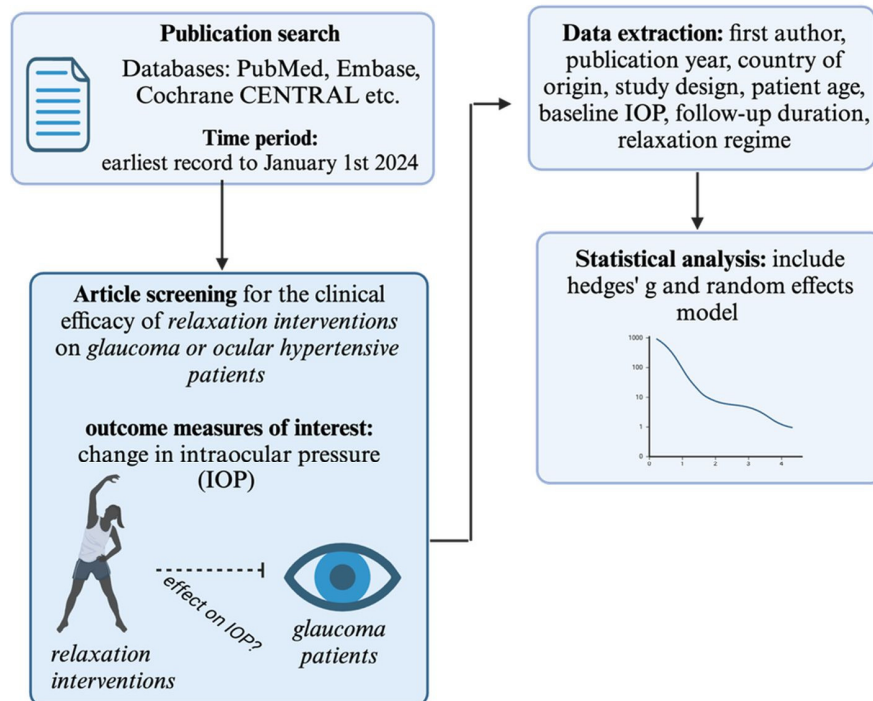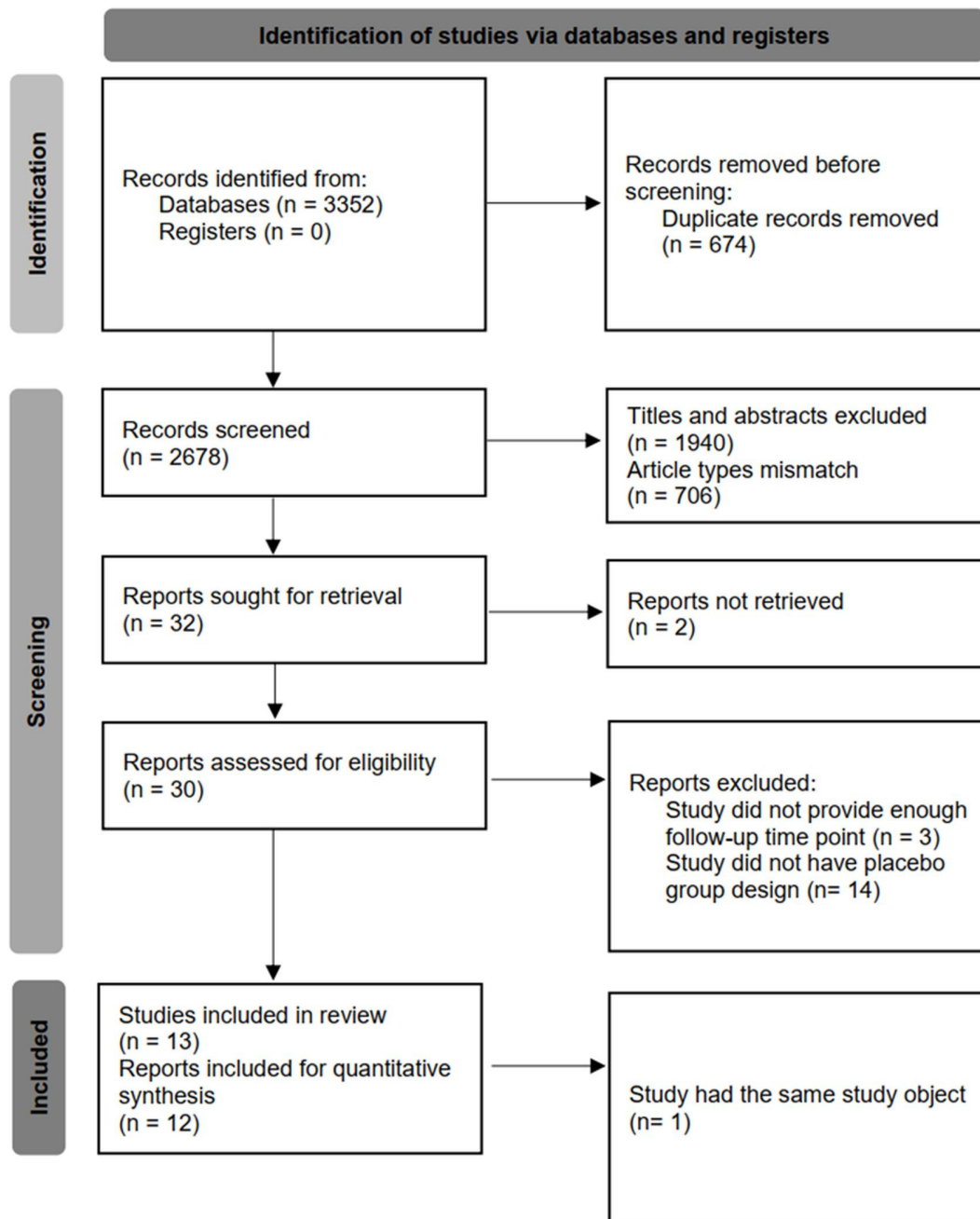**Supplementary Figure S1.** Proposed pathophysiology between mental health conditions and glaucoma.

