

# SEX AND GENDER REPORTING IN RCTS OF INTERNET AND MOBILE-BASED INTERVENTIONS FOR DEPRESSION AND ANXIETY IN CHRONIC CONDITIONS: A SECONDARY ANALYSIS OF A SYSTEMATIC REVIEW

Shaina Corrick (1), Emily Johnson, MSc (1), Serena Isley (1), Ben Vandermeer, MSc (3), Naomi Dolgoy, M.OT, PhD (4), Jack Bates (1), Elana Godfrey (1), Cassidy Soltys (2), Conall Muir (1), Nicole Tegg, RN, MN (5), Colleen Norris, MScN, RN, PhD (5), Puneeta Tandon, MD MSc (1)

(1) Department of Medicine, Division of Gastroenterology, University of Alberta, (2) Faculty of Science, University of Alberta, (3) Department of Medicine, University of Alberta, (4) Faculty of Rehabilitation Medicine, University of Alberta, (5) Faculty of Nursing, University of Alberta

## BACKGROUND

- Mind-body internet and mobile-based interventions (IMIs) are shown to be scalable and effective strategies to manage mental health symptoms for people living with chronic conditions (1).
- Sex and gender may have implications for mind-body IMI participation, adherence, and efficacy (2).

## GUIDELINES

1. Non-binary use (>2 categories for sex and gender)
2. Appropriate use of categories (sex = male/female/intersex; gender = man/woman/gender-diverse)
3. Non-interchangeable use of sex and gender terms (3-4)

## OBJECTIVES

1. Describe **how sex and gender were reported** across studies and compare the studies to guideline-based classification criteria
2. Report on **frequency of author stratification** of anxiety and depression outcomes by sex/gender
3. Provide a summary of **sex/gender considerations** related to recruitment and attrition rates.

## RESULTS

- 56 studies were included with 7691 participants (62% described as female or women)
- No studies met all 3 sex/gender criteria.
- One study provided stratified mental health scores by sex/gender
- Eleven (20%) of studies reported sex or gender imbalance as being a potential reason for outcome differences.
  - 3 studies conducted a statistical analysis investigating sex and gender.

**Table 3.** Sex and Gender Reporting Criteria and Results

Criteria	Met Criteria
Non-binary use (> 2 categories utilized for sex and gender)	2/56 (4%)
Use of appropriate categories (e.g., sex = male/female/intersex, gender = man/woman/gender-diverse)	28/56 (50%)
Non-interchangeable use of sex or gender terms throughout the citation	25/56 (45%)
Did not meet any of the above criteria	21/56 (38%)

## METHODS

- **Database Search Strategy:**
  - Comprehensive search of electronic databases (MEDLINE, EMBASE, PSYCInfo, Scopus, CINAHL, and CENTRAL) from inception to March 2023 was completed. Handsearching through included citations was conducted.
- **Review Process and Data Analysis:**
  - Independent reviewers completed title and abstract screening, full-text review, data extraction, and quality assessment.
  - Descriptive analysis of sex/gender data according to guidelines outlined above (6-7)
- **Inclusion Criteria:**
  - Participants - individuals aged 18+ living with a chronic physical condition
  - Digitally-delivered online mind-body wellness interventions
  - Randomized controlled trials (RCTs) published in peer-reviewed journals.
  - Reported depression or anxiety using a validated scale

## CONCLUSION

- Findings highlight low uptake of sex and gender considerations in the context of mind-body IMIs.
- Results underscore the need to incorporate guideline-based sex and gender terms and concepts, from data collection and analysis to reporting of evidence to inform mind-body IMI development
- Stratified sex and/or gender analyses are encouraged in future studies to assess intervention outcome differences.

## REFERENCES

1. Johnson E, Corrick S, Isley S, Vandermeer B, Dolgoy N, Bates J, et al. Mind-body internet and mobile-based interventions for depression and anxiety in adults with chronic physical conditions: A systematic review of RCTs. *PLOS Digital Health*. 2024;3(1):e0000435.
2. Karyotaki E, Kleiboer A, Smit F, Turner DT, Pastor AM, Andersson G, et al. Predictors of treatment dropout in self-guided web-based interventions for depression: an individual patient data meta-analysis. *Psychol Med*. 2015;45(13):2717-26.
3. Adisso E L, Zomahoun HTV, Gogovor A, Légaré F. Sex and gender considerations in implementation interventions to promote shared decision making: A secondary analysis of a Cochrane systematic review. *PLoS One*. 2020;15(10):e0240371.
4. Gogovor A, Zomahoun HTV, Ekanmian C, Adisso E L, Deom Tardif A, Khadraoui L, et al. Sex and gender considerations in reporting guidelines for health research: a systematic review. *Biol Sex Differ*. 2021;12(1):62.