

## List of excluded studies with reasons for exclusion

|    | Author, year                  | Title                                                                                                                                                                                                               | Reason for exclusion                                                                    |
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| 1  | Absolom et al., 2017          | Electronic patient self-Reporting of Adverse-events: Patient Information and aDvice (eRAPID): a randomised controlled trial in systemic cancer treatment                                                            | Study protocol                                                                          |
| 2  | Absolom et al., 2019          | Engaging Patients and Clinicians in Online Reporting of Adverse Effects During Chemotherapy for Cancer: The eRAPID System (Electronic Patient Self-Reporting of Adverse Events: Patient Information and Device)     | Case study                                                                              |
| 3  | Agboola et al., 2014          | Improving outcomes in cancer patients on oral anti-cancer medications using a novel mobile phone-based intervention: study design of a randomized controlled trial                                                  | Study protocol                                                                          |
| 4  | Atema et al., 2018            | Efficacy of Internet-Based Cognitive Behavioral Therapy for Treatment-Induced Menopausal Symptoms in Breast Cancer Survivors: Results of a Randomized Controlled Trial                                              | Cancer survivors                                                                        |
| 5  | Baeksted et al., 2019         | Handling of symptomatic adverse events in breast cancer patients receiving adjuvant chemotherapy in a cluster randomized trial with electronic patient-reported outcomes as intervention                            | Commentary                                                                              |
| 6  | Bantum et al., 2014           | Surviving and thriving with cancer using a Web-based health behavior change intervention: randomized controlled trial                                                                                               | Cancer survivors                                                                        |
| 7  | Berry et al., 2014a           | The electronic self report assessment and intervention for cancer: promoting patient verbal reporting of symptom and quality of life issues in a randomized controlled trial                                        | Intervention: symptom-monitoring / PROs                                                 |
| 8  | Berry et al., 2014b           | Electronic self-report assessment for cancer and self-care support: results of a multicenter randomized trial                                                                                                       | Intervention: symptom-monitoring / PROs                                                 |
| 9  | Berry et al., 2015            | Exposure to a patient-centered, Web-based intervention for managing cancer symptom and quality of life issues: impact on symptom distress                                                                           | Intervention: symptom-monitoring / PROs                                                 |
| 10 | Bibault et al., 2019          | A Chatbot Versus Physicians to Provide Information for Patients With Breast Cancer: Blind, Randomized Controlled Noninferiority Trial                                                                               | Intervention: chat                                                                      |
| 11 | Bisseling et al., 2019        | Development of the Therapeutic Alliance and its Association With Internet-Based Mindfulness-Based Cognitive Therapy for Distressed Cancer Patients: Secondary Analysis of a Multicenter Randomized Controlled Trial | None or less than 50 % of patients undergoing cancer treatment / treatment not in focus |
| 12 | Boele et al., 2018            | Internet-based guided self-help for glioma patients with depressive symptoms: a randomized controlled trial                                                                                                         | None or less than 50 % of patients undergoing cancer treatment / treatment not in focus |
| 13 | Børøsund et al., 2013         | How user characteristics affect use patterns in web-based illness management support for patients with breast and prostate cancer                                                                                   | No validated psychosocial outcomes                                                      |
| 14 | Braamse et al., 2010          | Distress and quality of life after autologous stem cell transplantation: a randomized clinical trial to evaluate the outcome of a web-based stepped care intervention                                               | Study protocol                                                                          |
| 15 | Bricker et al., 2020          | A Smartphone App Designed to Help Cancer Patients Stop Smoking: Results From a Pilot Randomized Trial on Feasibility, Acceptability, and Effectiveness                                                              | Pilot RCT                                                                               |
| 16 | Bruggeman-Everts et al., 2017 | Effectiveness of Two Web-Based Interventions for Chronic Cancer-Related Fatigue Compared to an Active Control Condition: Results of the "Fitter na kanker" Randomized Controlled Trial                              | Cancer survivors                                                                        |

