

Systematic Review of Telehealth Survey Instruments to Assess Patient and Family Caregiver Communication Experience

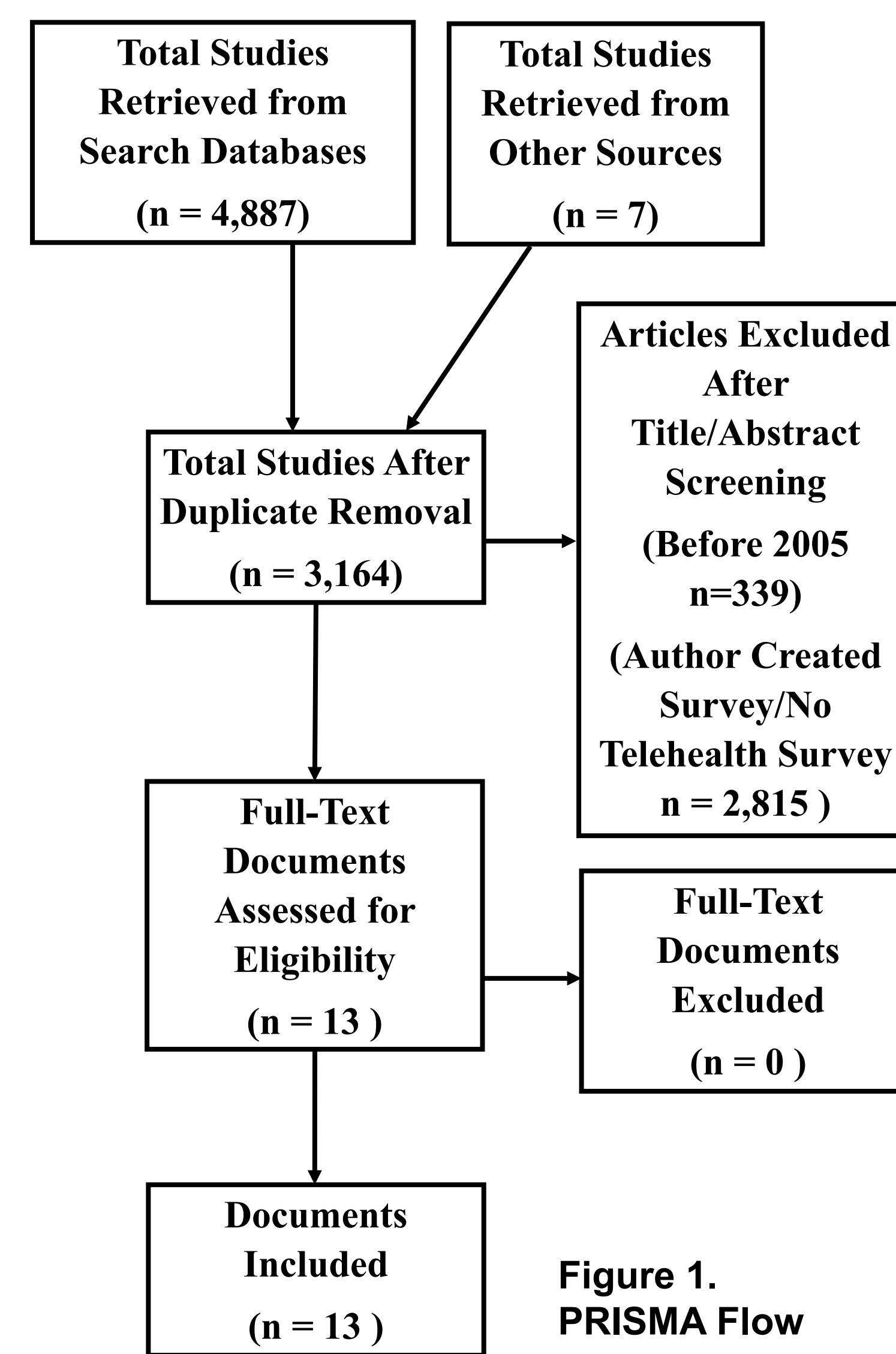
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Background

Telehealth includes the use of technology for medical purposes including patient care and clinical evaluations. Telehealth may include telephone, live video, or other virtual modalities. Telehealth uptake has surged during the SARS CoV-2 (COVID-19) pandemic. The communication experienced through telehealth warrant outcome measurements. This systematic review applies PRISMA methods to analyze currently available instruments and scales to assess telehealth experiences and outcomes.

