

Psychiatric Outcomes in Transgender Persons After Hormone Therapy or Gender-Affirming Surgery: A Systematic Review

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Background

- Transgender individuals experience higher rates of mental health issues, including gender dysphoria, depression, and anxiety
- Assessing changes in psychiatric outcomes after hormone therapy or gender-affirming surgery could guide recommendations and client expectations for treatment

Objective

- Review the evidence on how hormone therapies and gender-affirming surgeries affect psychiatric outcomes in transgender persons over time
- Outcomes of interest:
 - Depression
 - Anxiety (general)
 - Gender dysphoria, body image
 - Global psychological functioning, distress

Method

- MEDLINE, PsychINFO, Embase searched from inception to Jan 2017
- Free-text + controlled vocabulary (MeSH, APA Psych Index, Emtree) search strategy
- Title/abstract screen, full-text review by two independent reviewers (kappa = 0.57, 0.94); conflicts resolved by third reviewer
- Inclusion criteria:** prospective cohort design, transgender participants, hormonal or surgical intervention to modify 1° or 2° sex characteristics, before-after outcomes measured using validated psychometric scales
- Exclusion criteria:** non-English, retrospective, cross-sectional, case series, reviews, qualitative outcomes, missing or cisgender-only baseline comparison group

Results

Fig 1. PRISMA flow diagram

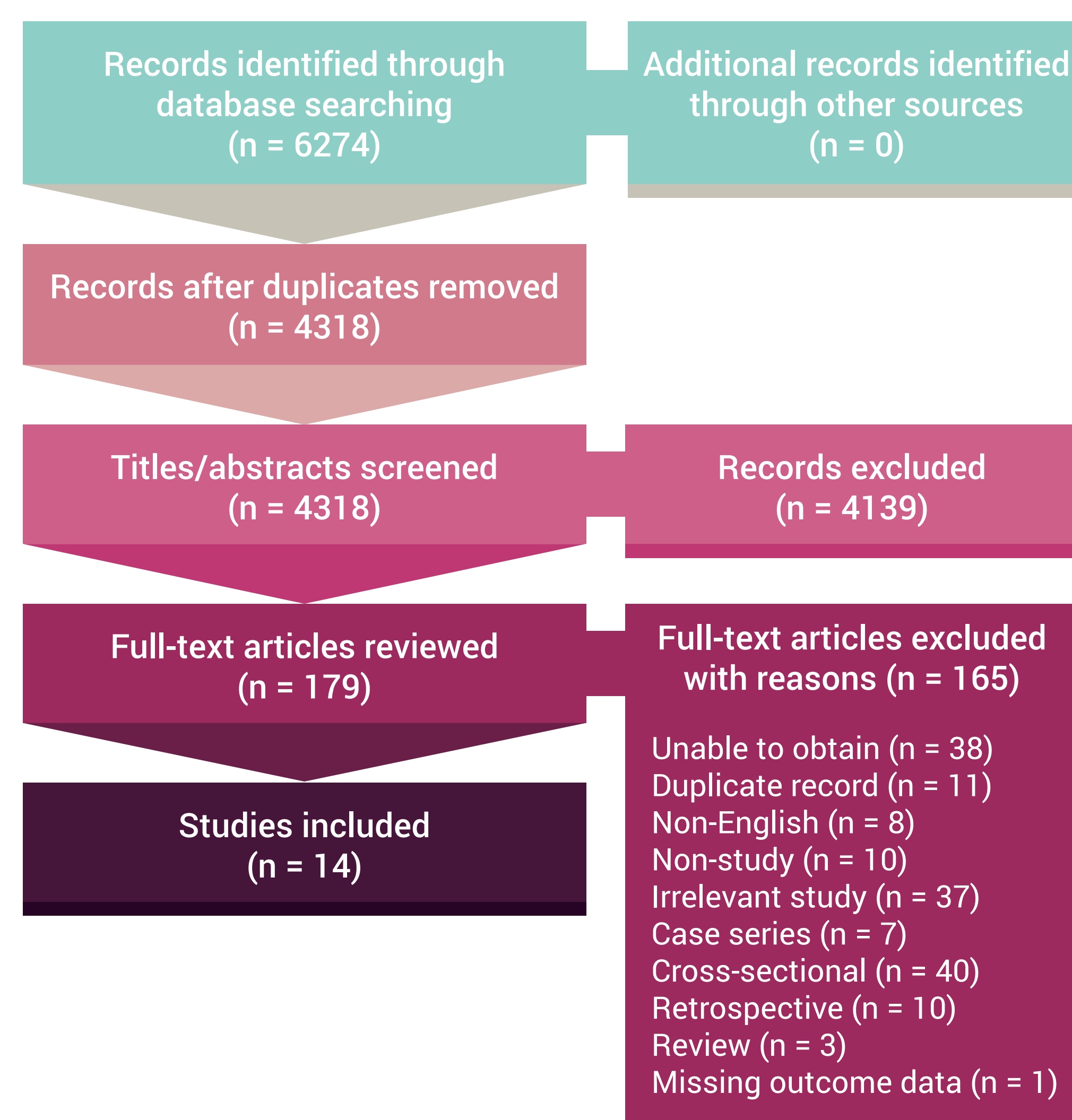


Table 1. Studies included in the review

First author (year)	Cohort (age) Size (N)	Intervention	Length of follow-up	Change in scores × number of corroborating scales			
				Depression	Anxiety	Gender dysphoria/body image	Global psych fxn/distress
