

# Mental health in childhood cancer survivors before and after attending follow-up care

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## Introduction

- ~200 new childhood cancer cases yearly, >87% become long-term survivors (Pfeiffer, 2017)
- Approximately **one in four** childhood cancer survivors (CCS) reports **moderate to severe** psychological **distress** (Zebrack, 2004, Zeltzer, 2008; Michel, 2010; D'Agostino, 2016 )
- Need for systematic psychological screening recognized in treatment and post-treatment **guidelines** (National Comprehensive Cancer Network Group (NCCN), 2007; Standards for the Psychosocial Care, 2015)
- Implementation of **systematic screening** for distress is still **rare** (Mitchell, 2010; Lown, 2015; Michel, 2015)

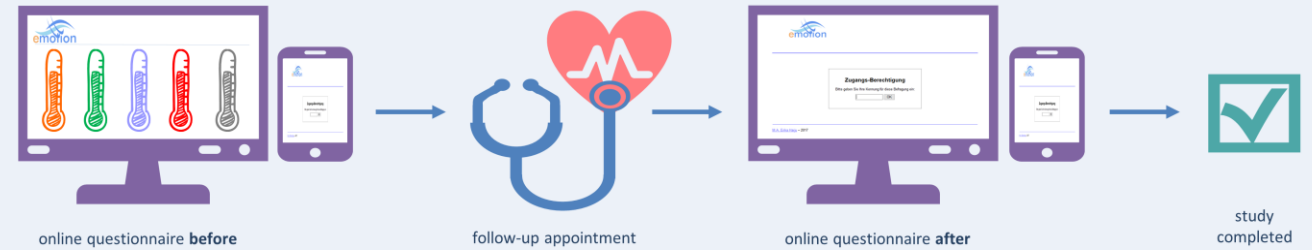
## Aims

1. Investigate the emotion thermometer's (ET) usefulness for screening, including validity and CCS' opinions on acceptability
2. Describe mental health (*distress, post-traumatic stress symptoms, fear of cancer recurrence/relapse*) of CCS before and after a follow-up appointment

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## Swiss childhood cancer survivors

- Diagnosed with cancer at age <18 years
- Age at study 15+ years
- $\geq 1$  year after end of treatment
- Follow-up care appointment in collaborating pediatric oncology clinics in Switzerland (04/2018 – 04/2019)



## Online survey before and after follow-up appointment

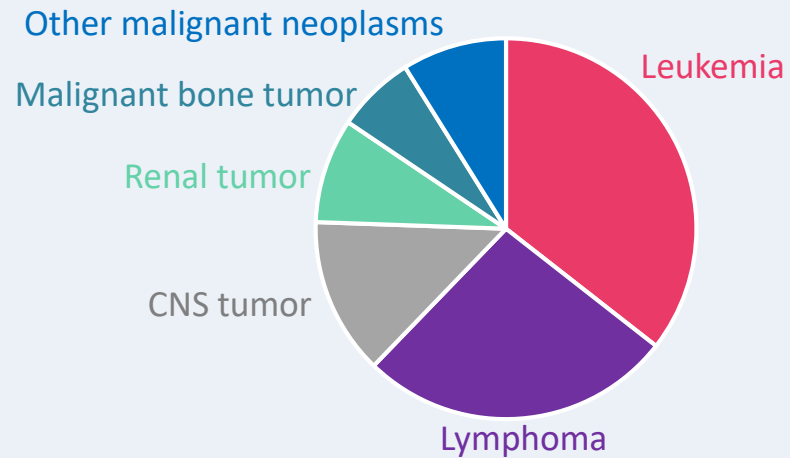
- Distress measured by:
    - Emotion Thermometer (ET) (Mitchell, 2010)
    - Symptom Check-List 90 Revised (SCL-90-R) (Franke, 2002)
    - Brief Symptom Inventory-18 (BSI-18) (Derogatis, 2000)
  - Post-traumatic stress disorder (PTSD) Checklist-Civilian version (PCL-C) (Hoecker, 2012)
  - Fear of cancer recurrence/relapse Scale (FRRS) (Greenberg, 1997)
- Aim 1: Validation (bracketed next to ET, SCL-90-R, and BSI-18)
- Aim 2: Pre-Post Analysis (bracketed next to PCL-C and FRRS)



Participants Total (N=45)	N	%
Female	25	56
No migration background	39	87
Living with parents	32	71
Single	27	60
Studying	18	40

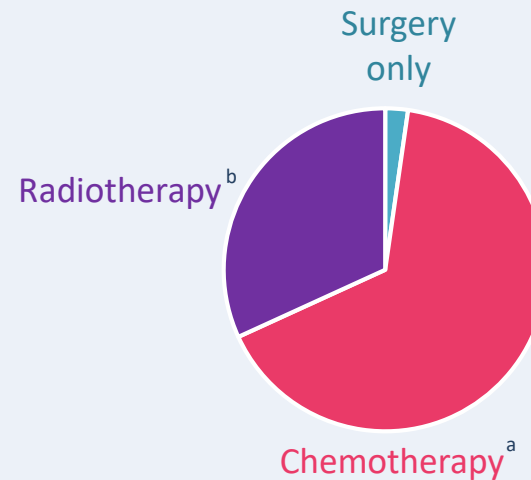
Participants Total (N=45)	Mean	SD
Age at study (years)	21.9	4.88
Age at diagnosis (years)	9.3	5.33
Time since diagnosis (years)	12.6	6.68

## Diagnosis (ICCC-3)



Abbreviations: ICCC-3, International Classification of Childhood Cancer - Third Edition; CNS, central nervous system.

