**Details regarding data extraction from cluster randomized clinical trials with multiple groups**

**Additional study characteristics**

**Summary of details and findings of included studies (n = 15)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Author.  Year,Country | No.of patients | Population | Age,years,mean(SD) | Experimental  group | Comparator  group | Follow-up time | Outcomes and outcome measures |
| Josefine Wolff,2023,Germany | 60 | Patients with breast cancer at any stage ≥18 years | E:49(4) C:49(9) | PINK! offers personal coaching, evidence-based therapy and side-effect management, mindfulness-based stress reduction, nutritional and psychological education, physical activity tracking, and motivational exercises to implement lifestyle changes sustainably in daily routine | “Standard of care” means best practice care. | 12 weeks | Depression:PHQ-9；Quality of life:EORTC-QLQ-C30 |
| Tina Gustavell,2019,Sweden | 59 | Patients scheduled to undergo pancreaticoduodenectomy due to a malignancy | E:67(7.75)  C:66(8.75) | The Interaktor app is a reminder to report was sent  through the app every day. | Between treatments the patients could call their  contact nurse at the oncology clinic during working hours. | 6 months | Quality of life:EORTC-QLQ-C30 ;QLQ-PAN26  The Appraisal of Self-Care Agency scale (ASA-A) was used  to measure the engagement in self-care activities |
| Jing Yang,2019,China | 58 | Cancer patients aged  between 18 and 75 years and had  self-reported cancer pain within a month before the study | E:51.10 (8.98)  C:53.96 (8.58) | Pain Guard: (1) patients can report pain status, adverse drug  reactions, and physical status at any time; (2) the management  team can intervene and treat the patients, according to their  reports, in a timely manner; (3) re-evaluation and medication  reminders are available; (4) medication education is provided  to patients; and (5) music therapy treatment can be administered  in the patient’s own home | Patients received only  traditional pharmaceutical care | 4 weeks | Cancer Quality of Life Questionnaire-Core 30 ;  Baseline NRS；  Remission rate of pain;  Frequency of breakthrough cancer pain;  Medication adherence |
| Julien A M Vos,2021,Dutch | 303 | Stage I–III colon  cancer or rectosigmoid carcinoma and qualified for routine  follow-up according to the national guidelines. | E：67（1.74）  C：69 (3) | Oncokompas is a web-based selfmanagement app that aims to increase knowledge about  the effects of cancer on patients and facilitate access to  supportive care.Use of Oncokompas could help to  improve QOL during colon cancer survivorship even  further. | The care plan did not contain any personalised information or recommendations for the patient, but included  information about follow-up schedules, management of  disease symptoms, and treatment side-effects | 12 months | EORTC QLQ-C30;  QLQ-CR29 was used to measure disease-specific QOL. |
| Claire Temple-Oberle,2023,Canada | 72 | Women older than 18 years undergoing oncologic breast  reconstruction or major gynecologic oncology surgery following ERAS protocols with the care  of 2 surgeons at an academic tertiary care center. | E:48.6 (12.1)  C: 51.3 (9.9) | Patients submit photos and drain volumes and respond to  quality of recovery and symptom scales. | Patients receive traditional  in-person follow-up visits | 6 weeks | The primary outcomes were quality of recovery and patient  satisfaction, as measured by the QoR15 and PSQ-III, respectively. Secondary outcomes were  costs of follow-up; the number of contacts with the medical system; complications;  and surgeons’ contacts with patients; and surgeons’ perceptions of app-assisted care. |
| Yu-Ling Chang,2020,Taiwan | 88 | Cancer patients undergo esophagectomy,age 20 years or older | E:56 (8.9)  C:56 (10.0) | 12-week exercise and nursing education health informatics program in addition  to usual care. The intervention was designed by the first and third  author and included three main parts: a home-based walking  exercise program, a nursing education program, and instruction in  use of the health informatics system. | Regular care:included conventional postoperative feeding, wound care,  and regular postoperative rehabilitation exercises on a daily basis.  Physical and cardiopulmonary rehabilitation was conducted in the  rehabilitation room of the thoracic surgery section of the hospital. | 12 weeks | Quality of life:EORTC QLQ C-30;  EORTC QLQ OES-18 |
