WHO Consolidated Guideline on Self-Care Interventions for Health

Sexual and Reproductive Health and Rights*

World Health Organization

human reproduction programme hrp research for impact
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WEB ANNEX: GRADE TABLES

** Full guideline available at:*
www.who.int/reproductivehealth/publications/self-care-interventions/en/

WHO consolidated guideline on self-care interventions for health: sexual and reproductive health and rights Web Supplement: GRADE tables

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1. SELF-ADMINISTRATION OF INJECTABLE CONTRACEPTION

GRADE table[1]

PICO[2] question: For individuals of reproductive age using injectable contraception, should self-administration be made available as an additional approach to deliver injectable contraception?

Certainty assessment							No. of patients		Effect		Certainty	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Self-administration of injectable contraception	Provider administration	Relative (95% CI)	Absolute (95% CI)		
Continuation of injectable contraception – RCTs (follow-up: mean 12 months)												
3[1,2,3]	randomized trials	serious[a]	not serious	not serious	not serious	none	425/598 (71.1%)	312/561 (55.6%)	**RR 1.27** (1.16 to 1.39)	**151 more per 1000** (from 91 more to 217 more)	⊗⊗⊗○ MODERATE	critical
Continuation of injectable contraception – observational studies (follow-up: mean 12 months)												
3[4,5,6]	observational studies	serious[a]	not serious	not serious	not serious	none	1014/1253 (80.9%)	891/1303 (68.4%)	**RR 1.18** (1.10 to 1.26)	**122 more per 1000** (from 68 more to 179 more)	⊗○○○ VERY LOW	critical
Unintended pregnancy – RCTs (follow-up: mean 12 months)												
2[1,2,b]	randomized trials	not serious	not serious[c]	not serious	serious[d]	none	3/512 (0.6%)	6/515 (1.2%)	**RR 0.58** (0.15 to 2.22)	**5 fewer per 1000** (from 10 fewer to 14 more)	⊗⊗⊗○ MODERATE	critical
Unintended pregnancy – observational studies												
2[4,5,b]	observational studies	not serious	not serious[c]	not serious	serious[d]	none	3/1707 (0.2%)	3/1754 (0.2%)	**RR 1.11** (0.23 to 5.26)	**0 fewer per 1000** (from 1 fewer to 7 more)	⊗○○○ VERY LOW	critical
Side-effects or adverse events – RCTs (follow-up: 9 months; assessed with: reported adverse events deemed potentially treatment-related)												
1[2]	randomized trials	serious[a]	not serious	not serious	serious[d]	none	10/364 (2.7%)	17/367 (4.6%)	**RR 0.59** (0.28 to 1.28)	**19 fewer per 1000** (from 13 more to 34 fewer)	⊗⊗○○ LOW	critical
Side-effects or adverse events – RCTs (follow-up: 9 months; assessed with: reported serious adverse events deemed potentially treatment-related)[e]												
1[2,b]	randomized trials	serious[a]	not serious	not serious	serious[d]	none	0/364 (0.3%)	1/367 (0.0%)	not estimable[f]		⊗⊗○○ LOW	critical
Side-effects or adverse events – RCTs (follow-up: 9 months; assessed with: reported any side-effects)												

1 GRADE: Grading of Recommendations Assessment, Development and Evaluation (further information: www.gradeworkinggroup.org)

2 PICO: population, intervention, comparator, outcome(s)

Certainty assessment							No. of patients		Effect		Certainty	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Self-administration of injectable contraception	Provider administration	Relative (95% CI)	Absolute (95% CI)		
1[2]	randomized trials	serious[a]	not serious	not serious	serious[d]	none	41/306 (13.4%)	38/213 (17.8%)	**RR 0.75** (0.50 to 1.13)	**26 fewer per 1000** (from 52 fewer to 13 more)	⊗⊗○○ LOW	critical
Side-effects or adverse events – observational studies (follow-up: 9 months; assessed with: reported serious adverse events)												
2[4,5,f]	observational studies	serious[a]	not serious	not serious	serious[d]	none	0/1707 (0.0%)	0/1754 (0.0%)	not estimable[f]		⊗○○○ VERY LOW	critical
Side-effects or adverse events – observational studies (follow-up: 9 months; assessed with: reported any side-effects)												
2[4,5]	observational studies	serious[a]	not serious	not serious	serious[d]	none	67/1061 (6.3%)	35/991 (3.5%)	**RR 2.43** (0.34 to 17.59)	**50 more per 1000** (from 23 fewer to 586 more)	⊗○○○ VERY LOW	critical
Side-effects or adverse events – observational studies (follow-up: 9 months; assessed with: reported an injection site reaction)												
2[4,5]	observational studies	serious[a]	not serious	not serious	serious[d]	none	67/1061 (6.3%)	35/991 (3.5%)	**RR 2.43** (0.34 to 17.59)	**50 more per 1000** (from 23 fewer to 586 more)	⊗○○○ VERY LOW	critical
Side-effects or adverse events – observational studies (follow-up: 12 months; assessed with: reported amenorrhoea)												
1[6]	observational studies	serious[a]	not serious	not serious	serious[d]	none	49/51 (96.1%)	34/39 (87.2%)	**RR 1.10** (0.97 to 1.26)	**89 more per 1000** (from 31 fewer to 225 more)	⊗○○○ VERY LOW	critical
Self-efficacy, knowledge and empowerment – RCTs (follow-up: 12 months)												
1[2,b]	randomized trials	serious[a]	not serious	not serious	serious[d]	none	0/364 (0.0%)	0/367 (0.0%)	not estimable[f]		⊗⊗○○ LOW	critical
Self-efficacy, knowledge and empowerment – observational studies – not reported												
-	-	-	-	-	-	-	-	-	-	-	-	
Social harms – not reported												
-	-	-	-	-	-	-	-	-	-	-	-	

CI: confidence interval; RCT: randomized controlled trial; RR: risk ratio

Explanations

a. Blinding was not possible given the nature of the intervention, and outcome may have been affected by blinding (self-report).

b. A continuity correction was used to calculate a pooled relative risk, as one study had zero pregnancies in the intervention arm.

c. Did not downgrade for lack of blinding because the outcome (pregnancy) was deemed to be less potentially influenced by self-report bias.

d. Downgraded for a small number of events (< 300).

e. Serious adverse events deemed potentially treatment-related included one case of severe back pain.

f. Relative and absolute effects not estimable due to zero events.

