MELODIC MENTAL HEALTH SUPPORT FOR YOUNG ADULTS WITH CANCER

# MELODIC

## Mental Health Support for Young Adults with Cancer

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**WP4: Improvement of mental health and well-being of YAs with cancer**

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# Executive Summary

Young adults (YAs) between the ages of 18 and 35 with cancer constitute a particularly vulnerable and underserved demographic within the cancer care framework. A cancer diagnosis significantly alters their daily lives and complicates essential developmental milestones, including achieving independence and building relationships. Research indicates that YAs need targeted psychosocial support throughout their treatment journey, which includes access to information, counselling, practical assistance, and opportunities for social engagement and peer support.

Incorporating psychosocial care into standard treatment protocols has been shown to alleviate distress, improve quality of life, and potentially enhance survival rates. Additionally, interventions that emphasise nature-based activities and physical exercise have been linked to improved quality of life and mental health outcomes for cancer patients. Given that young adults represent a minority within the overall cancer patient population, existing interventions predominantly focus on older age groups. Consequently, despite the profound impact of cancer on young adults and the documented unmet psychosocial needs within this group, there are limited interventions developed specifically for their circumstances.

The MELODIC project aims to promote the mental health and well-being of young adults with cancer, alongside their family members and caregivers. This will be accomplished by improving the screening, timely detection, and management of mental health needs during the critical period of the first 24 months post-diagnosis. The project seeks to evaluate the feasibility and effectiveness of an innovative intervention inspired by social prescribing, which merges regular exercise and physical activities in natural environments with information support tailored for young adults and their families. The study adopts a pre-post intervention design, targeting participants who are young individuals aged 18 to 35 years without any medical contraindications to participation.

The present Intervention Manual has been developed by MELODIC partners to guide healthcare professionals in delivering the intervention to YAs with cancer and their family and caregivers.

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## 1. The MELODIC Intervention

The intervention is thoughtfully designed to offer a holistic approach that addresses the physical, psychological, and social dimensions of well-being for young adults (YAs) with a lived experience of cancer, as well as their caregivers. By integrating information support with structured physical activity and peer support, this initiative ensures a comprehensive experience. Adopting a multidisciplinary strategy, the program leverages the expertise of a diverse range of professionals, including mental health specialists, oncologists, physiotherapists, exercise physiologists, cancer nurses, and other healthcare professionals, to provide a well-rounded experience. The core strength of this research resides in its capacity to empower individuals diagnosed with cancer. This empowerment is facilitated through a multifaceted approach encompassing information support to enhance knowledge, exercise to foster empowerment, and opportunities for engagement with nature through activities such as walks, socialisation, and reflective practices. By offering a varied selection of interventions in both quantity and quality, this initiative allows each young adult with cancer to explore different options, ultimately guiding them to identify the most appropriate choices tailored to their unique needs.

The intervention consists of the following three components:

1. Interactive information support sessions
2. Online physical exercises
3. Guided group walks in natural surroundings

# 2. Component 1. Interactive information support sessions

**Description:**

The information support component will consist of three online interactive group sessions for YAs and their family members and caregivers facilitated by trained healthcare professionals (HCPs) at baseline, 1.5 months, 3 months following the start of the intervention, and a follow-up post-test 3 months after the end of the intervention. If preferred and depending on local circumstances, in-person sessions can also be conducted. The interactive sessions will last approximately

60-90 minutes, and each will follow a pre-planned schedule that allows for discussion.

**Objectives:**

- To provide information and education for YAs and their families on living with cancer and supports available to them.
- To create an environment that encourages social interaction among young adults and their caregivers and facilitates peer support.
- To assist YAs and their family members in adjusting psychologically to the cancer diagnosis and reducing psychological and emotional distress.
- To assist YAs and their caregivers to maintain a positive outlook as they live with cancer and encourage and support participation in care and self-management of own health active involvement in a treatment plan.

**Rationale. Information support as adapted psychoeducation, and why is it important?**

Psychoeducation is a therapeutic approach that involves giving individuals with a lived experience of cancer, their families, and caregivers information about the impact of cancer on all aspects of an individual's life, normalising feelings and reactions, adjustments to cancer diagnosis and treatment, coping and self-care, discussing concerns, problem-solving and coping skills training, supporting expressions of emotions, and social support (Barsevick et al., 2002; McFarland & Hlubocky, 2019; Mirhosseini et al., 2025).

