A Self-Management Program for Cancer Survivors With Metabolic Syndrome Using Intervention Mapping

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Purpose:

Cardiovascular disease (CVD) in cancer survivors has a negative impact on life expectancy, mortality, and quality of life. Metabolic syndrome (MetS) is a phenomenon in which an individual develops the key risk factors of CVD, and studies have determined that this syndrome increases the risk of CVD approximately two-fold meaning that cancer survivors must be particularly monitored for this condition. Thus, cancer survivors must recognize the association between MetS and CVD, and medical interventions seeking to prevent such survivors from contracting MetS have largely focused on improving lifestyles and habits.

Lifestyle intervention is the initial strategy for the prevention and treatment of MetS, and that possessing a healthy lifestyle is an essential factor for delaying or preventing the onset of MetS in vulnerable populations, including cancer survivors. Self-management involves an individual's direct participation in the management of his/her own health, and is defined as an individual's capability to manage both their physical and mental symptoms, consequent treatment, and lifestyle. More specifically, behavioral changes and lifestyle improvements in cancer survivors are affected by various factors other than anticancer therapy and, therefore, the development of a suitable self-management program must be approached and analyzed from various angles.

Intervention mapping protocol (IM) is a method of systematically designing an evidence-based intervention program that assesses personal and environmental factors associated with key health-related issues, and it also involves the application of theoretical methods and practical strategies that combat these factors and consequently resolve the issue. The purpose of this study was to apply intervention mapping protocol to develop a self-management program for cancer survivors with metabolic syndrome.

Methods:

To develop the self-management program, the intervention mapping protocol was applied as follows: 1) a needs assessment was performed, using data sourced from a literature review, questionnaire, and one-on-one interviews conducted in a previous related study; 2) the objectives of the intervention were formulated and the determinants of self-management behaviors for cancer survivors with metabolic syndrome were identified; 3) theory-based methods and practical applications were selected; 4) an intervention program was developed; finally, 5) implementation and evaluation plans were developed.

Results:

First, through the literature review, we identified 16 interventional studies concerning MetS patients, with most focusing on the improvement of self-management in such patients. Furthermore, we assessed the information needs of cancer survivors using the interview results of a previous study. According to this previous study, most cancer survivors have low knowledge levels regarding their conditions and desire detailed information concerning MetS. Moreover, the interviews also showed that the patients considered
MetS management to be important for their health and quality of life; hence, they desired consultations with healthcare providers.

Based on the needs assessment, the ultimate goal of the intervention was set as “developing a self-management program for cancer survivors with MetS,” which contained the aim of improving the health status of the target population. There is systematic evidence available regarding effective methods that stimulate self-management behavior among cancer survivors. The self-management program for cancer survivors with MetS focuses on behavioral change by enhancing self-management capabilities. The determinants of cancer survivors were identified to be attitude, self-efficacy, social influence, knowledge, and skills; consequently, the methods of behavioral change were added to the self-management program to influence these determinants.

The final self-management program aimed to improve the health status of tailored cancer survivors with metabolic syndrome. It consisted of twelve weekly sessions that emphasized self-management, such as through enhancing nutrition and exercise. Further, this self-management program represents a modified version of those produced in previous intervention studies focusing on lifestyle interventions for MetS and exercise interventions for breast cancer survivors. The product of step 5 is a brief manual describing a suitable physical exercise regimen and balanced diet for cancer survivors with MetS. Throughout the self-management program participants can engage in consultations with the implementers by e-mail or telephone.

For this study in the fifth step, a plan for the recruitment of participants, including inclusion criteria, was designed. The sixth step concerns developing a plan for evaluating the study. Specifically, the aim here is to determine whether the intervention successfully achieves the goal of the program. The post-evaluation of the program is conducted at sessions 8 and 12, with the primary outcome measure being the participants’ self-care agency. Moreover, a qualitative evaluation is conducted at the end of the program; here, a researcher interviews the participants to determine their expectations of the program, experiences during the program, benefits obtained, and future expectations.