References

1. Kohn JE, Simons HR, Della Badia L, Draper E, Morfesis J, Talmont E, et al. Increased 1-year continuation of DMPA among women randomized to self-administration: results from a randomized controlled trial at Planned Parenthood. Contraception. 2018;97(3):198-204. doi:10.1016/j.contraception.2017.11.009.
2. Burke HM, Chen M, Buluzi M, Fuchs R, Wevill S, Venkatasubramanian L, et al. Effect of self-administration versus provider-administered injection of subcutaneous depot medroxyprogesterone acetate on continuation rates in Malawi: a randomised controlled trial. Lancet Glob Health. 2018;6(5):e568-e578. doi:10.1016/s2214-109x(18)30061-5.
3. Beasley A, White KO, Cremers S, Westhoff C. Randomized clinical trial of self versus clinical administration of subcutaneous depot medroxyprogesterone acetate. Contraception. 2014;89(5):352-6. doi:10.1016/j.contraception.2014.01.026.
4. Cover J, Namagembe A, Tumusiime J, Nsangi D, Lim J, Nakiganda-Busiku D. Continuation of injectable contraception when self-injected vs. administered by a facility-based health worker: a nonrandomized, prospective cohort study in Uganda. Contraception. 2018;98(5):383-8. doi:10.1016/j.contraception.2018.03.032.
5. Cover J, Ba M, Drake JK. Continuation of self-injected v. provider-administered contraception in Senegal: a non-randomized, prospective cohort study. Contraception. 2019;99(2):137-41. doi:10.1016/j.contraception.2018.03.032.
6. Cameron ST, Glasier A, Johnstone A. Pilot study of home self-administration of subcutaneous depo-medroxyprogesterone acetate for contraception. Contraception. 2012;85(5):458-64. doi:10.1016/j.contraception.2011.10.002.

2. OVER-THE-COUNTER ORAL CONTRACEPTIVE PILLS

GRADE table

PICO question: For individuals using oral contraceptive pills (OCPs), should OCPs be made available over-the-counter (OTC), i.e. without a prescription?

Note: OTC availability (i.e. without a prescription) includes (a) "off the shelf" with no screening and (b) "behind the counter" pharmacy access dispensed (with screening) by trained pharmacy staff

Certainty assessment							No. of patients		Effect		Certainty	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Availability of OCPs OTC (i.e. without a prescription – see note above)	Availability of OCPs by prescription only	Relative (95% CI)	Absolute (95% CI)		
Newer studies (2000s)												
Continuation of OCPs (follow-up: 9 months)												
1[1,a]	observational studies	serious[b]	not serious[c]	not serious	not serious	none	369/466 (79.2%)	355/474 (74.9%)	**HR 1.58** (1.11 to 2.26)	**138 more per 1000** (from 35 more to 207 more)	⊗○○○ VERY LOW	critical
Use of OCPs despite contraindications (assessed with: at least one category 3 or 4 contraindication)												
2[2,3,d]	observational studies	serious[b]	not serious[e]	not serious	not serious	none	107/501 (21.4%)	71/514 (13.8%)	**OR 1.57** (1.18 to 2.09)	**63 more per 1000** (from 21 more to 113 more)	⊗○○○ VERY LOW	critical
Side-effects												
1[4]	observational studies	serious[b]	not serious[c]	not serious	not serious	none	104/466 (22.3%)	144/474 (30.4%)	**OR 0.66** (0.49 to 0.88)	**80 fewer per 1000** (from 128 fewer to 26 fewer)	⊗○○○ VERY LOW	critical
Satisfaction (assessed with: very satisfied with source of OCPs)												
1[4]	observational studies	serious[b]	not serious[c]	not serious	serious	none	3/4 of clinic users and > 70% of pharmacy users		not estimable		⊗○○○ VERY LOW	critical
Older studies (1970s)												
Continuation of OCPs (follow-up: 12 months)												
2[5,6]	observational studies	serious[b]	not serious[e]	serious[f]	not serious	none	Rates of 60 and 79.2 per 100 women	Rates of 57.6 and 84.2 per 100 women	**OR 0.91** (0.60 to 1.40)	**20 fewer per 1000** (from 96 fewer to 75 more)	⊗○○○ VERY LOW	critical
Side-effects												
1[6]	observational studies	serious[b]	not serious[c]	serious[f]	not serious	none	150/295 (51%)	260/587 (44.4%)	**OR 1.30** (0.98 to 1.72)	**58 more per 1000** (from 4 fewer to 125 more)	⊗○○○ VERY LOW	critical

CI: confidence interval; HR: hazard ratio; OCPs: oral contraceptive pills; OR: odds ratio; OTC: over the counter

Explanations

a. Overall, 25.1% of clinic users discontinued by the end of the study period compared with 20.8% of OTC users ($P = 0.12$). In an unadjusted Cox proportional hazards model, OTC users were more likely to continue OCP use than clinic users (unadjusted HR: 1.48, 95% CI: 1.07 to 2.04); this estimate changed only slightly in the adjusted model and remained statistically significant (adjusted HR: 1.58, 95% CI: 1.11 to 2.26).

b. Blinding was not possible given the nature of the intervention, and outcome may have been affected by blinding (self-report).

c. Single study.

d. Border Contraceptive Access Study: At least one category 3 or 4 contraindication, OTC vs. clinic: OR: 1.69 (95% CI: 1.22 to 2.36), $P = 0.002$; adjusted OR: 1.59 (95% CI: 1.11 to 2.29), $P = 0.012$.
2000 Mexican National Health Survey analysis: Hypertension and/or smoking over age 35 (the most common category 3 or 4 contraindications), OTC vs. clinic: 4.5% vs. 3.6%, non-significant.

e. No significant statistical heterogeneity ($I^2 = 0\%$).

f. Population studied was from the 1970s, who were using older formulations of OCs and may be different in a range of other ways from OC users today.

References

1. Potter JE, McKinnon S, Hopkins K, Amastae J, Shedlin MG, Powers DA, Grossman D. Continuation of prescribed compared with over-the-counter oral contraceptives. Obstet Gynecol. 2011;117(3):551-7. doi:10.1097/AOG.0b013e31820afc46.
2. Grossman D, White K, Hopkins K, Amastae J, Shedlin M, Potter JE. Contraindications to combined oral contraceptives among over-the-counter compared with prescription users. Obstet Gynecol. 2011;117(3):558-65. doi:10.1097/AOG.0b013e31820b0244.
3. Yeatman SE, Potter JE, Grossman DA. Over-the-counter access, changing WHO guidelines, and contraindicated oral contraceptive use in Mexico. Stud Fam Plann. 2006;37(3):197-204. doi:10.1111/j.1728-4465.2006.00098.x.
4. Potter JE, White K, Hopkins K, Amastae J, Grossman D. Clinic versus over-the-counter access to oral contraception: choices women make along the US-Mexico border. Am J Public Health. 2010;100(6):1130-6. doi:10.2105/ajph.2009.179887.
5. Bailey J, Jimenez RA, Warren CW. Effect of supply source on oral contraceptive use in Mexico. Studies in family planning. 1982;13(11):343-9.
6. Measham AR. Self-prescription of oral contraceptives in Bogota, Colombia. Contraception. 1976;13(3):333-40.