Supplementary Figure S2. Overview of study design.

Identification of studies via databases and registers

Identification

Records identified from:
Databases (n = 3352)
Registers (n = 0)

Records removed before screening:
Duplicate records removed
(n = 674)

Screening

Records screened
(n = 2678)

Titles and abstracts excluded
(n = 1940)
Article types mismatch
(n = 706)

Reports sought for retrieval
(n = 32)

Reports not retrieved
(n = 2)

Reports assessed for eligibility
(n = 30)

Reports excluded:
Study did not provide enough
follow-up time point (n = 3)
Study did not have placebo
group design (n= 14)

Included

Studies included in review
(n = 13)
Reports included for quantitative
synthesis
(n = 12)

Study had the same study object
(n= 1)

Supplementary Figure S3. PRISMA flow diagram literature search and study selection.

Risk of bias domains

Study	D1	D2	D3	D4	D5	Overall
Kaluza 1995	−	−	+	+	+	X
Kaluza 1996	−	−	+	+	+	X
Dada 2018	+	+	+	+	+	+
Gagrani 2018	+	+	+	+	+	+
Gupta 2019	−	+	+	+	+	−
Dada 2021a	+	+	+	+	+	+
Dada 2021b	+	+	+	+	+	+
Udenia 2021	+	+	+	+	+	+
Dada 2022	+	−	+	+	+	−
Ismail 2022	+	+	+	+	+	+
Sankalp 2022	+	−	+	+	+	−
Ismail 2023	+	+	+	+	+	+
Dada 2024	+	+	+	+	+	+