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| 17 | Campo et al., 2017     | A mindful self-compassion videoconference intervention for nationally recruited posttreatment young adult cancer survivors: feasibility, acceptability, and psychosocial outcomes                          | Feasibility study                                                                       |
| 18 | Carpenter et al., 2014 | An online stress management workbook for breast cancer                                                                                                                                                     | None or less than 50 % of patients undergoing cancer treatment / treatment not in focus |
| 19 | Choi Yoo et al., 2014  | Cost effectiveness of telecare management for pain and depression in patients with cancer: results from a randomized trial                                                                                 | Intervention: telephone-based                                                           |
| 20 | Chumbler et al., 2007  | Healthcare utilization among veterans undergoing chemotherapy: the impact of a cancer care coordination/home-telehealth program                                                                            | Case study                                                                              |
| 21 | Cillessen et al., 2018 | Consolidation and prediction of long-term treatment effect of group and online mindfulness-based cognitive therapy for distressed cancer patients                                                          | None or less than 50 % of patients undergoing cancer treatment / treatment not in focus |
| 22 | Cleary et al., 2015    | Mediators of an Internet-based psychosocial intervention for women with breast cancer                                                                                                                      | None or less than 50 % of patients undergoing cancer treatment / treatment not in focus |
| 23 | Compen et al., 2018    | Face-to-Face and Internet-Based Mindfulness-Based Cognitive Therapy Compared With Treatment as Usual in Reducing Psychological Distress in Patients With Cancer: A Multicenter Randomized Controlled Trial | None or less than 50 % of patients undergoing cancer treatment / treatment not in focus |
| 24 | Compen et al., 2019    | RCT about mindfulness-based cognitive therapy for psychological distress in cancer patients                                                                                                                | Full text neither German nor English                                                    |
| 25 | Fjell et al., 2020     | Reduced symptom burden with the support of an interactive app during neoadjuvant chemotherapy for breast cancer - A randomized controlled trial                                                            | Intervention: symptom-monitoring / PROs                                                 |
| 26 | Foster et al., 2016    | A web-based intervention (RESTORE) to support self-management of cancer-related fatigue following primary cancer treatment: a multi-center proof of concept randomised controlled trial                    | Pilot RCT                                                                               |
| 27 | Fox et al., 2019       | Integrating PROMIS® computerized adaptive tests into a web-based intervention for prostate cancer                                                                                                          | Feasibility study                                                                       |
| 28 | Giesler et al., 2017   | Effect of a Website That Presents Patients' Experiences on Self-Efficacy and Patient Competence of Colorectal Cancer Patients: Web-Based Randomized Controlled Trial                                       | None or less than 50 % of patients undergoing cancer treatment / treatment not in focus |
| 29 | Graetz et al., 2018    | Use of a web-based app to improve postoperative outcomes for patients receiving gynecological oncology care: A randomized controlled feasibility trial                                                     | Pilot RCT                                                                               |
| 30 | Grossert et al., 2016  | Web-based stress management for newly diagnosed cancer patients (STREAM-1): a randomized, wait-list controlled intervention study                                                                          | Study protocol                                                                          |
| 31 | Gustafson et al., 2013 | An eHealth system supporting palliative care for patients with non-small cell lung cancer: a randomized trial                                                                                              | None or less than 50 % of patients undergoing cancer treatment / treatment not in focus |
| 32 | Handa et al., 2020     | Effectiveness of a Smartphone Application as a Support Tool for Patients Undergoing Breast Cancer Chemotherapy: A Randomized Controlled Trial                                                              | Intervention: symptom-monitoring / PROs                                                 |
| 33 | Harris et al., 2015    | Project connect online: user and visitor experiences of an Internet-based intervention for women with breast cancer                                                                                        | None or less than 50 % of patients undergoing cancer treatment / treatment not in focus |
| 34 | Harris et al., 2018    | Project connect online: Improving psychosocial adjustment for women with breast cancer with an internet-based intervention                                                                                 | None or less than 50 % of patients undergoing cancer treatment / treatment not in focus |
| 35 | Hawkins et al., 2010   | Mediating processes of two communication interventions for breast cancer patients                                                                                                                          | No validated psychosocial outcomes                                                      |
| 36 | Head et al., 2009      | Development of a telehealth intervention for head and neck cancer patients                                                                                                                                 | Feasibility study                                                                       |