Note: References 1, 2 and 4 report on the Border Contraceptive Access Study.

3. HOME-BASED OVULATION PREDICTOR KITS (OPKs)

GRADE table

PICO question: For individuals attempting to become pregnant, should home-based ovulation predictor kits (OPKs) be made available as an additional approach for fertility management?

Certainty assessment							No. of patients		Effect		Certainty	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Fertility management with OPKs	Fertility management without OPKs	Relative (95% CI)	Absolute (95% CI)		
Time to pregnancy – RCTs (follow-up: 2 cycles)												
2[1,2]	randomized trials	serious[a,b]	not serious	not serious	not serious	publication bias strongly suspected[c]	There was no evidence of difference in time-to-pregnancy (indicated by positive pregnancy test) in either study. In one study, 46 of 500 participants in the OPK group (9.2%) became pregnant during the 1st menstrual cycle, compared with 27 of 500 (5.4%) in control group; during the 2nd cycle, another 23 in the OPK group became pregnant (cumulatively 22.8%) and another 23 in the control group (cumulatively 10%).[2] The other study found pregnancies among women before the 1st menstrual cycle (22 of 87 in the OPK group compared with 13 of 68 in the control group); after the 1st cycle, 30 of 55 women using OPKs were found pregnant compared with 9 of 54 in the control group; and after the 2nd cycle, 7 of 44 women using OPKs were found pregnant compared with 6 of 43 in the control group.[1] Pre-cycle 1 pregnancies were included in this study, as participants were sent study materials after recruitment and randomization and may have become pregnant by the 1st timepoint (day 6 of cycle 1).[d]				⊗⊗○○ LOW	critical
Pregnancy (clinical and self-reported) – RCTs (follow-up: range 2–3 cycles)												
3[1,2,3]	randomized trials	serious[a,b]	not serious	not serious	not serious	publication bias strongly suspected[c]	129/695 (18.6%)	89/675 (13.2%)	**RR 1.36** (1.07 to 1.73)	**47 more per 1000** (from 9 more to 96 more)	⊗⊗○○ LOW	critical
Pregnancy (clinical only) – RCTs (follow-up: 3 cycles)												
1[3]	randomized trials	not serious	not serious[e]	serious[f]	serious[g]	publication bias strongly suspected[c]	12/80 (15.0%)	11/80 (13.8%)	**RR 1.09** (0.51-2.32)	**11 more per 1000** (from 69 fewer to 182 more)	⊗○○○ VERY LOW	critical
Pregnancy (self-reported only) – RCTs (follow-up: 2 cycles)												
2[1,2]	randomized trials	serious[a,b]	not serious	not serious	not serious	publication bias strongly suspected[c]	117/615 (19.0%)	78/595 (13.1%)	**RR 1.40** (1.08 to 1.80)	**52 more per 1000** (from 10 more to 105 more)	⊗⊗○○ LOW	critical

Certainty assessment							No. of patients		Effect		Certainty	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Fertility management with OPKs	Fertility management without OPKs	Relative (95% CI)	Absolute (95% CI)		
Pregnancy (clinical only) – observational study (follow-up: 6 cycles)												
1[4]	observational studies	not serious	not serious[e]	serious[h]	not serious	publication bias strongly suspected[pc]	6/64 (9.4%)	14/53 (26.4%)	**RR 0.35** (0.15 to 0.86)	**172 fewer per 1000** (from 225 fewer to 37 fewer)	⊗○○○ VERY LOW	critical
Stress (PSS, higher scores indicate higher stress) – RCTs (follow-up: 2 cycles)												
1[1]	randomized trials	serious[b]	not serious[e]	not serious	not serious[i]	publication bias strongly suspected[c]	OPK Mean: 17.76, SD: 6.48, Total: 37; Control Mean: 15.78, SD: 6.25, Total: 40; Mean difference: 1.98, 95% CI: -0.91 to 4.87, *P*-value: 0.18				⊗⊗○○ LOW	critical
Stress (PANAS positive affect, higher scores indicate stronger positive emotion) – RCTs (follow-up: 2 cycles)												
1[1]	randomized trials	serious[b]	not serious[e]	not serious	not serious[j]	publication bias strongly suspected[c]	OPK Mean: 29.75, SD: 10.24, Total: 36; Control Mean: 34.26, SD: 8.06, Total: 38; Mean difference: -4.51, 95% CI: -8.77 to -0.25, *P*-value: 0.04				⊗⊗○○ LOW	critical
Stress (PANAS negative affect, higher scores indicate stronger negative emotion) – RCTs (follow-up: 2 months)												
1[1]	randomized trials	serious[b]	not serious[e]	not serious	serious[k]	publication bias strongly suspected[c]	OPK Mean: 17.55, SD: 6.97, Total: 38; Control Mean: 16.9, SD: 6.64, Total: 40; Mean difference: 0.65, 95% CI: -2.42 to 3.72, *P*-value: 0.67				⊗○○○ VERY LOW	critical
Stress (SF-12 physical, higher scores indicate better health-related quality of life) – RCTs (follow-up: 2 cycles)												
1[1]	randomized trials	serious[b]	not serious[e]	not serious	serious[l]	publication bias strongly suspected[c]	OPK Mean: 41.86, SD: 4, Total: 38; Control Mean: 41.12, SD: 3.14, Total: 40; Mean difference: 0.74, 95% CI: -0.88 to 2.36, *P*-value: 0.37				⊗○○○ VERY LOW	critical
Stress (SF-12 mental, higher scores indicate better health-related quality of life) – RCTs (follow-up: 2 cycles)												
1[1]	randomized trials	serious[b]	not serious[e]	not serious	serious[m]	publication bias strongly suspected[c]	OPK Mean: 46.40, SD: 7.15, Total: 38; Control Mean: 46.15, SD: 5.11, Total: 40; Mean difference: 0.25, 95% CI: -2.54 to 3.04, *P*-value: 0.86				⊗○○○ VERY LOW	critical
Stress (cortisol : creatinine ratio, higher ratio indicates higher stress) – RCTs (follow-up: 2 cycles)												
1[1]	randomized trials	serious[b]	not serious[e]	not serious	serious[n]	publication bias strongly suspected[c]	OPK Mean: 139.30, SD: 59.03, Total: 37; Control Mean: 156.23, SD: 89.44, Total: 38; Mean difference: -16.9, 95% CI: -51.87 to 18.07, *P*-value: 0.34				⊗○○○ VERY LOW	critical
Stress (estrone-3-glucuronide [E3G]: creatinine ratio, higher ratio indicates higher depression/anxiety) – RCTs (follow-up: 2 cycles)												
1[1]	randomized trials	serious[b]	not serious[e]	not serious	serious[o]	publication bias strongly suspected[c]	OPK Mean: 101.59, SD: 52.34, Total: 37; Control Mean: 95.24, SD: 52.43, Total: 38; Mean difference: 6.35, 95% CI: -17.76 to 30.46, *P*-value: 0.60				⊗○○○ VERY LOW	critical
Live birth – not reported												
-	-	-	-	-	-	-	-	-	-	-	-	
Social harms/adverse events – not reported												
-	-	-	-	-	-	-	-	-	-	-	-	