Domains:
D1: Bias arising from the randomization process.
D2: Bias due to deviations from intended intervention.
D3: Bias due to missing outcome data.
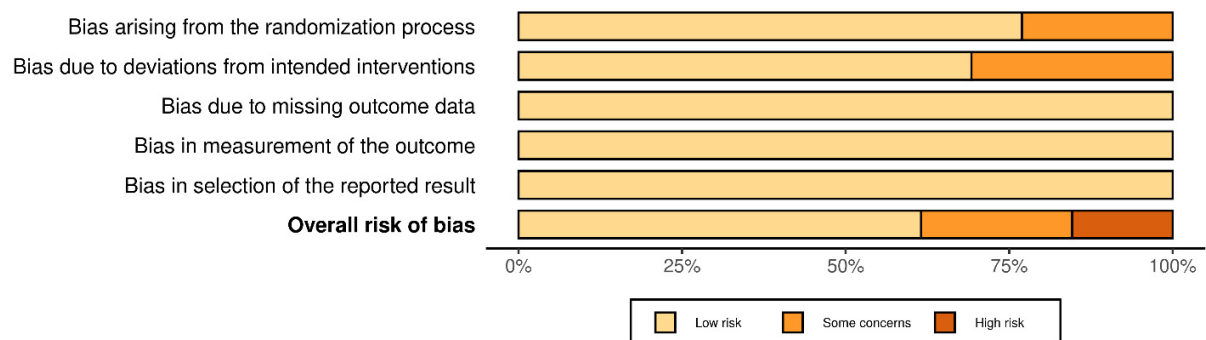D4: Bias in measurement of the outcome.
D5: Bias in selection of the reported result.
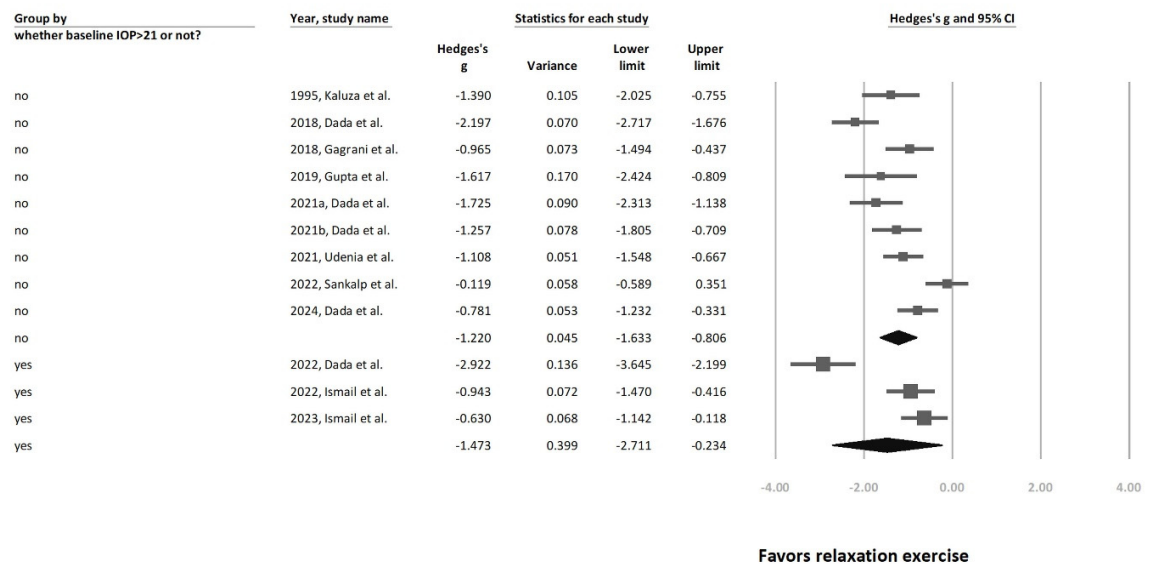
Judgement

X High

− Some concerns

+ Low

Supplementary Figure S4. Risk of bias summary for each study based on the Cochrane bias assessment tool.

| Group by | Year, study name | Statistics for each study | | | | Hedges's g and 95% CI |
whether baseline IOP>21 or not?		Hedges's g	Variance	Lower limit	Upper limit	
no	1995, Kaluza et al.	-1.390	0.105	-2.025	-0.755	
no	2018, Dada et al.	-2.197	0.070	-2.717	-1.676	
no	2018, Gagrani et al.	-0.965	0.073	-1.494	-0.437	
no	2019, Gupta et al.	-1.617	0.170	-2.424	-0.809	
no	2021a, Dada et al.	-1.725	0.090	-2.313	-1.138	
no	2021b, Dada et al.	-1.257	0.078	-1.805	-0.709	
no	2021, Udenia et al.	-1.108	0.051	-1.548	-0.667	
no	2022, Sankalp et al.	-0.119	0.058	-0.589	0.351	
no	2024, Dada et al.	-0.781	0.053	-1.232	-0.331	
no		-1.220	0.045	-1.633	-0.806	
yes	2022, Dada et al.	-2.922	0.136	-3.645	-2.199	
yes	2022, Ismail et al.	-0.943	0.072	-1.470	-0.416	
yes	2023, Ismail et al.	-0.630	0.068	-1.142	-0.118	
yes		-1.473	0.399	-2.711	-0.234	

Favors relaxation exercise

Supplementary Figure S5. Forest plot presenting subgroup analysis based on the baseline IOPs. The baseline IOPs were divided into over or less than 21 mmHg.