Young adults aged 18 to 35 who have faced cancer are a vulnerable group in the cancer care system. A cancer diagnosis disrupts their lives and interferes with important milestones, such as becoming independent, building relationships, and planning for the future. Since they are still developing, they may not have fully learned how to cope with stress or navigate complex social situations (Coccia et al., 2018).

Research indicates that integrating early psychosocial cancer care into standard treatment can reduce distress and enhance quality of life, both during and after cancer treatment, which may increase survival rates (Cheng et al., 2025; Caruso & Breitbart, 2020). Psychoeducation is important for YAs with a lived cancer experience and their family carers, friends and other informal support persons because it increases understanding of the cancer diagnosis, improves treatment

adherence and management of condition. Furthermore, it helps them to recognise, normalise, and understand the feelings they may experience, improves coping skills, and enhances communication, which can lead to a greater sense of control during this difficult time (Niu et al., 2021).

**Guidelines for Healthcare Professionals delivering information support sessions**

(Instructions/handouts)

In-person or online

Duration – 90 minutes

Location/venue (if in-person)

Other practical issues

**Detailed description of information support sessions**

**1) information support session 1**

In regard to delivering support to YAs in stages of cancer, a subgroup was created with to develop the structure and content of the information support session and prepare a template how to deliver each session. The participants may be living in two stages of cancer (after being diagnosed with cancer and undergoing cancer treatment and in a survivorship stage), and their needs differ significantly. Therefore, it is important to be aware of the risk of emotional distress in the YAs who survived cancer and pay careful attention to emotional sensitivity and psychological safety of these YAs. Therefore, focusing on common topics relevant to both groups could reduce this risk. Consultation with Youth Cancer Europe is needed to determine the most important topics for YAs with a lived experience of cancer and how to deliver support to YAs with different stages of cancer.

- Topics to be discussed at the first session: impact of cancer diagnosis (draw on bio-psycho-social-spiritual model); living with cancer (both YAs and caregivers) - adjustment to cancer diagnosis and treatment, coping with common concerns, e.g., fatigue, sleep, pain, fear of recurrence/anxiety, body image changes, relationship concerns.
- Common myths and misconceptions about living with cancer.
- Post-treatment life, life after cancer, returning to work or education.

- Stress management.
- Financial challenges.
- HCPs who deliver the session.
- Start the session (ice-break exercise/s).
- Deliver the session (flexible):
    - Deliver lecture (should be for a short time and shape the discussion)
    - Discussion/answering questions (can be done in small groups followed with a whole group discussion).
    - Review/summary.
- Participants share what were the most useful topics discussed (use of Padlet, QR code). Gather feedback on the current session, key learnings, and identify topics of interest for next session.
- Conclude the session.

**1) information support session 2**

- Topics of interest identified in Session 1.
- HCPs who deliver the session.
- Start the session (ice-break exercise/s).
- Deliver the session:
    - Deliver lecture (should be for a short time and shape the discussion)
    - Discussion/answering questions.
    - Review/summary.
- Participants share what were the most useful topics discussed (use of Padlet, QR code). Gather feedback on the current session, key learnings, and identify topics of interest for next session.
- Conclude the session.
- Follow-up and discussion on other intervention components (group walks and online exercises) – *this will be a part of the intervention fidelity and acceptability assessments*.

**1) information support session 3**

- Topics of interest identified in Session 2
- CPs who deliver the session
- Start the session (ice-break exercise/s)
- Deliver the session:
    - Discussion about participants' reflections, learnings, strategies going forward (… minutes)

    - Discussion/answering questions (… minutes)
    - Review (… minutes)
- Conclude the session:
- Follow-up and discussion on other intervention components (group walks and online exercises) – *this will be a part of the intervention fidelity and acceptability assessments*.

**Requirements for service providers implementing the intervention** (necessary experience level in oncology & group facilitation, key qualities and skills for group facilitation):

**Troubleshooting:**

It is important that the aforementioned pieces of psychoeducation are also reflected in the material of each psychoeducational session.

It would be useful to have all members' phone numbers (with their permission), so that we can call anyone who is not there or drops out during a session to call them afterwards or make appointments on this with group members beforehand.