Methods

The review protocol was registered with PROSPERO. Databases (PubMed, EMBASE, and CINAHL) were queried with search terms approved by a research librarian. Keywords of interest included “telehealth” and “telemedicine”, “survey(s)” and “questionnaire(s)”, “experience(s)”, “communication”, “validity” and “reliability”.



A standard extraction form was piloted and utilized with two blinded reviewers per data point.

Inclusion and Exclusion Criteria

Included studies were available in English, published between 2005-2020, and contained a survey instrument that measured patient or provider perceptions of telehealth-based communication.

Results

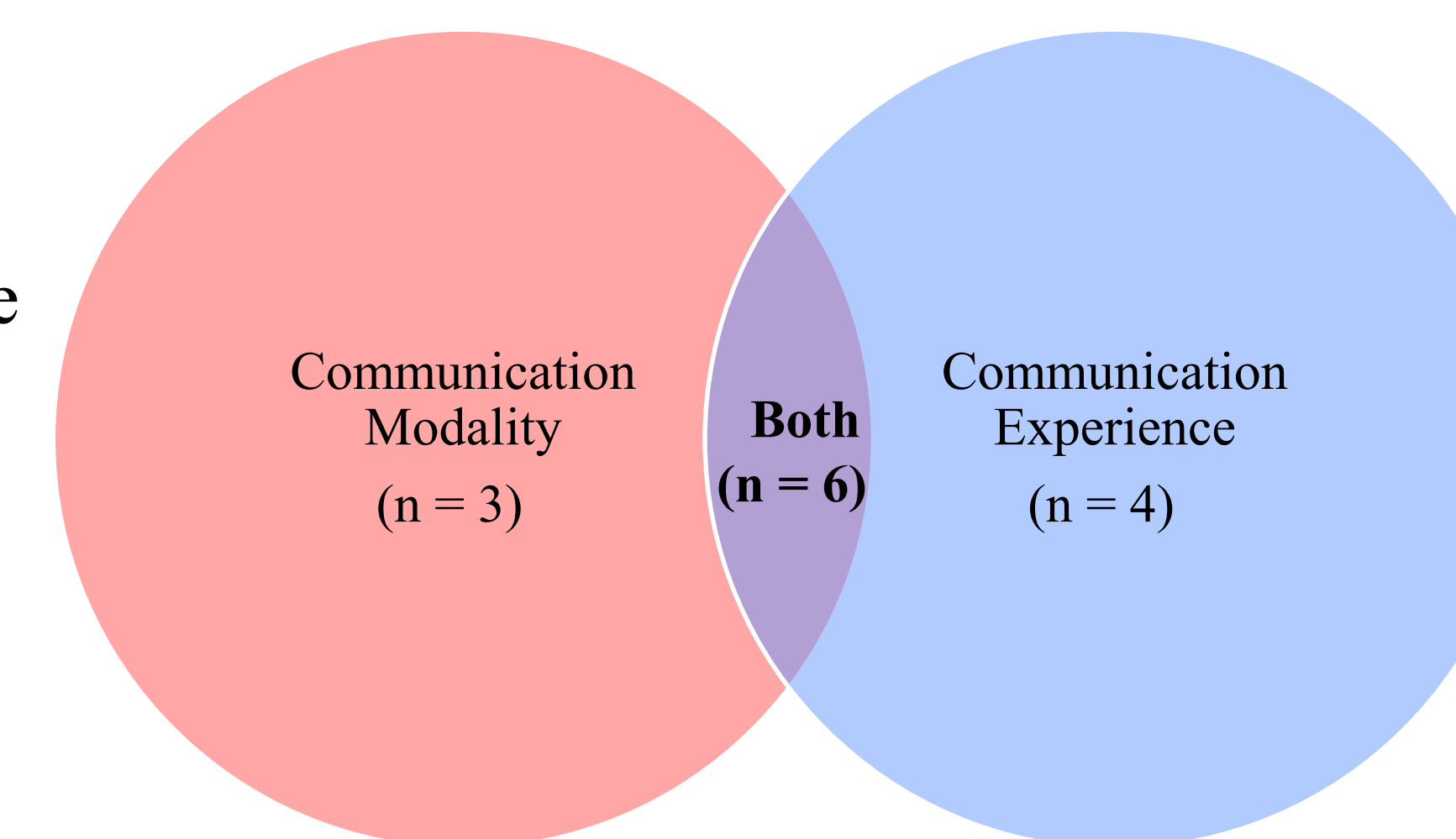
Table 1. Survey Summary

| Instrument | Subject | Constructs Measured |
|--|--------------------|---|
| Telehealth Satisfaction Scale (TeSS) | Patient | Voice/visual quality, length of time to access, personal comfort, ease of use, length of time, privacy, & overall attitude towards telemedicine experience |
| Technology Acceptance Model (TAM) | Patient + Provider | Usefulness, ease of use, attitude towards, intention to use |
| Telemedicine Satisfaction and Usefulness Questionnaire (TSUQ) | Patient | Usefulness, effectiveness, ease of use, attitude, intention to use, comparing telemedicine versus in-person visit(s) |
| Patient Assessment of Communication During Telemedicine (PACT) | Patient | Patient-centered communication, provider competence, interpersonal skills, convenience |
| Telemedicine Perception Questionnaire (TMPQ) | Patient | Communication, privacy/confidentiality, time and cost savings for patient and provider, difficulty, accessibility, physical contact, trust in equipment, standardization for future, satisfaction |
| Telehealth Usability Questionnaire (TUQ) | Patient | Usefulness, ease of use and learnability, interface quality, interaction quality, reliability and effectiveness, and satisfaction |
| Telemedicine Satisfaction Questionnaire (TSQ) | Patient | Satisfaction, technical quality, interpersonal manner, communication, financial aspects, time spent with the physician, and accessibility and convenience |
| System Usability Scale (SUS) | Patient + Provider | Technical quality |
| Perceived Efficacy in Patient-Physician Interactions (PEPPI-5) | Patient | Self-efficacy, communication mastery |