Cardoso da Silva (2016)	MtF (31±10) N = 47	Genital reconstruction	≥ 1 yr			↔ × 1	↗ × 1
Colizzi (2013)	MtF (64%, 29±10) FtM (36%, 27±8) N = 70	Cross-sex hormones	1 yr				↗ × 1
Colizzi (2014)	MtF (73%, 29±7) FtM (27%, 29±8) N = 107	Cross-sex hormones	1 yr	↗ × 2	↗ × 2		↗ × 1
Costa (2015)	MtF (37%, 17±1) FtM (63%, 16±1) N = 101	Puberty suppression + psych support	6 mo 1 yr			↔ × 1 (6 mo)	↗ × 1 (1 yr)
	MtF (38%, 17±1) FtM (62%, 16±1) N = 100	Psych support (waitlisted)	6 mo 1 yr			↔ × 1 (6 mo)	↔ × 1 (1 yr)
de Vries (2011)	MtF (47%, 13±2) FtM (53%, 14±2) N = 70	Puberty suppression	2 ± 1 yr	↗ × 1	↔ × 1	↔ × 4	↗ × 3
Heylens (2014)	MtF (81%, NR) FtM (19%, NR) N = 56	Cross-sex hormones + gender-affirming surgery	3 ± 1 yr	↗ × 1	↗ × 1		↗ × 1
Keo-Meier (2015)	FtM (27±9) N = 48	Cross-sex hormones	3 mo	↗ × 1	↔ × 1		
Lindqvist (2016)	MtF (36 [19-76]) N = 146	Gender-affirming surgery	1 yr				↔ × 1 (1 yr)
			3 yr				↔ × 1 (3 yr)
			5 yr				↔ × 1 (5 yr)
Manieri (2014)	MtF (33±9) N = 56 FtM (30±8) N = 27	Cross-sex hormones	1 yr				↗ × 1
			1 yr				↗ × 1
Mate-Kole (1990)	MtF (33 [21-53]) N = 20 FtM (33 [21-53]) N = 20	Genital reconstruction	2 yr	↗ × 1	↗ × 1		
		None (waitlisted)	2 yr	↘ × 1	↘ × 1		
Smith (2001)	MtF (35%, 17 [15-19]) FtM (65%, 17 [15-19]) N = 20	Genital reconstruction + mastectomy (FtM)	1 (1-4) yr	↗ × 1	↗ × 1	↗ × 4	↔ × 2
		None (withdrawn, rejected, or no-show)	4 (1-7) yr	↔ × 1	↔ × 1	↔ × 2	↔ × 2
Udeze (2008)	MtF (47±13) N = 40	Gender-affirming surgery	6 mo	↔ × 1	↔ × 1		↔ × 1
van de Grift (2016)	FtM (26 [18-59]) N = 33	Mastectomy	10 (6-16) mo			↗ × 2	↔ × 3
Weigert (2013)	FtM (42±13) N = 35	Augmentation mammoplasty	4 mo 2 (1-3) yr			↗ × 1 (4 mo)	↗ × 1 (4 mo)
						↗ × 1 (2 yr)	↗ × 1 (2 yr)

↗ × n Improved in n relevant scales
 ↔ × n No significant difference
 ↘ × n Worsened