**Useful resources:** *[please add your suggestions here – these can be useful websites, other relevant guidelines, articles, blogs, etc., and they can also be country-specific resources (in your own languages)]*

## 3. Component 2. Online physical exercises

**Description:**

Participants will exercise twice a week for 12 weeks by watching three pre-recorded videos that include 30-minute resistance exercises. A total of 3 videos with different workouts will be provided to participants one after another, so that participants complete one video every four weeks. The videos will be in partner countries' languages. Each video contains warm-up exercises, 8–10 exercises including resistance, cardio, and strength exercises for different muscle groups, and cool-down exercises.

These exercises will take into consideration the capabilities of different groups of YAs undergoing treatment and those who are recovering.

The exercise will be implemented by participants on their own time twice a week, and they complete self-report form of completion using simple formats.

**Objectives:**

- To provide an opportunity to engage in physical activity designed by physiotherapists specifically for cancer patients in a safe manner.
- To promote active participation in physical activity.
- To assist YAs in improving mental health and reducing psychological and emotional distress.

  HCP will record the outcome of each walk (instructions on how to record to be included in the Guidelines for Group Walk Facilitators and Walks Diary), topics discussed, and the overall atmosphere.

**Rationale. Why is it important?**

Regular physical activity may reduce symptoms of anxiety and depression, improves sleep, boosts self-esteem (Fu et al, 2023) and provide a healthy distraction from negative thought cycles. Evidence suggests that physical exercise enhances mental health by releasing endorphins (Chen & Nakagawa, 2023), reducing stress hormones like cortisol, and increasing neurotransmitters such as serotonin and norepinephrine, which improve mood and cognitive function, and boosts sense of calm and well-being. Additionally, physical exercise can improve the sense of control, coping ability, and self-esteem of YAs and caregivers. Research shows that exercise moderates the challenges of cancer treatment (Munsie et al., 2022) and that post treatment of cancer can be less severe if the survivor adopts a resistance exercises regime (Law et al., 2023). Furthermore, for many age groups resistance exercises have an anti-depressive effect (Augustin et al., 2023), especially with the YA age group (O'Sullivan et al., 2023).

**Guidelines for HCPs facilitating online physical exercises.**

(Instructions/handouts)

Online 30-minute resistance exercise sessions will be held with young adults twice a week for 12 weeks. Caregivers may choose to participate in the exercises if they wish. Participants will receive pre-recorded sessions every four weeks so they can

practice the exercises at home twice a week at their convenience while watching the videos. They will be asked to record the number and duration of exercise sessions they completed.

Follow-up discussions will be held during weekly walks or interactive sessions to check for exercise compliance and address any challenges participants encounter while exercising to promote consistent participation. A physiotherapist or exercise physiologist will design exercises specifically for cancer patients and create three pre-recorded videos, each featuring a different workout routine targeting specific muscle groups along with recommendations around the number of repetitions and how to increase this over time.

**List of exercises**

List of exercises for Video 1 *[The link to be inserted here]*

List of exercises for Video 2 *[The link to be inserted here]*

List of exercises for Video 3 *[The link to be inserted here]*

The exercises include a warm-up, the exercises, and a cool-down.

**Requirements for service providers implementing the intervention**

Alazne Larrinaga – exercise physiologist at Cancer Care West, Ireland, will create the videos for online exercises.

**Troubleshooting**

Statements such as "remember to listen your body, move at your own pace, pay attention to how your body feels and adjust as needed, exercise at a level that feels safe and comfortable" should be added to the videos. Borg's RPE instrument can be used and instruction to the participants that their subjective perceived exertion should be from 8-14 (on a scale of 6-20) could be given. But we should also guide them to follow this scale.

An encouragement to plan could help the participants to engage in this activity. For example, we could ask them what days and times are convenient for them to do the exercise. Also, we could provide the participants with a list of items needed for exercises (e.g., mats) in advance to ensure that they are prepared for the activity.

**Useful resources** *[please add your suggestions here – these can be useful websites, other relevant guidelines, articles, blogs, etc., and they can also be country-specific resources (in your own languages)]*

## 4. Component 3. Guided group walks in natural surroundings

**Description:**

Local healthcare professionals (HCPs) will organise and facilitate group walks in green and blue spaces. Green and blue spaces are natural or semi-natural environments that include vegetated areas (green spaces) and bodies of water (blue spaces), such as parks, forests, lakes, rivers, canals, and coasts. Guided group walks will alternate between green and blue spaces, taking place in a green space every other week and a blue space on the alternate weeks. Each walk will be scheduled for 1 hour, which will include a warm-up and breaks as needed. The total duration of each individual's walking time during the hour will depend on the fitness levels of the participants.