| Group by | Year, study name | Statistics for each study | | | | Hedges's g and 95% CI |
over 1 month		Hedges's g	Variance	Lower limit	Upper limit	
no	2018, Dada et al.	-2.197	0.070	-2.717	-1.676	
no	2021a, Dada et al.	-1.725	0.090	-2.313	-1.138	
no	2022, Sankalp et al.	-0.119	0.058	-0.589	0.351	
no	2023, Ismail et al.	-0.630	0.068	-1.142	-0.118	
no		-1.161	0.242	-2.126	-0.196	
yes	1995, Kaluza et al.	-1.390	0.105	-2.025	-0.755	
yes	2018, Gagrani et al.	-0.965	0.073	-1.494	-0.437	
yes	2019, Gupta et al.	-1.617	0.170	-2.424	-0.809	
yes	2021b, Dada et al.	-1.257	0.078	-1.805	-0.709	
yes	2021, Udenia et al.	-1.108	0.051	-1.548	-0.667	
yes	2022, Dada et al.	-2.922	0.136	-3.645	-2.199	
yes	2022, Ismail et al.	-0.943	0.072	-1.470	-0.416	
yes	2024, Dada et al.	-0.781	0.053	-1.232	-0.331	
yes		-1.324	0.042	-1.723	-0.924	

-4.00   -2.00   0.00   2.00   4.00

Favors relaxation exercise

Supplementary Figure S6. Forest plot presenting subgroup analysis based on the follow-up time points. The follow-up time points were divided into over or less than one-month interval.
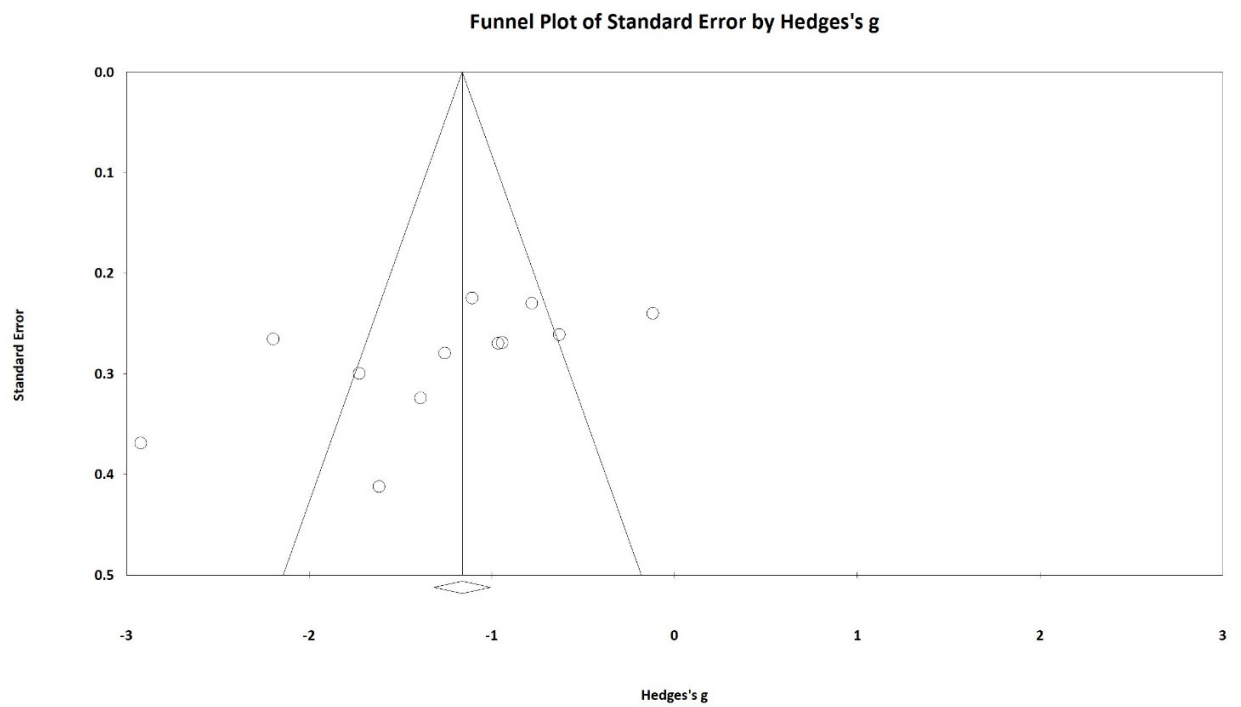
Supplementary Figure S7. Funnel plot of included studies based on Hedges' g before and after relaxation exercise.