

Appendix 1. Strategy search tables

Main Concept	Keywords
Population/subject: sexual health	Sexual dysfunction* OR sexual disorder* OR sexual difficult* OR sexual problem* OR sexual complaint*
Intervention: Mobile technology	<p>“mobile app” OR “mobile apps” OR smartphone OR “mobile health” OR “mHealth” OR "m health" OR "m-health" OR "smart phone" OR "Cellular phone" OR "Cell phone" OR "Cellphone" OR “cellular telephone” OR tablet OR PDA OR iPad OR “Application Softwares” OR “Applications Software” OR “Mobile Applications”</p> <p>OR</p> <p>“telemedicine” OR “mobile health” OR “mHealth” OR "m health" OR "m-health"</p>
Outcome: aim of the interventions	satisfaction OR management OR Education OR training OR consultation OR promotion OR enhancement OR care OR change OR empowerment
Search Strategy-pubmed	No.
(“Sex Attractants”[Mesh] OR “Sexual Abstinence”[Mesh] OR “Sexual and Gender Disorders”[Mesh] OR “Sexual Development”[Mesh] OR “Sexual Dysfunction, Physiological”[Mesh] OR “Sexual Health”[Mesh] OR “Sexual Partners”[Mesh] OR “Sexuality”[Mesh] OR “sexual behavior”[MeSH Terms] OR “sexual behavior” OR “sex behavior” OR “sexual activities” OR “sexual activity” OR “sexual dysfunction” OR “sexual dysfunctions” OR “sexual disorder” OR “sexual disorders” OR “sexual difficulty” OR “sexual difficulties” OR “sexual problem” OR “sexual problems” OR “sexual complaint” OR “sexual complaints” OR “hypoactive sexual desire disorder” OR “Libido disorder” OR	2068

“Sexual and Gender Disorders” OR “Sexual Aversion Disorder” OR “sex allocation” OR
“Sex Attractants” OR “Sex Determination Processes” OR “Sexual Abstinence” OR
“sexual deviation” OR “Sexual Gratification” OR “Sexual Health” OR “Sexuality” OR
“Sexual Maturation” OR “sexual maturity” OR “Sexual partner” OR "sexual distress" OR "
Sexual Functioning" OR " Sexual functioning" OR " psychosexual distress" OR "
Psychosexual concerns")

AND

(“mobile” OR “mobile technology” OR "mobile app" OR "mobile apps" OR smartphone
OR smartphones OR "smart phone" OR "smart phones" OR "Smartphone"[Mesh] OR
"Cellular phone" OR "Cell phone" OR "Cellphone" OR "cellular telephone" OR tablet OR
PDA OR iPad OR "Application Softwares" OR "Applications Software" OR "Mobile
Applications"[Mesh] OR "Computers, Handheld"OR "computer handheld" OR "handheld
computer" OR "computers handheld" OR "handheld computers" OR “telemedicine” OR
“mobile health” OR “mHealth” OR "m health" OR "m-health" OR “mobile information
system” OR “Information Technology” OR "digital health" OR “text messaging” OR “text
message”)

AND

(satisfaction OR management OR Education OR training OR consultation OR promotion
OR enhancement OR care OR change OR empowerment OR "sexual satisfaction" OR
"sexual desire" OR "sexual consent" OR "sexual pleasure" OR "sexual enjoyment")

Search Strategy-Scopus	No.
("Sex Attractants"OR "Sexual Abstinence" OR "Sexual and Gender Disorders"OR "Sexual Development"OR "Sexual Dysfunction, Physiological"OR "Sexual Health"OR "Sexual Partners"OR "Sexuality"OR “sexual behavior" OR “sexual behavior" OR “sex behavior” OR “sexual activities” OR “sexual activity” OR “sexual dysfunction” OR “sexual dysfunctions” OR “sexual disorder” OR “sexual disorders” OR “sexual difficulty” OR “sexual difficulties” OR “sexual problem” OR “sexual problems” OR “sexual complaint”	1963