| Qing-Qing Wang,2018,China | 203 | Colorectal cancer patients after Enterostomy at  least 18 years of age | E；56.95 (14.88)  C： 59.18 (14.14) | Home care via a mobile app besides routine care:(a) appointment; (b) photograph diagnosis; (c) consultation | Routine discharge care: the written and verbal  health education on preoperative preparation, stoma surgery and  postoperative stoma care.At discharge, ET nurses offered teaching  information and support for patients, including selection of pouching  appliances, drug instructions, health education and follow-up with  the ET nurse at 1, 3 and 6 months after discharge in the outpatient  clinics. | 6 months | Ostomy adjustment score;  Stoma self-efficacy scale |
| Kyeong Eun Uhm,2017,Korea | 339 | Breast cancer patients after surgery age between 20 and 70 years | E:49.3（8.0）  C:51.3 （10.7） | MHealth with pedometer and an APP educate patients in the prescribed exercise  regimen; the application also recorded the amount of  exercise performed. | Conventional program received an exercise brochure | 12 week | Physical measurements:  IPAQ-SF;  Quality of life:EORTC QLQ-C30;  EORTC QLQ-BR 23 |
| Yanfei Xu,2021,China | 126 | Postoperative breast cancer patients aged less than 60 y old | E:47.13（7.58）  C:48.74（6.88） | Establish WeChat medical service team: The service team  was composed of all medical staff of breast specialist,  including breast cancer clinical experts, medical staff  and medical students. | During the period of hospitalization, the patients were  continuously observed by the trained and qualified  case nurses, and the nursing plan was formulated  according to the individual situation of the patients,  and targeted guidance and intervention were given | 6 months | The hospital anxiety and Depression Scale (HADS);  Discomfort symptom score;  Self-efficacy scale (SES);  Comprehensive quality of life questionnaire, Generic  Quality of Life Inventory-74 (GQOLI-74) ;  The satisfaction of patients |
| Xiaosheng Dong,2019,China | 60 | Patients with BC at phase I to III  who have finished postoperative radiotherapy/chemotherapy within 4 months to 2 years. | E:48.00(5.54)  C； 51.63(7.49) | CEIBISMS (cardiopneumatic endurance training,  muscle training , postoperative BC rehabilitation  knowledg pushed) | Traditional treatment and rehabilitation according to  daily specifications of the hospital | 12 weeks | QOL, which was determined  by the 36-item Short Form Health Survey (SF-36) ;  SPSDCT Stand-up and sit-down chair test;  Arm lifting test(ALT);  Maximal oxygen uptake(VO2max) |
| Tze-Fang Wang,2020,Taiwan | 100 | Oral cancer patients after surgery | E:47 (94.0)  C:45 (90.0) | mHealth app  intervention | Routine health care and instruction | 3 months | Quality of life:EORTC-QLQ-C30；EORTC QLQ-H&N35；Acceptability；Supportive care needs for cancer patients:CNQ-SF；Care needs of patients |
| Xiaohan Jiang,2023,China | 24 | Post-discharged gastric cancer patients following  Gastrectomy and age ≥ 18 years | E: 54.08 (10.54)  C:55.67 (9.98) | mHealth nutrition (iNutrition) | Usual care designated for discharged  patients, in which a participant handbook outlining the benefits of adequate nutritional  intake, a food atlas helping estimate the amount of food, and the time points for  outcome assessments were given to all participants | 12weeks | PG-SGA = Patient-Generated Subjective Global Assessment;  NRS2002 = Nutritional risk screening 2002; HAPA Scale = Health Action Process Approach Theory Scale;  GSRS = Gastrointestinal Symptom Rating Scale; QLQ-C30 = Quality of Life Questionnaire-Core 30 |
| Yabin Hao,2023,China | 72 | Patients diagnosed with thyroid cancer or malignant thyroid tumor and thyroid surgery had been completed | E:46.89（12.84）  C:45.75（12.63） | the manual adjustment plan | program  adjustment plan | 2 years | Symptom Checklist-90:SCL-90 |
| Yiling Sui,2020,China | 200 | Non-small cell lung  cancer (NSCLC) patients after undergoing surgical resection and age above 18  years; | E:61.37 （11.21）  C: 62.35 （9.98） | The WERP was performed for a total of  12 months, which comprised of the following four components : (i) disease-related health education, (ii) rehabilitation exercise guidance, (iii) daily activity supervision, (iv)  psychological support. | A simple session of disease-related health education was conducted for the patients, then an education  manual was  also distributed to patients in the control group. | 12 months | Anxiety and depression were evaluated by Hospital Anxiety and Depression Scale (HADS), and  QoL was assessed by European Organization for Research and Treatment of Cancer Quality of Life Questionnaire  (QLQ-C30). |
| R. Tan, 2022,China | 67 | Bladder cancer patients after radical cystectomy | E:58 （4.32）  C:60 （5.68） | Patients used an app  in addition to receiving regular telephone follow-ups | Regular telephone follow-ups | 24 months | Self-care ability and  quality of life scores;complication rate |