CI: confidence interval; OPK: ovulation predictor kit; PANAS: The Positive and Negative Affect Schedule; PSS: Perceived Stress Scale; RCT: randomized controlled trial; RR: risk ratio; SD: standard deviation; SF-12: Short-Form 12 Health Survey

Explanations

a. High risk of bias in Robinson et al., 2007:[2] Blinding of participants and personnel not possible, based on the intervention. Blinding of outcome assessment not possible for self-reported pregnancy (via positive pregnancy test). Unexplained high dropout rate (35%): 191 non-responders in the OPK group and 144 in the control group. Unreported outcome (live birth). Study reported results from two menstrual cycles, instead of from the pre-specified three cycles ("Although women were recruited to the study for three cycles, insufficient evaluable data were provided for the third cycle of the study, and therefore data were analysed for the first two complete cycles following confirmation that the participants were not pregnant at baseline. The reason for the limited third-cycle data was thought to be related to confusion on the part of the participants regarding returning data at the end of cycle 3").

b. High risk of bias in Tiplady et al., 2013:[1] Blinding of participants and personnel not possible, based on the intervention. Blinding of outcome assessment not possible for self-reported pregnancy (via positive pregnancy test). A second (biased, ratio 2:1) cohort was recruited into the OPK group to increase the power of the data for the outcome stress, because of higher pregnancy rates in the OPK group.

c. Due to the commercial nature of the OPK product, negative results may go unpublished. Some studies were funded by the manufacturer.

d. No hazard ratios reported for either study.

e. Single study.

f. Leader et al., 1992:[3] Study conducted among couples with unexplained infertility or whose fertility was thought to be due to reduced sperm motility.

g. Downgraded for imprecision because study shows both meaningful benefit and harm.

h. Anderson et al., 1996:[4] Study conducted among women using donor insemination services.

i. PSS: Higher scores indicate higher stress, based on perceptions of how unpredictable, uncontrollable and overloaded participants find their lives (range 0–40). Scoring falls into three categories: low perceived stress (0–13), moderate perceived stress (14–26) or high perceived stress (27–40). Though the 95% CI crosses 0, there is no appreciable clinical difference in benefits and harms.

j. PANAS comprises 10 positive affects (interested, excited, strong, enthusiastic, proud, alert, inspired, determined, attentive, active) and 10 negative affects (distressed, upset, guilty, scared, hostile, irritable, ashamed, nervous, jittery, afraid), where higher scores indicate stronger emotion (range 10–50). Though a small sample size, PANAS positive affect scores have a 95% CI that has a relatively small width, does not cross zero, and is all in the same direction. Participants in the OPK group had decreased positive affect.

k. PANAS negative affect scores have a small sample size. The width of the 95% CI is small and shows both appreciable benefit and harm.

l. SF-12 is a short, reliable, validated generic questionnaire for functional health status and outcomes, with both physical and mental health composite scores (range 0–100). This SF-12 physical outcome has a small sample size. The width of the 95% CI is small and shows both benefit and harm.

m. This SF-12 mental outcome has a small sample size. The width of the 95% CI is small and shows both benefit and harm.

n. Ratio of cortisol (µg/dl) to creatinine (g/dl), where a higher ratio indicates higher stress, has a small sample size and the 95% CI shows both appreciable benefit and harm.

o. Ratio of estrone-3-glucuronide (E3G) (ng/ml) to creatinine (g/dl), where a higher ratio indicates higher depression/anxiety, has a small sample size and the 95% CI shows both appreciable benefit and harm.

References

1. Tiplady S, Jones G, Campbell M, Johnson S, Ledger W. Home ovulation tests and stress in women trying to conceive: a randomized controlled trial. Hum Reprod. 2013;28(1):138-51. doi:10.1093/humrep/des372.

2. Robinson JE, Wakelin M, Ellis JE. Increased pregnancy rate with use of the Clearblue Easy Fertility Monitor. Fertil Steril. 2007;87(2):329-34. doi:10.1016/j.fertnstert.2006.05.054.

3. Leader LR, Russell T, Stenning B. The use of clearplan home ovulation detection kits in unexplained and male factor infertility. Aust N Z J Obstet Gynaecol. 1992;32(2):158-60. doi:10.1111/j.1479-828X.1992.tb01930.x.

4. Anderson RA, Eccles SM, Irvine DS. Home ovulation testing in a donor insemination service. Hum Reprod. 1996;11(8):1674-7.

4. HUMAN PAPILLOMAVIRUS SELF-SAMPLING

GRADE table

PICO question: For individuals aged 30–60 years, should human papillomavirus self-sampling (HPVSS) be offered as an additional approach to sampling in cervical cancer screening services?