OR “sexual complaints” OR “hypoactive sexual desire disorder” OR “Libido disorder” OR
“Sexual and Gender Disorders” OR “Sexual Aversion Disorder” OR “sex allocation” OR
“Sex Attractants” OR “Sex Determination Processes” OR “Sexual Abstinence” OR
“sexual deviation” OR “Sexual Gratification” OR “Sexual Health” OR “Sexuality” OR
“Sexual Maturation” OR “sexual maturity” OR “Sexual partner”)

AND

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phone" OR "Cell phone" OR "Cellphone" OR "cellular telephone" OR tablet OR PDA OR
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OR "Computers, Handheld" OR "computer handheld" OR "handheld computer" OR
"computers handheld" OR "handheld computers" OR “telemedicine” OR “mobile health”
OR “mHealth” OR "m health" OR "m-health" OR “mobile information system” OR
“Information Technology” OR "digital health" OR “text messaging” OR “text message”)

AND

(satisfaction OR management OR Education OR training OR consultation OR promotion
OR enhancement OR care OR change OR empowerment)

Search Strategy-WOS	No.
TI= ("Sex Attractants"OR "Sexual Abstinence" OR "Sexual and Gender Disorders"OR "Sexual Development"OR "Sexual Dysfunction, Physiological"OR "Sexual Health"OR "Sexual Partners"OR "Sexuality"OR “sexual behavior" OR “sexual behavior" OR “sex behavior” OR “sexual activities” OR “sexual activity” OR “sexual dysfunction” OR “sexual dysfunctions” OR “sexual disorder” OR “sexual disorders” OR “sexual difficulty” OR “sexual difficulties” OR “sexual problem” OR “sexual problems” OR “sexual complaint” OR “sexual complaints” OR “hypoactive sexual desire disorder” OR “Libido disorder” OR “Sexual and Gender Disorders” OR “Sexual Aversion Disorder” OR “sex allocation” OR “Sex Attractants” OR “Sex Determination Processes” OR “Sexual Abstinence” OR	143

“sexual deviation” OR “Sexual Gratification” OR “Sexual Health” OR “Sexuality” OR
“Sexual Maturation” OR “sexual maturity” OR “Sexual partner” OR "sexual distress" OR "
Sexual Functioning" OR " Sexual functioning" OR " psychosexual distress" OR "
Psychosexual concerns")

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OR “mHealth” OR "m health" OR "m-health" OR “mobile information system” OR
“Information Technology” OR "digital health" OR “text messaging” OR “text message”)

AND

(satisfaction OR management OR Education OR training OR consultation OR promotion
OR enhancement OR care OR change OR empowerment OR "sexual satisfaction" OR
"sexual desire" OR "sexual consent" OR "sexual pleasure" OR "sexual enjoyment")

TS= ("Sex Attractants"OR "Sexual Abstinence" OR "Sexual and Gender Disorders"OR
"Sexual Development"OR "Sexual Dysfunction, Physiological"OR "Sexual Health"OR
"Sexual Partners"OR "Sexuality"OR “sexual behavior" OR “sexual behavior" OR “sex
behavior” OR “sexual activities” OR “sexual activity” OR “sexual dysfunction” OR “sexual
dysfunctions” OR “sexual disorder” OR “sexual disorders” OR “sexual difficulty” OR
“sexual difficulties” OR “sexual problem” OR “sexual problems” OR “sexual complaint”
OR “sexual complaints” OR “hypoactive sexual desire disorder” OR “Libido disorder” OR
“Sexual and Gender Disorders” OR “Sexual Aversion Disorder” OR “sex allocation” OR
“Sex Attractants” OR “Sex Determination Processes” OR “Sexual Abstinence” OR
“sexual deviation” OR “Sexual Gratification” OR “Sexual Health” OR “Sexuality” OR
“Sexual Maturation” OR “sexual maturity” OR “Sexual partner” OR "sexual distress" OR "
Sexual Functioning" OR " Sexual functioning" OR " psychosexual distress" OR "