Fig 2-5. Outcomes over time by intervention

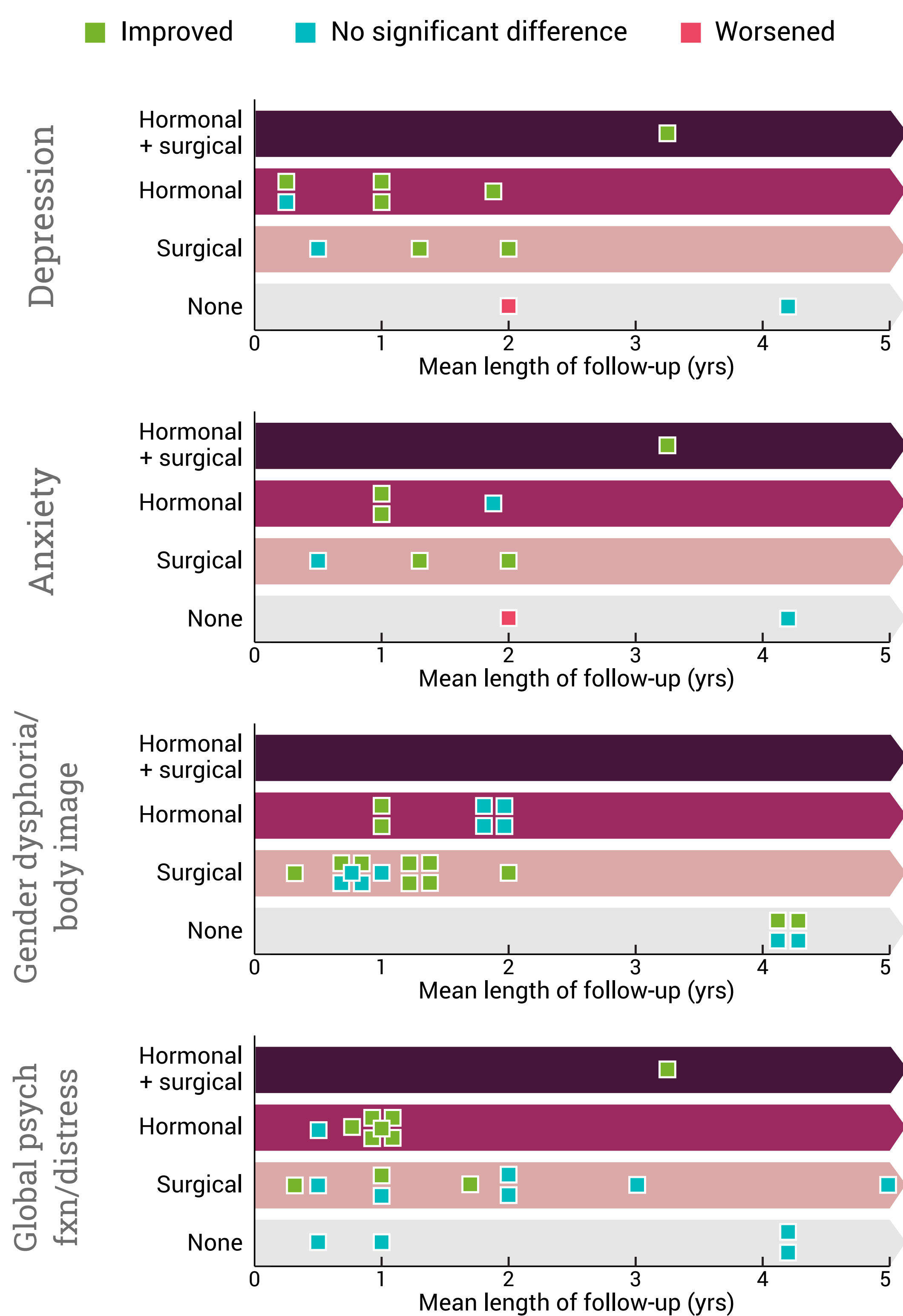
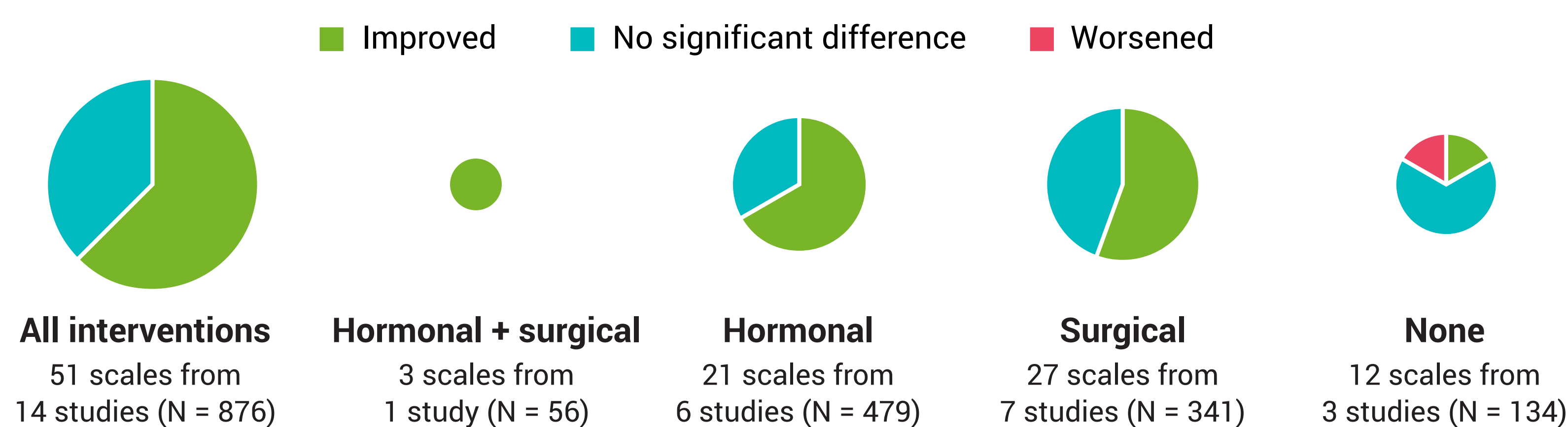


Fig 6. Proportion of improved scores across all outcomes



Conclusions

- Hormonal and surgical treatment is usually followed by improved depression, anxiety, gender dysphoria/body image, and global psychological measures over months to years
- No change/stability in psychometric scores after treatment is common
- No change or worsening is more likely to occur with no treatment than with treatment