Certainty assessment							No. of patients		Effect		Certainty	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	HPV self-sampling	Clinician-based sampling and cervical cancer screening services	Relative (95% CI)	Absolute (95% CI)		
Uptake of cervical cancer screening services – RCTs – overall												
29[1–29]	randomized trials	not serious[a]	not serious[b]	not serious	not serious	none	64 852/ 182 305 (35.6%)	36 318/ 100 557 (36.1%)	**RR 2.13** (1.89 to 2.40)	**408 more per 1000** (from 322 more to 505 more)	⊗⊗⊗⊗ HIGH	critical
Uptake of cervical cancer screening services – RCTs – kit directly mailed home												
23[1–7,9, 10,13, 15–23, 25–27,29]	randomized trials	not serious[a]	serious[b]	not serious	not serious	none	44 381/ 137 436 (32.3%)	24 469/ 84 728 (28.9%)	**RR 2.27** (1.89 to 2.71)	**365 more per 1000** (from 258 more to 494 more)	⊗⊗⊗◯ MODERATE	critical
Uptake of cervical cancer screening services – RCTs – kit offered door to door by health worker												
5[6,15,16, 21,22]	randomized trials	not serious[a]	serious[b]	not serious	not serious	none	12 249/ 12 909 (94.9%)	11 837/ 15 798 (74.9%)	**RR 2.37** (1.12 to 5.03)	**1000 more per 1000** (from 89 more to 1000 more)	⊗⊗⊗◯ MODERATE	critical
Uptake of cervical cancer screening services – RCTs – kit on demand												
5[8,11,14, 24,28]	randomized trials	not serious[a]	serious[b]	not serious	not serious	none	8200/ 31 897 (25.7%)	2700/ 20 339 (13.3%)	**RR 1.28** (0.90 to 1.82)	**37 more per 1000** (from 13 fewer to 108 more)	⊗⊗⊗◯ MODERATE	critical
Uptake of cervical cancer screening services – RCTs – self-sample in clinic												
1[12]	randomized trials	not serious[a]	not serious[c]	not serious	serious[d]	publication bias strongly suspected[e]	22/63 (34.9%)	12/31 (38.7%)	**RR 0.93** (0.51 to 1.69)	**28 fewer per 1000** (from 190 fewer to 267 more)	⊗⊗◯◯ LOW	critical
Uptake of cervical cancer screening services – RCTs – high-income countries												
26[1–10,12, 15–29]	randomized trials	not serious[a]	serious[b]	not serious	not serious	none	55 217/ 17 2484 (32.0%)	25 030/ 87 736 (28.5%)	**RR 2.24** (1.86 to 2.71)	**355 more per 1000** (from 245 more to 487 more)	⊗⊗⊗◯ MODERATE	critical

Certainty assessment							No. of patients		Effect		Certainty	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	HPV self-sampling	Clinician-based sampling and cervical cancer screening services	Relative (95% CI)	Absolute (95% CI)		
Uptake of cervical cancer screening services – RCTs – low- and middle-income countries												
3[11,13,14]	randomized trials	not serious[a]	serious[b]	not serious	not serious	none	9635/ 9821 (98.1%)	11 288/ 12 821 (88.0%)	**RR 1.54** (1.01 to 2.34)	**475 more per 1000** (from 11 more to 1000 more)	⊗⊗⊗○ MODERATE	critical
Uptake of cervical cancer screening services – RCTs – urban												
13[3–5, 8–13,19, 20,27,30]	randomized trials	not serious[a]	serious[b]	not serious	not serious	none	25 345/ 78 618 (32.2%)	14 607/ 36 016 (40.6%)	**RR 2.09** (1.54 to 2.83)	**440 more per 1000** (from 218 more to 743 more)	⊗⊗⊗○ MODERATE	critical
Uptake of cervical cancer screening – RCTs – rural												
4[1,14,29,30]	randomized trials	not serious[a]	serious[b]	not serious	not serious	none	10 272/ 12 837 (80.0%)	11 498/ 14 326 (80.3%)	**RR 1.40** (1.14 to 1.73)	**322 more per 1000** (from 108 more to 586 more)	⊗⊗⊗○ MODERATE	critical
Uptake of cervical cancer screening services – RCTs – age < 50 years												
12[4–6,9, 10,13, 15,17, 18,22, 25,26]	randomized trials	not serious[a]	serious[b]	not serious	not serious	none	18 038/ 51 179 (35.2%)	16 955/ 56 609 (30.0%)	**RR 1.95** (1.61 to 2.36)	**284 more per 1000** (from 182 more to 407 more)	⊗⊗⊗○ MODERATE	critical
Uptake of cervical cancer screening services – RCTs – age 50+ years												
11[4–6,9, 10,13, 15,17, 22,25, 26]	randomized trials	not serious[a]	serious[b]	not serious	not serious	none	6903/ 26 341 (26.2%)	7147/ 28 418 (25.1%)	**RR 2.25** (1.44 to 3.50)	**313 more per 1000** (from 111 more to 630 more)	⊗⊗⊗○ MODERATE	critical
Uptake of cervical cancer screening services – RCTs – low socioeconomic status												
4[13,14, 25,30]	randomized trials	not serious[a]	serious[b]	not serious	not serious	none	10 042/ 12 859 (78.1%)	11 373/ 14 853 (76.6%)	**RR 1.62** (1.15 to 2.28)	**476 more per 1000** (from 117 more to 982 more)	⊗⊗⊗○ MODERATE	critical
Uptake of cervical cancer screening services – RCTs – high socioeconomic status												
3[13,25,30]	randomized trials	not serious[a]	not serious	not serious	not serious	none	881/ 2400 (36.7%)	347/ 1352 (25.7%)	**RR 1.40** (1.15 to 1.71)	**103 more per 1000** (from 38 more to 182 more)	⊗⊗⊗⊗ HIGH	critical

Certainty assessment							No. of patients		Effect		Certainty	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	HPV self-sampling	Clinician-based sampling and cervical cancer screening services	Relative (95% CI)	Absolute (95% CI)		
Uptake of cervical cancer screening services – RCTs – supervised												
2[14,24]	randomized trials	not serious[a]	serious[b]	not serious	not serious	none	50 637/ 167 026 (30.3%)	12 868/ 73 229 (17.6%)	**RR 2.21** (1.80 to 2.73)	**213 more per 1000** (from 140 more to 303 more)	⊗⊗⊗○ MODERATE	critical
Uptake of cervical cancer screening services – RCTs – unsupervised												
27[1–13, 15–23, 25–29]	randomized trials	not serious[a]	serious[b]	not serious	serious[d]	none	9362/ 9578 (97.7%)	11 111/ 12 553 (88.5%)	**RR 1.63** (0.74 to 3.61)	**560 more per 1000** (from 231 fewer to 1000 more)	⊗⊗○○ LOW	critical
Linkage to clinical assessment or treatment of cervical lesions following a positive result – RCTs												
6[3,9,11, 18,22, 25]	randomized trials	not serious[f]	serious[b]	not serious	not serious	none	724/ 1162 (62.3%)	245/573 (42.8%)	**RR 1.12** (0.80 to 1.57)	**50 more per 1000** (from 85 fewer to 239 more)	⊗⊗⊗○ MODERATE	critical
Frequency of cervical cancer screening – not reported												
-	-	-	-	-	-	-	-	-	-	-	-	
Social harms and adverse events – not reported												
-	-	-	-	-	-	-	-	-	-	-	-	