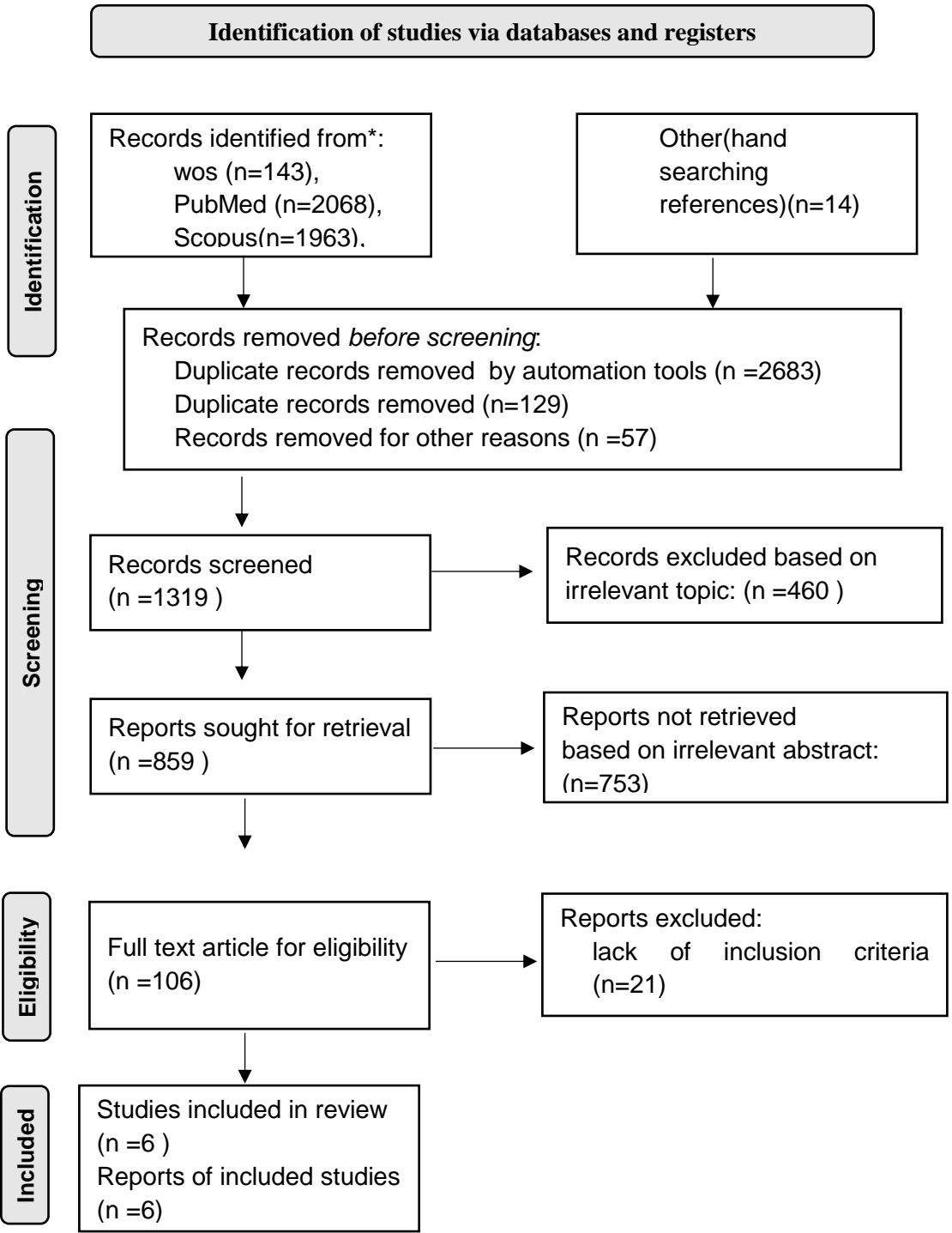
Psychosexual concerns")