Conclusion:

The intervention mapping protocol provided a useful framework for systematically designing a self-management program for cancer survivors with metabolic syndrome. In particular, it will help cancer survivors maintain a healthy lifestyle through engaging in self-management and will ultimately contribute to improving cancer survivors’ health. The next step is to evaluate the impact this intervention has on health status.

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Abstract Summary:

The purpose of this study was to apply intervention mapping protocol to develop self-management program for cancer survivors with metabolic syndrome. The final self-management program consisted of twelve weekly sessions aimed to improve the health status of tailored cancer survivors with metabolic syndrome that emphasized self-management through enhancing nutrition and exercise.

Content Outline:

I. Introduction

A. Cardiovascular disease (CVD) in cancer survivors has a negative impact on life expectancy, mortality, and quality of life. Metabolic syndrome (MetS) is a phenomenon in which an individual develops the key risk factors of CVD, and studies have determined that this syndrome increases the risk of CVD approximately two-fold meaning that cancer survivors must be particularly monitored for this condition. Cancer survivors must recognize the association between MetS and CVD, and medical interventions seeking to prevent such survivors from contracting MetS have largely focused on improving lifestyles and habits.

B. The purpose of this study was to apply intervention mapping protocol to develop a self-management program for cancer survivors with metabolic syndrome.

II. Body

A. Main Point #1 Intervention mapping protocol is a systematic approach for conducting the theory-based development of an intervention.

1. Supporting point #1 There are the six-steps of intervention mapping protocol

   a) Step 1. Conduct a Needs Assessment

   b) Step 2. Create Matrices of the Change Objectives

   c) Step 3. Select Theory-Based Methods and Practical Applications

   d) Step 4. Development of a Program
e) Step 5. Plan for Implementation of the Program

f) Step 6. Generate an Evaluation Plan

B. Main Point #2 The focus of this study is to provide a detailed overview of how IM can be used in the development of a self-management program for cancer survivors with MetS.

1. Supporting point #1 Step 1. Conduct a Needs Assessment

a) The needs assessment included a literature review concerning cancer survivors with MetS and analysis of data from interviews conducted in a previous related study.

b) First, through the literature review, we identified 16 interventional studies concerning MetS patients, with most focusing on the improvement of self-management in such patients.

2. Supporting point #2 Step 2. Create Matrices of Change Objectives

a) Based on the needs assessment, the ultimate goal of the intervention was set as "developing a self-management program for cancer survivors with MetS," which contained the aim of improving the health status of the target population.

b) Regarding the cancer survivors' behaviors, the main determinants of behavior change were categorized into attitude, social influence, self-efficacy.

3. Supporting point #3 Step 3. Select Theory-based Methods and Practical Applications

a) There is systematic evidence available regarding effective methods that stimulate self-management behavior among cancer survivors.

b) The self-management program for cancer survivors with MetS focuses on behavioral change by enhancing self-management capabilities.


a) The self-management program for cancer survivors with MetS produced in this study consisted of 12 weekly group sessions of one hour each.

b) This self-management program represents a modified version of those produced in previous intervention studies focusing on lifestyle interventions for MetS and exercise interventions for breast cancer survivors.

5. Supporting point #5 Step 5. Plan for Implementation of the Program

a) For this study in this step, a plan for the recruitment of participants, including inclusion criteria, was designed.

b) The product of this step is a brief manual describing a suitable physical exercise regimen and balanced diet for cancer survivors with MetS. Throughout the self-management program participants can engage in consultations with the implementers by e-mail or telephone.

a) The post-evaluation of the program is conducted at sessions 8 and 12, with the primary outcome measure being the participants’ self-care agency.

b) Moreover, a qualitative evaluation is conducted at the end of the program; here, a researcher interviews the participants to determine their expectations of the program, experiences during the program, benefits obtained, and future expectations.

III. Conclusion

A. The intervention mapping protocol provided a useful framework for systematically designing a self-management program for cancer survivors with metabolic syndrome.

B. In particular, it will help cancer survivors maintain a healthy lifestyle through engaging in self-management and will ultimately contribute to improving cancer survivors’ health.

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