CI: confidence interval; RCT: randomized controlled trial; RR: risk ratio

Explanations

a. Not downgraded for risk of bias for the uptake of cervical cancer screening outcome. This outcome was measured by lab/ medical records (number of kits sent in for testing and number of patients who got the Pap smear or visual inspection with acetic acid [VIA]), not by self-report. Though neither blinding of participants/personnel nor blinding of outcome assessment occurred, blinding or not blinding should not have made a difference in uptake.

b. Downgraded for substantial heterogeneity ($I^2 > 80\%$).

c. Single study.

d. Downgraded because the 95% CI includes both appreciable benefit and harm.

e. Publication bias suspected because the single included study for this self-sampling kit method of delivery had a small sample size (and small number of events).

f. Not downgraded for lack of blinding because linkage to care was measured by lab/medical records, not by self-report.

References

1. Zehbe I, Jackson R, Wood B, Weaver B, Escott N, Severini A, et al. Community-randomised controlled trial embedded in the Anishinaabek Cervical Cancer Screening Study: human papillomavirus self-sampling versus Papanicolaou cytology. BMJ Open. 2016;6(10):e011754. doi:10.1136/bmjopen-2016-011754.

2. Wikstrom I, Lindell M, Sanner K, Wilander E. Self-sampling and HPV testing or ordinary Pap-smear in women not regularly attending screening: a randomised study. Br J Cancer. 2011;105(3):337-9. doi:10.1038/bjc.2011.236.

3. Viviano M, Catarino R, Jeannot E, Boulvain M, Malinverno MU, Vassilakos P, Petignat P. Self-sampling to improve cervical cancer screening coverage in Switzerland: a randomised controlled trial. Br J Cancer. 2017;116(11):1382-8. doi:10.1038/bjc.2017.111.

4. Virtanen A, Nieminen P, Luostarinen T, Anttila A. Self-sample HPV tests as an intervention for nonattendees of cervical cancer screening in Finland: a randomized trial. Cancer Epidemiol Biomarkers Prev. 2011;20(9):1960-9. doi:10.1158/1055-9965.EPI-11-0307.

5. Szarewski A, Cadman L, Mesher D, Austin J, Ashdown-Barr L, Edwards R, et al. HPV self-sampling as an alternative strategy in non-attenders for cervical screening – a randomised controlled trial. Br J Cancer. 2011;104(6):915-20. doi:10.1038/bjc.2011.48.

6. Tranberg M, Bech BH, Blaakaer J, Jensen JS, Svanholm H, Andersen B. Preventing cervical cancer using HPV self-sampling: direct mailing of test-kits increases screening participation more than timely opt-in procedures – a randomized controlled trial. BMC Cancer. 2018;18(1):273. doi:10.1186/s12885-018-4165-4.

7. Sultana F, English DR, Simpson JA, Drennan KT, Mullins R, Brotherton JM, et al. Home-based HPV self-sampling improves participation by never-screened and under-screened women: results from a large randomized trial (iPap) in Australia. Int J Cancer. 2016;139(2):281-90. doi:10.1002/ijc.30031.

8. Sewali B, Okuyemi KS, Askhir A, Belinson J, Vogel RI, Joseph A, Ghebre RG. Cervical cancer screening with clinic-based Pap test versus home HPV test among Somali immigrant women in Minnesota: a pilot randomized controlled trial. Cancer Med. 2015;4(4):620-31. doi:10.1002/cam4.429.

9. Sancho-Garnier H, Tamalet C, Halfon P, Leandri FX, Le Retraite L, Djoufelkit K, et al. HPV self-sampling or the Pap-smear: a randomized study among cervical screening nonattenders from lower socioeconomic groups in France. Int J Cancer. 2013;133(11):2681-7. doi:10.1002/ijc.28283.

10. Piana L, Leandri F-X, Le Retraite L, Heid P, Tamalet C, Sancho-Garnier H. L'auto-prélèvement vaginal à domicile pour recherche de papilloma virus à haut risque. Campagne expérimentale du département des Bouches-du-Rhône. Bull Cancer Radiother. 2011;98(7):723-31. doi:10.1684/bdc.2011.1388.

11. Moses E, Pedersen HN, Mitchell SM, Sekikubo M, Mwesigwa D, Singer J, et al. Uptake of community-based, self-collected HPV testing vs. visual inspection with acetic acid for cervical cancer screening in Kampala, Uganda: preliminary results of a randomised controlled trial. Trop Med Int Health. 2015;20(10):1355-67. doi:10.1111/tmi.12549.

12. Murphy J, Mark H, Anderson J, Farley J, Allen J. A randomized trial of human papillomavirus self-sampling as an intervention to promote cervical cancer screening among women with HIV. J Low Genit Tract Dis. 2016;20(2):139-44. doi:10.1097/Lgt.0000000000000195.

13. Modibbo F, Iregbu KC, Okuma J, Leeman A, Kasius A, de Koning M, et al. Randomized trial evaluating self-sampling for HPV DNA based tests for cervical cancer screening in Nigeria. Infect Agent Cancer. 2017;12:11. doi:10.1186/s13027-017-0123-z.

14. Lazcano-Ponce E, Lorincz AT, Cruz-Valdez A, Salmerón J, Uribe P, Velasco-Mondragón E, et al. Self-collection of vaginal specimens for human papillomavirus testing in cervical cancer prevention (MARCH): a community-based randomised controlled trial. Lancet. 2011;378(9806):1868-73. doi:10.1016/s0140-6736(11)61522-5.

15. Kellen E, Benoy I, Vanden Broeck D, Martens P, Bogers JP, Haelens A, Van Limbergen E. A randomized, controlled trial of two strategies of offering the home-based HPV self-sampling test to non-participants in the Flemish cervical cancer screening program. Int J Cancer. 2018;143(4):861-8. doi:10.1002/ijc.31391.

16. Ivanus U, Jerman T, Fokter AR, Takac I, Prevodnik VK, Marcec M, et al. Randomised trial of HPV self-sampling among non-attenders in the Slovenian cervical screening programme ZORA: comparing three different screening approaches. Radiol Oncol. 2018;52(4):399-412. doi:10.2478/raon-2018-0036.