| Patient Experience Questionnaire (PEQ) | Patient | Clinicians' ability to clearly communicate, professional competence of clinician, information exchange, decisional roles in communication, wait times, satisfaction |
| Computer System Usability Questionnaire | Patient + Provider | System usability |
| Telemonitoring Attitude and Readiness Questionnaire (THERQ) | Patient | Communication, patient self-efficacy |
| Tele-Nursing Interaction and Satisfaction Questionnaire (TISQ) | Patient | Interaction quality, satisfaction |

Results

- Surveys instruments relied on Likert scales (n=12/13); no open-response items
- Validation and internal consistency for included survey instruments was consistently high (mean >0.85).
- Lack of language diversity noted with only 5 surveys available in languages other than English (n=2 Chinese, n=2 Dutch, n=1 Spanish, n=1 Swedish).
- Communication theory was used in survey development (n=11/13).
- Few applications included pediatric cohorts (n=2/13).
- Under-utilization of survey uptake in hospice and palliative care despite surge uptake of telehealth in in these care domains (n= 2/13).

- While the surveys claimed to assess communication experience (n= 3/13), the primary focus for most papers was communication modality (Figure 2).



Discussion and Future Direction

Discussion

- In included telehealth survey instruments, communication modality and technology interface are measured more frequently than the communication experience. Available instruments lack items to measure actual telehealth perceived communication quality or care experience.
- Language diversity among available telehealth experience surveys is lacking, risking lack of diversity in telehealth experience perspectives.
- Pediatric cohorts, pediatric family caregivers, and all-age palliative care patients warrant additional telehealth survey development and utilization.

Future Direction

- Further research is needed to explore the patient and family experience using telehealth with a focus on health equity by quantifying instrument utilization across gender, ethnic and geographic representation, socioeconomic, medical diagnoses, and social determinant of health domains.

Acknowledgements

UNMC Department of Pediatrics, the Division of Pediatric Palliative Care, UNMC's Summer Undergraduate Research Program, and the Child Health Research Institute.