AND

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(satisfaction OR management OR Education OR training OR consultation OR promotion OR enhancement OR care OR change OR empowerment OR "sexual satisfaction" OR "sexual desire" OR "sexual consent" OR "sexual pleasure" OR "sexual enjoyment")



Appendix 2: Identification of studies through databases and registries based on PRISMA flow diagram (2020)

Appendix 3. Quality Assessment According to the Modified Jadad Score in the Included Trials

Authors	Was the research described as randomized?	Was the approach of randomization appropriate?	Was the research described as blinding?	Was the approach of blinding appropriate? *	Was there a presentation of withdrawals and dropouts?	Was there a presentation of the inclusion/exclusion criteria?	Was the approach used to assess adverse effects described?	Was the approach of statistical analysis described?	total
Lori A. Brotto (1)	0	0	0	0	1	1	0	1	3
Lori A. Brotto (2)	0	0	0	0	0	1	0	1	2
Alice Hucker (3)	1	1	1	0	1	1	0	1	6
Susanna B. Hummel (4)	1	1	0	0	1	1	0	1	5
Fatemeh Hamidi (5)	1	1	1	0	1	1	1	1	7
Kyle R. Stephenson (6)	0	0	0	0	1	1	1	1	4

Appendix 4. Characteristics of the Studies on Impact of Telemedicine for Improving Women’s Sexual Satisfaction

Author names	country of research	year	Design	Disease Type	target population	intervention	method	main findings
Alice Hucker(3)	Australia	2015	RCT	sexual dysfunctions	Women with multiple sexual concerns	The online CBT program consisted of three key components: psychoeducation, sensate focus exercises, and a mindfulness-based psychoeducational program	Chat Groups, e-mail, contact with a therapist, Pursuing Pleasure (PP website)	Women who completed the PPP program exhibited significantly greater improvements in measures of sexual desire (libido), sexual arousal, orgasmic function, and overall satisfaction compared to the waitlist control group
Lori A. Brotto(2)	Canada	2017	quasiexperimental	sexual dysfunctions	Individuals with a history of colorectal and gynecologic cancer		Not reported	The intervention resulted in significant improvements in women's libido, arousal, lubrication, satisfaction, and overall sexual performance, as measured by the relevant assessment tools. These improvements were sustained for a follow-up period of 6 months

Susanna B. Hummel (4)	Netherlands	2017	RCT	sexual dysfunction	Individuals with a history of breast cancer	(iCBT typically incorporates several components: standardized psychoeducational materials, therapist-assigned homework exercises, self-monitoring reports submitted to a sexologist, and therapist feedback on those reports	e-mail, telephone	Investigating the Efficacy of iCBT) for Addressing Sexual Dysfunction, Body Image Concerns, and Menopausal Symptoms in Breast Cancer Survivors
Lori A. Brotto(1)	Canada	2022	quasiexperimental	sexual dysfunction	Women with Female SIAD	Online Mindfulness	Website	The effectiveness and practicality of online mindfulness interventions
Fateme Hamidi(5)	iran	2023	RCT	sexual dysfunction	women with breast cancer	social network-based supportive program	Social network (WhatsApp)	The usefulness and effectiveness of the support program of social networks on the sexual performance of women with breast cancer
Kyle R. Stephenson(6)	Canada	2023	quasiexperimental	sexual dysfunction	women without SA history	Online MBT/CBT	Self-Directed E-learning Program	The online intervention program was beneficial in each group

iCBT= Internet-based cognitive behavioral therapy; SIAD= Sexual Interest/Arousal Disorder

Appendix 5. Characteristics of the Studies on Female Sexual Function Index Variables