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| 37 | Hummel et al., 2017     | Efficacy of Internet-Based Cognitive Behavioral Therapy in Improving Sexual Functioning of Breast Cancer Survivors: Results of a Randomized Controlled Trial                                                                                                   | Cancer survivors                                                                        |
| 38 | Jansen et al., 2020     | Effectiveness of a guided self-help exercise program tailored to patients treated with total laryngectomy: Results of a multi-center randomized controlled trial                                                                                               | None or less than 50 % of patients undergoing cancer treatment / treatment not in focus |
| 39 | Kearney et al., 2009    | Evaluation of a mobile phone-based, advanced symptom management system (ASyMS) in the management of chemotherapy-related toxicity                                                                                                                              | Intervention: symptom-monitoring / PROs                                                 |
| 40 | Kim et al., 2019        | Effects of a web-based expert support self-management program (WEST) for women with breast cancer: A randomized controlled trial                                                                                                                               | None or less than 50 % of patients undergoing cancer treatment / treatment not in focus |
| 41 | Krebbe et al., 2012     | Stepped care targeting psychological distress in head and neck and lung cancer patients: a randomized clinical trial                                                                                                                                           | Study protocol                                                                          |
| 42 | Meropol et al., 2013    | A Web-based communication aid for patients with cancer: the CONNECT Study                                                                                                                                                                                      | None or less than 50 % of patients undergoing cancer treatment / treatment not in focus |
| 43 | Nasi et al., 2015       | The performance of mHealth in cancer supportive care: a research agenda                                                                                                                                                                                        | No or less than 50 % cancer patients                                                    |
| 44 | Nguyen et al., 2019     | Tailored Web-Based Information for Younger and Older Patients with Cancer: Randomized Controlled Trial of a Preparatory Educational Intervention on Patient Outcomes                                                                                           | None or less than 50 % of patients undergoing cancer treatment / treatment not in focus |
| 45 | Northouse et al., 2014  | A tailored Web-based psychoeducational intervention for cancer patients and their family caregivers                                                                                                                                                            | Feasibility study                                                                       |
| 46 | Owen et al., 2004       | Internet support and information for women with breast cancer                                                                                                                                                                                                  | None or less than 50 % of patients undergoing cancer treatment / treatment not in focus |
| 47 | Owensworth et al., 2019 | Evaluation of a telehealth psychological support intervention for people with primary brain tumour and their family members: Study protocol for a randomised controlled trial                                                                                  | Study protocol                                                                          |
| 48 | Petzel et al., 2018     | Effects of web-based instruction and patient preferences on patient-reported outcomes and learning for women with advanced ovarian cancer: A randomized controlled trial                                                                                       | Pilot RCT                                                                               |
| 49 | Ryhänen et al., 2013    | The impact of an empowering Internet-based Breast Cancer Patient Pathway program on breast cancer patients' clinical outcomes: a randomised controlled trial                                                                                                   | Intervention: information                                                               |
| 50 | Schuit et al., 2019     | Efficacy and cost-utility of the eHealth application 'Oncokompas', supporting patients with incurable cancer in finding optimal palliative care, tailored to their quality of life and personal preferences: a study protocol of a randomized controlled trial | Study protocol                                                                          |
| 51 | Sherman et al., 2018    | Reducing Body Image-Related Distress in Women With Breast Cancer Using a Structured Online Writing Exercise: Results From the My Changed Body Randomized Controlled Trial                                                                                      | None or less than 50 % of patients undergoing cancer treatment / treatment not in focus |
| 52 | Somers et al., 2018     | An mHealth Pain Coping Skills Training Intervention for Hematopoietic Stem Cell Transplantation Patients: Development and Pilot Randomized Controlled Trial                                                                                                    | Pilot RCT                                                                               |
| 53 | Stanton et al., 2013    | Project connect online: randomized trial of an internet-based program to chronicle the cancer experience and facilitate communication                                                                                                                          | None or less than 50 % of patients undergoing cancer treatment / treatment not in focus |
| 54 | Sundberg et al., 2017   | Early detection and management of symptoms using an interactive smartphone application (Interaktor) during radiotherapy for prostate cancer                                                                                                                    | Historically controlled trial                                                           |
| 55 | Tucholka et al., 2017   | A Randomized Controlled Trial Evaluating the Impact of Web-Based Information on Breast Cancer Patients' Knowledge of Surgical Treatment Options                                                                                                                | Intervention: decision-aid                                                              |
| 56 | Ventura et al., 2013    | Evaluation of a web-based educational program for women diagnosed with breast cancer: why is the intervention effect absent?                                                                                                                                   | Commentary                                                                              |

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| 57 | Ventura et al., 2017   | Challenges of evaluating a computer-based educational programme for women diagnosed with early-stage breast cancer: a randomised controlled trial                                                     | Intervention: information                                                               |
| 58 | Villani et al., 2017   | An e-health protocol to help elderly breast cancer patients to cope with chemotherapy: Preliminary results                                                                                            | Feasibility study                                                                       |
| 59 | Voruganti et al., 2017 | My Team of Care Study: A Pilot Randomized Controlled Trial of a Web-Based Communication Tool for Collaborative Care in Patients With Advanced Cancer                                                  | Pilot RCT                                                                               |
| 60 | Wang et al., 2017      | Web-based remote psychological intervention improves cancer treatment                                                                                                                                 | None or less than 50 % of patients undergoing cancer treatment / treatment not in focus |
| 61 | Wang et al., 2018      | Effects of a home care mobile app on the outcomes of discharged patients with a stoma: A randomised controlled trial                                                                                  | None or less than 50 % of patients undergoing cancer treatment / treatment not in focus |
| 62 | Wootten et al., 2015   | Preliminary results of a randomised controlled trial of an online psychological intervention to reduce distress in men treated for localised prostate cancer                                          | None or less than 50 % of patients undergoing cancer treatment / treatment not in focus |
| 63 | Wooten et al., 2017    | An online psychological intervention can improve the sexual satisfaction of men following treatment for localized prostate cancer: outcomes of a Randomised Controlled Trial evaluating My Road Ahead | None or less than 50 % of patients undergoing cancer treatment / treatment not in focus |
| 64 | Yang et al., 2019      | Development and Testing of a Mobile App for Pain Management Among Cancer Patients Discharged From Hospital Treatment: Randomized Controlled Trial                                                     | None or less than 50 % of patients undergoing cancer treatment / treatment not in focus |
| 65 | Zhou et al., 2020      | Benefits of a WeChat-based multimodal nursing program on early rehabilitation in postoperative women with breast cancer: A clinical randomized controlled                                             | Intervention: chat                                                                      |

**Article** The effect of eHealth interventions on psychosocial distress, coping strategies, quality of life and unmet supportive care needs among patients with cancer during active anti-cancer treatment

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