17. Haguenoer K, Sengchanh S, Gaudy-Graffin C, Boyard J, Fontenay R, Marret H, et al. Vaginal self-sampling is a cost-effective way to increase participation in a cervical cancer screening programme: a randomised trial. Br J Cancer. 2014;111(11):2187-96. doi:10.1038/bjc.2014.510.

18. Gustavsson I, Aarnio R, Berggrund M, Hedlund-Lindberg J, Strand AS, Sanner K, et al. Randomised study shows that repeated self-sampling and HPV test has more than two-fold higher detection rate of women with CIN2+ histology than Pap smear cytology. Br J Cancer. 2018;118(6):896-904. doi:10.1038/bjc.2017.485.

19. Gök M, van Kemenade FJ, Heideman DA, Berkhof J, Rozendaal L, Spruyt JW, et al. Experience with high-risk human papillomavirus testing on vaginal brush-based self-samples of non-attendees of the cervical screening program. Int J Cancer. 2012;130(5):1128-35. doi:10.1002/ijc.26128.

20. Gök M, Heideman DA, van Kemenade FJ, Berkhof J, Rozendaal L, Spruyt JW, et al. HPV testing on self collected cervicovaginal lavage specimens as screening method for women who do not attend cervical screening: cohort study. BMJ. 2010;340:c1040. doi:10.1136/bmj.c1040.

21. Giorgi Rossi P, Marsili LM, Camilloni L, Iossa A, Lattanzi A, Sani C, et al. The effect of self-sampled HPV testing on participation to cervical cancer screening in Italy: a randomised controlled trial (ISRCTN96071600). Br J Cancer. 2011;104(2):248-54. doi:10.1038/sj.bjc.6606040.

22. Giorgi Rossi P, Fortunato C, Barbarino P, Boveri S, Caroli S, Del Mistro A, et al. Self-sampling to increase participation in cervical cancer screening: an RCT comparing home mailing, distribution in pharmacies, and recall letter. Br J Cancer. 2015;112(4):667-75. doi:10.1038/bjc.2015.11.

23. Darlin L, Borgfeldt C, Forslund O, Hénic E, Hortlund M, Dillner J, Kannisto P. Comparison of use of vaginal HPV self-sampling and offering flexible appointments as strategies to reach long-term non-attending women in organized cervical screening. J Clin Virol. 2013;58(1):155-60. doi:10.1016/j.jcv.2013.06.029.

24. Carrasquillo O, Seay J, Amofah A, Pierre L, Alonzo Y, McCann S, et al. HPV self-sampling for cervical cancer screening among ethnic minority women in South Florida: a randomized trial. J Gen Intern Med. 2018;33(7):1077-83. doi:10.1007/s11606-018-4404-z.

25. Cadman L, Wilkes S, Mansour D, Austin J, Ashdown-Barr L, Edwards R, et al. A randomized controlled trial in non-responders from Newcastle upon Tyne invited to return a self-sample for human papillomavirus testing versus repeat invitation for cervical screening. J Med Screen. 2015;22(1):28-37. doi:10.1177/0969141314558785.

26. Broberg G, Gyrd-Hansen D, Jonasson JM, Ryd ML, Holtenman M, Milsom I, Strander B. Increasing participation in cervical cancer screening: Offering a HPV self-test to long-term non-attendees as part of RACOMIP, a Swedish randomized controlled trial. Int J Cancer. 2014;134(9):2223-30. doi:10.1002/ijc.28545.

27. Bais AG, van Kemenade FJ, Berkhof J, Verheijen RH, Snijders PJ, Voorhorst F, et al. Human papillomavirus testing on self-sampled cervicovaginal brushes: an effective alternative to protect nonresponders in cervical screening programs. Int J Cancer. 2007;120(7):1505-10. doi:10.1002/ijc.22484.

28. Arrossi S, Thouyaret L, Herrero R, Campanera A, Magdaleno A, Cuberli M, et al. Effect of self-collection of HPV DNA offered by community health workers at home visits on uptake of screening for cervical cancer (the EMA study): a population-based cluster-randomised trial. Lancet Glob Health. 2015;3(2):E85-E94. doi:10.1016/S2214-109x(14)70354-7.

29. Racey CS, Gesink DC, Burchell AN, Trivers S, Wong T, Rebbapragada A. Randomized intervention of self-collected sampling for human papillomavirus testing in under-screened rural women: uptake of screening and acceptability. J Womens Health. 2016;25(5):489-97. doi:10.1089/jwh.2015.5348.

30. Tranberg M, Bech BH, Blaakaer J, Jensen JS, Svanholm H, Andersen B. HPV self-sampling in cervical cancer screening: the effect of different invitation strategies in various socioeconomic groups – a randomized controlled trial. Clin Epidemiol. 2018;10:1027-36. doi:10.2147/clep.s164826.

5. SELF-COLLECTION OF SAMPLES (SCS) FOR SEXUALLY TRANSMITTED INFECTION (STI) TESTING

GRADE table

PICO question: For individuals using sexually transmitted infection (STI) testing services, should self-collection of samples (SCS) be offered as an additional approach to deliver STI testing services?

STIs assessed in this review were: *Chlamydia trachomatis* (CT), *Neisseria gonorrhoeae* (NG), *Treponema pallidum* (syphilis), and *Trichomonas vaginalis* (TV)