Guided group walks will be organised once a week for 12 weeks (3 months) for each intervention group. Group compositions will be decided on a local level and in line with participants' preferences, with the following group compositions being possible: (1) YAs and caregiver groups walk separately but at the same time; (2) YAs group and caregivers groups walk separately and at different times. This flexible approach aims to ensure that participants feel comfortable and supported during the walks.

**Objectives:**

- To provide opportunities to connect with nature in a safe way, reflection, and encourage a sense of connection, calmness, and "being in the moment".
- To promote engagement in physical activity.
- To create opportunities for socialising with other YAs and peer support.
- To assist YAs and their family members in developing a sense of community and belonging and reducing psychological and emotional distress.

**Rationale. Social prescribing-inspired group walks in natural surroundings - Why is it important?**

Nature-based interventions that promote physical activity can enhance quality of life, mental health, and psychosocial well-being for cancer survivors. Research shows that connecting with nature can improve mood, foster feelings of closeness, and increase self-efficacy (Bikomeye et al., 2022; Britton et al., 2020; Ortega-Gómez et al., 2025). Social prescribing is a community service that links individuals to non-medical support, helping to reduce depression and anxiety, combat social isolation, and promote a sense of purpose through community activities. It empowers individuals to take charge of their health and addresses various psychosocial needs. A study by Connolly et al. (2025) for example, found social prescribing to be effective for cancer survivors, showing improvements in their physical, mental, and social health after engaging in community activities. Additionally, reviews highlight that social prescribing significantly reduces depression and anxiety symptoms in young people by providing access to supportive networks and meaningful engagement.

**Guidelines for Group Walk Facilitators**

Guidelines for Group Walk Facilitators 27.01.2026.docx

One-page infographics -Guidelines for Group Walk Facilitators 27.01.2026.docx

**Detailed description of group walks**

- Group walk 1
- Group walks 2-11
- The final group walk

**Requirements for service providers implementing the intervention** (necessary experience level in oncology & group facilitation, key qualities and skills for group facilitation):

**Troubleshooting**

These are well defined in the Guidelines for Group Walk Facilitators.

As those participants who are undergoing treatments may have health issues, will need instructions on health condition - we need to be sure that they can safely participate. For example, if "white cell count" is low, they should not be participating activity which causes risks of getting infections.

**Useful resources** *[please add your suggestions here – these can be useful websites, other relevant guidelines, articles, blogs, etc., and they can also be country-specific resources (in your own languages)]*

# 5. General guidelines

**Requirements for participants to take part in the intervention**

- Group rules on confidentiality and conduct.
- Attendance policy
- Recommended 'dose' for each component.
- Minimum requirements for participants (e.g., for walk attendees to go ahead with walk, etc.) **Health Information for Participants** Health Information for Participants.docx.
- Risk management issues (in Guidelines for Group Facilitators) Guidelines for Group Walk Facilitators 27.01.2026.docx

**Relevant research procedures:**

- Recruitment of participants
- informed consent
- Data collection
- 3-point measurements
- Activity tracking
- Reporting guide (documentation, how, what and when)
- etc.

**Figure 1. Intervention schedule – overview table of all group activities**

| STUDY COMPONENTS | STUDY PHASES | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Recruitment & Pre-intervention data collection | Intervention 12 weeks | | | | | | | | | | | Post-intervention data collection & follow-up |
| | 12 weeks | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 12 weeks |
| Pre-intervention questionnaire | | | | | | | | | | | | | | |
| Group walks in green/blue areas | | | | | | | | | | | | | | |
| Online exercises x 2 /week | | | | | | | | | | | | | | |
| Interactive psychoeducation sessions | | | | | | | | | | | | | | |
| Post-intervention questionnaire | | | | | | | | | | | | | | |

## APPENDICES

All materials needed for the intervention:

- Promotional materials
- Intervention provider checklists

- Interactive psychoeducation sessions' PowerPoint slides
- Handouts
- Activity tracking/reporting forms (sign-in sheets for the walk participants, participation reporting forms, etc.)
- Participant self-report form – to record participants' adherence to online exercises.
- Adverse event/incident report forms.

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