until the end of treatment. The OOPs and social worker suggested that to enhance timely RtW, counselling should start at the onset of therapy.

Because patients differ in their pace and requirements for RtW, up to three tailored counselling sessions should be offered throughout treatment. These care providers suggested that counselling sessions include provision of information on regulations regarding sick leave and the consequences of cancer for work. Furthermore, the physical and mental capacity to work, the support from colleagues and supervisor, and possibilities for and barriers to work should be discussed. Finally, advice should be provided on a gradual resumption of work, if applicable, and the relevant necessary adjustments in hours, tasks, and responsibilities. The OOPs stated that they required information on the patient's diagnosis and treatment. Furthermore, an opportunity to view the results of a sports medical assessment of the patient would be appreciated. Specifically, they suggested that cardiorespiratory fitness could be used as an indicator of capacity to work, as previously described by Kaleta et al.[18] Moreover, they noted that information on physical disabilities, as determined by the sports medical assessment, could aid in the estimation of a patient's ability to perform certain work-related tasks. Finally, the three occupational care providers concluded that the OOP's advice could serve as a basis for the RtW plan, which should be composed by the patient, the supervisor at work, and the company's OP. With regard to physical exercise, the oncologist, sports medicine physicians, and physiotherapist agreed on initiating physical exercise early during treatment, preferably prior to the first chemotherapy cycle. The oncologist did not expect interference between chemotherapy and physical exercise. The sports medicine physicians and the physiotherapist agreed that physical exercise should be provided twice a week for at least 12 weeks, to achieve an effect from the training. The sports medicine physicians and the physiotherapist suggested moderate-to-high intensity interval and resistance training, in groups of four to six patients. The intensity of exercises could be adjusted every four weeks. They recommended an interval training consisting of two blocks of eight minutes and a resistance training involving seven exercises covering all large-muscle groups. Thus, we concluded that the OOP could offer up to three counselling sessions throughout treatment, comprising several topics including capacity to work, barriers to, and possibilities for work. Sports medical information may be used to support advice on RtW. Additionally, a 12-week twice-weekly group-based moderate-to-high intensity exercise training can be offered, to initiate at the onset of chemotherapy, which can be adjusted at four-week intervals.

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