Domain	Alice Hucker (2015)	Lori A. Brotto (2017)	Susanna B. Hummel (2017)	Lori A. Brotto (2022)	Fatemeh Hamidi (2023)	Kyle R. Stephenson (2023)
Desire	2.67 (0.86) / 3.55 (0.64)	2.18 (1.15) / 2.92 (1.18)	2.03 (0.84) / 2.63 (1.08)	2.15 (0.68) / 3.28 (0.73)	2.98 (1.10) / 4.14 (0.89)	2.08 (0.73) / 3.17 (0.66)
Arousal	3.42 (1.06) / 4.70 (0.79)	2.83 (1.28) / 3.95 (1.48)	2.19 (1.47) / 2.85 (1.76)	2.72 (1.09) / 4.53 (0.88)	3.16 (1.82) / 4.24 (1.35)	2.60 (0.87) / 4.42 (0.84)
Lubrication	4.33 (1.16) / 5.31 (0.80)	2.42 (1.31) / 3.11 (1.69)	2.20 (1.69) / 2.88 (1.98)	3.60 (1.52) / 4.75 (1.58)	3.39 (1.57) / 4.13 (1.31)	3.79 (1.45) / 4.82 (1.49)
Orgasm	3.72 (1.52) / 4.70 (1.39)	3.07 (1.57) / 4.09 (1.60)	2.46 (1.91) / 3.11 (2.10)	3.58 (1.60) / 4.61 (1.45)	3.36 (2.01) / 4.53 (1.47)	3.37 (1.55) / 4.00 (1.64)
Pain	4.47 (1.41) / 5.00 (1.21)	3.99 (1.45) / 4.64 (1.44)	1.86 (2.05) / 2.11 (2.18)	4.80 (1.22) / 5.32 (0.88)	3.04 (1.81) / 2.37 (1.34)	-
Satisfaction	3.30 (1.15) / 4.72 (0.59)	3.56 (1.35) / 4.55 (1.27)	2.94 (1.26) / 3.71 (1.56)	3.20 (1.21) / 4.65 (0.89)	3.50 (2.16) / 4.72 (1.55)	3.17 (1.12) / 4.50 (1.00)

1. Brotto LA, Stephenson KR, Zippan N. Feasibility of an Online Mindfulness-Based Intervention for Women with Sexual Interest/Arousal Disorder. *Mindfulness*. 2022;13(3):647-59.
2. Brotto LA, Dunkley CR, Breckon E, Carter J, Brown C, Daniluk J, et al. Integrating Quantitative and Qualitative Methods to Evaluate an Online Psychoeducational Program for Sexual Difficulties in Colorectal and Gynecologic Cancer Survivors. *Journal of sex & marital therapy*. 2017;43(7):645-62.
3. Hucker A, McCabe MP. Incorporating Mindfulness and Chat Groups Into an Online Cognitive Behavioral Therapy for Mixed Female Sexual Problems. *Journal of sex research*. 2015;52(6):627-39.
4. Hummel SB, van Lankveld J, Oldenburg HSA, Hahn DEE, Kieffer JM, Gerritsma MA, et al. Efficacy of Internet-Based Cognitive Behavioral Therapy in Improving Sexual Functioning of Breast Cancer Survivors: Results of a Randomized Controlled Trial. *Journal of clinical oncology : official journal of the American Society of Clinical Oncology*. 2017;35(12):1328-40.
5. Hamidi F, Elyasi F, Mousavinasab SN, Ghasemi A, Keshavarz Z, Shahhosseini Z. Effect of a social network-based supportive program (WhatsApp) on the sexual self-concept of women with breast cancer: A single-blind-randomized controlled trial. *Palliative & supportive care*. 2023;21(1):27-37.
6. Stephenson KR, Latimer SRE, Zippan NL, Brotto LA. History of Sexual Assault as a Predictor of Response to a Self-Guided Online Program for Sexual Desire and Arousal Difficulties in Women. *Archives of sexual behavior*. 2023;52(8):3379-91.