

Table 1 Search strategies for each database

Database	Search strategy
Ovid MEDLINE	-(e-health or ehealth).tw,kf -exp Speech Therapy/ -exp Occupational Therapy/ -telemedicine/ or telerehabilitation/ or telehealth/ or telepsychiatry/ -(Telemedicine or tele medicine or tele-medicine or telerehab* or telepsychiatr*).tw,kf -(Text messag* or video conferenc*).tw,kf -((online or web or remote* or virtual or digital) adj1 (intervention* or therap* or aftercare or rehab* or consult*)).tw,kf -occupational therapist/ or physical therapist/ or speech therapist/ -exp physical therapy/ -1 or 4 or 5 or 6 or 7 -2 or 3 or 8 or 9 -10 and 11
Embase	1. (e-health or ehealth).tw,kw 2. exp Speech Therapy/ 3. exp Occupational Therapy/ 4. telemedicine/or telerehabilitation/or telehealth/or telepsychiatry/ 5. (Telemedicine or tele medicine or tele-medicine or telerehab* or telepsychiatr*).tw,kw 6. (Text messag* or video conferenc*).tw,kw 7. ((online or web or remote* or virtual or digital) adj1 (intervention* or therap* or aftercare or rehab* or consult*)).tw,kw 8. occupational therapist/or physical therapist/or speech therapist/ 9. exp physical therapy/ 10. 1 or 4 or 5 or 6 or 7 11. 2 or 3 or 8 or 9 12. 10 and 11
APA PsycINFO	-(ehealth or e-health).ti,ab,id -exp Speech Therapy/ -exp Occupational Therapy/ -telemedicine/ or telerehabilitation/ or telehealth/ or telepsychiatry/ -(Telemedicine or tele medicine or tele-medicine or telerehab* or telepsychiatr*).ti,ab,id -(Text messag* or video conferenc*).ti,ab,id -((online or web or remote* or virtual or digital) adj1 (intervention* or therap* or aftercare or rehab* or consult*)).ti,ab,id -occupational therapist/or physical therapist/or speech therapist/ -exp physical therapy/ -1 or 4 or 5 or 6 or 7 -2 or 3 or 8 or 9 -10 and 11
CINHAL	1. S1: (MH "Telemedicine + ") OR (MH "Telerehabilitation") OR (MH "Telepsychiatry") OR (MH "Telehealth") OR (MH "Text Messaging") OR (MH "Videoconferencing") 2. S2: "e-health" 3. S3: "ehealth" 4. S4: (virtual N2 (therapy or care or rehab* or consult* or intervention)) OR (online N2 (therapy or care or rehab* or consult* or intervention)) OR (remote N2 (therapy or care or rehab* or consult* or intervention)) OR (web N2 (therapy or care or rehab* or consult* or intervention)) OR (digital N2 (therapy or care or rehab* or consult* or intervention)) 5. S5: (MH "Rehabilitation") OR (MH "Occupational Therapy") OR (MH "Occupational Therapy Service") OR (MH "Home Occupational Therapy") OR (MH "Occupational Therapy Practice") OR (MH "Occupational Therapy Assistants") 6. S6: S1 OR S2 OR S3 OR S4 7. S7: (MH "Physical Therapy") OR (MH "Physical Therapy Assessment") OR (MH "Physical Therapist Assistants") OR (MH "Home Physical Therapy") OR (MH "Physical Therapy Service") 8. S8: physical therapist or occupational therapist or speech therapist 9. S9: (MH "Speech and Language Assessment") OR (MH "Speech Therapy") OR (MH "Language Therapy") OR (MH "Alternative and Augmentative Communication") OR (MH "Rehabilitation, Speech and Language") 10. S10: S5 OR S7 OR S8 OR S9 11. S11: S6 and S10

Table 1 (continued)

Database	Search strategy
SCOPUS	-"telemedicine"OR"telerehabilitation"OR"telehealth"OR"ehealth"OR"e-health"OR"telepsychiatry" -(Online or web or remote* or virtual or digital) w/1 (intervention* or therap* or aftercare or rehab* or consult*) -"Occupational therap*"OR"physical therap*"OR"speech therap* -#1 AND #2 -#3 AND #4

who delivered the intervention), (vi) description of how mental and physical health outcomes are measured, and (vii) overall findings. This systematic review will provide a data analysis of the articles to be included. A table similar to the one developed by Kroon et al. (2014) will be presented summarizing the characteristics of the studies contributing to the synthesis. The table will illustrate the following frameworks: (i) study name; (ii) study design; (iii) characteristics of participants (age, diagnosis, job title); (iv) type of intervention; (v) control; and (vi) effect size to determine the strength of the interventions [19].

Meta-analysis

The meta-analysis will be conducted using the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) guidelines. The meta-analysis will investigate the impact and effectiveness of the telerehabilitation interventions on physical and mental health outcomes. Given the anticipated heterogeneity of data and the variability in intervention study design, a random-effects meta-analysis will be performed. Random effects models allow for statistical generalization beyond the studies included in the meta-analysis. Odds ratio (OR) and relative risk (RR) with 95% confidence intervals will be calculated for each study as a synthesized measure of effect size [20, 21]. Individual study and pooled effect sizes will be calculated and reported. An overall effect size will be calculated in studies with overlapping samples or subgroups.

Based on data availability of at least 5 studies, meta-analyses will be performed for each physical and mental health outcomes identified. We anticipate performing separate meta-analyses for the following outcomes: pain reduction, orthopaedic outcomes, sleep quality, depression, and anxiety. Global meta-analyses for physical and mental-health outcomes will be reported if there are less than 5 studies examining the specified outcome. The overall effectiveness of the telerehabilitation intervention(s) will be assessed and compared to traditional rehabilitation interventions in each of the domains reported above. A moderator analysis will be performed to investigate the effects of moderating variables (e.g.,

sample composition, methodological characteristics) on the calculated effect size and heterogeneity of studies included.

Meta-analysis data will be reported graphically through forest and funnel plots to assess the dataset for any directional effects related to publication bias and potential outliers. Publication bias will also be assessed through Egger's regression test. Sensitivity analyses will be conducted using Rosenthal's Fail-Safe N and Duval and Tweedie's trim and fill procedures. These analyses will be presented in a summary table to examine the robustness of the findings [22]. Heterogeneity will be measured using the Q and I^2 statistic. A significant Q statistic indicates a rejection of the null hypothesis that no heterogeneity exists between and within the studies included. The I^2 statistic indicates the degree of heterogeneity between the studies included where 0–20% represents low heterogeneity, 21–50% represents moderate heterogeneity, and > 51% represents substantial heterogeneity [23]. The outlined meta-analytical procedures will be performed using R statistical software.

Risk of bias assessment

To assess the quality of the studies in the review, the Critical Appraisal Skills Programme (CASP) checklist (CASP UK, 2020) will appraise the quality and validity of each study. Two reviewers will be involved in the quality assessment using the CASP checklist to analyze included studies that are identified as randomized control trials, case controls, and cohort studies [24]. The Newcastle Ottawa scale will be used for cross-sectional studies [25]. Included studies will be classified by low, moderate, and high bias. The GRADE (Grading of Recommendations, Assessment, Development, and Evaluations) framework will be implemented to assess the quality of evidence from included studies (26). The GRADE approach comprises of five criteria: risk of bias, imprecision, inconsistency, indirectness, and publication bias [27]. The two reviewers will independently use this framework with the pooled studies. Disagreements will be resolved first between the two reviewers and if a consensus is not reached, then a third reviewer will be approached.