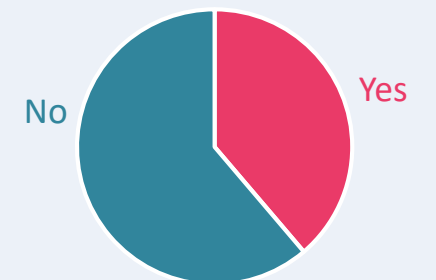
## Treatment



<sup>a</sup> May have had surgery

<sup>b</sup> May have had surgery and / or chemotherapy

## Late Effects



## Aim 1: Validation

### Validation of ET against SCL-90-R

ET: moderate OR severe distress, 29% (n=13)

SCL-90-R: GSI OR  $\geq 2$  subscales  $\geq 63$ , 24% (n=11)

SCL-90-R	Case	Non-case	Total
ET			
Case	10	3	13
Non-case	1	31	32
Total	11	34	45

Sensitivity: 0.909

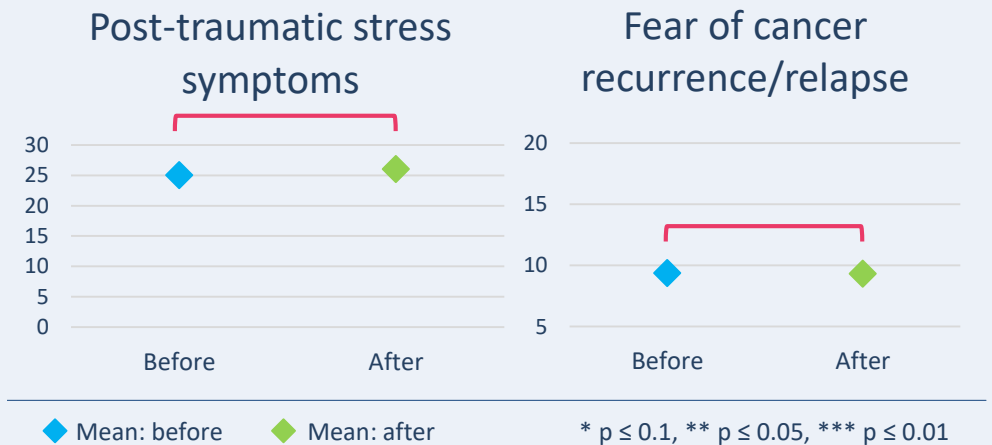
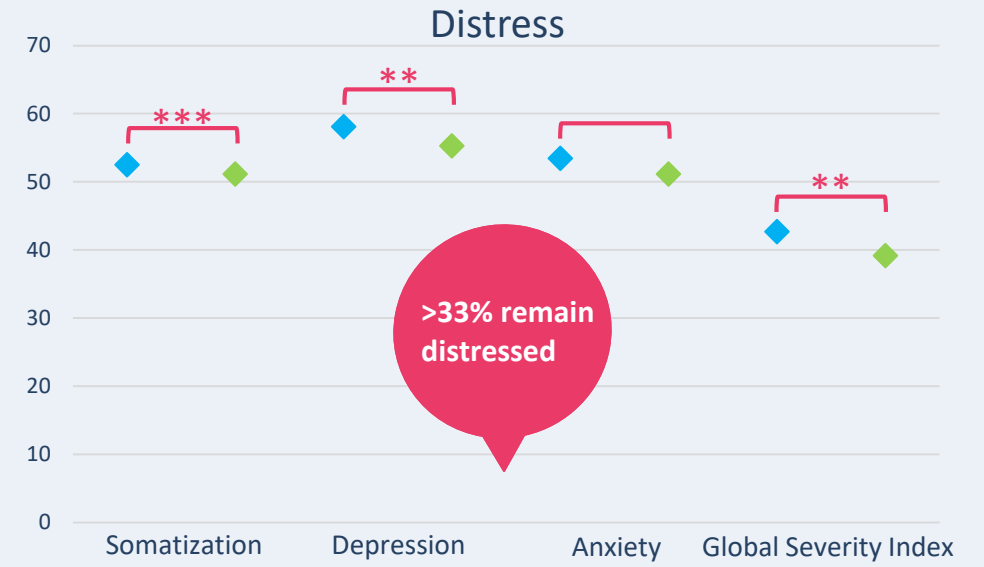
Specificity: 0.912

### Perceptions of using the ET

Easy to fill out and understand, acceptable in length

Helpful to communicate feelings

## Aim 2: Pre-Post Analysis



## Aim 1: Validation

**High Sensitivity and Specificity  
ET highly acceptable**



## Aim 2: Pre-Post Analysis

**Decrease in Distress (all subscales)  
Post-traumatic Stress Symptoms and  
Fear of Recurrence/Relapse stable**



- **Despite a decrease in psychological symptoms, a considerable number of survivors attending follow-up care remain distressed while attending follow-up care**
- The ET proved to be a **valid instrument to detect distressed survivors** and is **highly acceptable**
- The implementation of **standardized psychological screening is imperative**. The **ET seems suitable for implementation** into follow-up care of childhood cancer survivors

Thanks to: collaborating clinics, involved health-care professionals and survivors

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