Certainty assessment							No. of patients		Effect		Certainty	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Self-collection of samples	Clinician-collected sampling	Relative (95% CI)	Absolute (95% CI)		
Uptake of STI testing services – RCT – any STI (CT, CT/NG)												
5[1–5]	randomized trials	serious[a]	serious[b]	not serious	not serious	none	1925/5649 (34.1%)	420/5839 (7.2%)	**RR 2.94** (1.19 to 7.28)	**140 more per 1000** (from 14 more to 452 more)	⊗⊗○○ LOW	critical
Uptake of STI testing services – RCT – multiple STIs (CT/NG)												
1[5]	randomized trials	serious[c]	not serious[d]	serious[e]	not serious	publication bias strongly suspected[f]	162/211 (76.8%)	117/209 (56.0%)	**RR 1.21** (1.01 to 1.46)	**118 more per 1000** (from 6 more to 258 more)	⊗○○○ VERY LOW	critical
Uptake of STI testing services – RCT – CT												
4[1–4]	randomized trials	serious[a]	serious[b]	not serious	not serious	none	1763/5438 (32.4%)	303/5630 (5.4%)	**RR 3.57** (1.10 to 11.61)	**138 more per 1000** (from 5 more to 571 more)	⊗⊗○○ LOW	critical
Uptake of STI testing services – RCT – any STI, females only (NG/CT, CT)												
4[1,2,3,5]	randomized trials	serious[a]	serious[b]	not serious	not serious	none	1256/3509 (35.8%)	309/3793 (8.1%)	**RR 3.29** (1.07 to 10.11)	**187 more per 1000** (from 6 more to 742 more)	⊗⊗○○ LOW	critical
Uptake of STI testing services – RCT – any STI, males only (CT)												
3[2,3,4]	randomized trials	serious[a]	serious[b]	not serious	not serious	none	669/2140 (31.3%)	111/2046 (5.4%)	**RR 6.90** (1.72 to 27.66)	**320 more per 1000** (from 39 more to 1000 more)	⊗⊗○○ LOW	critical
Uptake of STI testing services – observational – multiple STIs (NG/CT, NG/TV, NG/CT, bacterial STIs not specified)												
2[6,7,8,9,g,h]	observational studies	serious[i]	serious[j]	not serious	serious[k]	none	965/1768 (54.6%)	675/1576 (42.8%)	**RR 2.99** (0.43 to 20.98)	**852 more per 1000** (from 244 fewer to 1000 more)	⊗○○○ VERY LOW	critical
Uptake of STI testing services – observational – syphilis												

Certainty assessment							No. of patients		Effect		Certainty	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Self-collection of samples	Clinician-collected sampling	Relative (95% CI)	Absolute (95% CI)		
1[7]	observational studies	not serious	not serious[d]	not serious	not serious	none	976/1510 (64.6%)	962/1520 (63.3%)	**RR 1.02** (0.97 to 1.08)	**13 more per 1000** (from 19 fewer to 51 more)	⊗⊗○○ LOW	critical
Uptake of STI testing services – observational – CT												
1 [6]	observational studies	not serious	not serious[d]	not serious	serious[k,l]	none	195/258 (75.6%)	18/56 (32.1%)	**RR 2.35** (0.60 to 3.46)	**434 more per 1000** (from 129 fewer to 791 more)	⊗○○○ VERY LOW	critical
Case-finding – RCT – any STI (CT)												
4 [1,2,3,4]	randomized trials	serious[a]	not serious	not serious	not serious	none	186/1763 (10.6%)	90/303 (29.7%)	**RR 0.72** (0.58 to 0.88)	**83 fewer per 1000** (from 125 fewer to 36 fewer)	⊗⊗⊗○ MODERATE	critical
Case finding – RCT – multiple STIs (NG/CT)												
1 [5]	randomized trials	not serious	not serious[d]	not serious	not serious	publication bias strongly suspected[m]	No significant difference in the rate of incidence of STIs detected during follow-up in the intervention group compared with the control group (20.4 vs 24.1 infections per 100 woman-years, $P = 0.28$). The results were similar when restricted to chlamydia only (17.6 vs 18.9 infections per 100 woman-years) or when restricted to gonorrhoea only (4.9 vs 7.9 infections per 100 woman-years).				⊗⊗⊗○ MODERATE	critical
Case finding – observational – multiple STIs (CT/NG, CT/NG/TV)												
2 [8,10]	observational studies	not serious	serious[n]	not serious	serious[k,l]	none	124/956 (13.0%)	245/3587 (6.8%)	**RR 1.35** (0.60 to 3.04)	**24 more per 1000** (from 27 fewer to 139 more)	⊗○○○ VERY LOW	critical
Case finding – observational – NG												
3 [6,7,10]	observational studies	not serious	not serious	not serious	very serious[k,l,l]	none	156/2995 (5.2%)	100/1824 (5.5%)	**RR 0.94** (0.56 to 1.58)	**3 fewer per 1000** (from 24 fewer to 32 more)	⊗○○○ VERY LOW	critical
Case finding – observational – CT												
4 [6,7,10,11]	observational studies	not serious	serious[o]	not serious	serious[k]	none	289/4190 (6.9%)	7047/ 170 145 (4.1%)	**RR 1.35** (0.62 to 2.95)	**14 more per 1000** (from 16 fewer to 81 more)	⊗○○○ VERY LOW	critical
Case finding – observational – TV												
2 [6,10]	observational studies	not serious	not serious	not serious	very serious[k,l]	none	15/328 (4.6%)	2/30 (6.7%)	**RR 0.79** (0.21 to 3.00)	**14 fewer per 1000** (from 53 fewer to 133 more)	⊗○○○ VERY LOW	critical
Frequency of STI testing – not reported												

Certainty assessment							No. of patients		Effect		Certainty	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Self-collection of samples	Clinician-collected sampling	Relative (95% CI)	Absolute (95% CI)		
-	-	-	-	-	-	-	-	-	-	-	-	
Social harms or adverse events – not reported												
-	-	-	-	-	-	-	-	-	-	-	-	
Linkage to clinical assessment or STI treatment following a positive test result – not reported												
-	-	-	-	-	-	-	-	-	-	-	-	
Sexual risk behaviour – not reported												
-	-	-	-	-	-	-	-	-	-	-	-	

CI: confidence interval; RCT: randomized controlled trial; RR: risk ratio

Explanations

a. Downgraded for risk of bias because of selection and attrition bias.

b. Downgraded for inconsistency because considerable heterogeneity.

c. Downgraded because of attrition bias. Uptake data reported solely in abstract, not in results section. Potential attrition bias, with no reasons provided by authors for loss to follow-up. If using per-protocol analyses (as presented in the text), then the GRADE data would be: self-collection of samples (162/197 [82.2%]) vs clinician-collected sampling (117/191 [61.3%]) with RR 1.18 (95% CI: 0.99 to 1.42) and absolute effect 110 more per 1000 (95% CI: from 6 fewer to 257 more).

d. Inconsistency not possible to evaluate as only a single study.

e. Downgraded because the reported uptake outcome was defined as women who completed at least one NG/CT test when asymptomatic – not all women all the time.

f. Single study, small number of events.

g. Data from Habel et al., 2018[8] were not combinable. In 2013, 1014 male and 2711 female students used clinician testing for chlamydia and gonorrhoea. In 2015, after adding a self-testing option (and retaining clinician testing), 1303 male (28.5% increase) and 3082 female (13.7% increase) students tested for chlamydia and gonorrhoea. Of testers in 2015, 18.9% opted for self-testing.

h. Data from Knight et al., 2013[9] were not combinable. After implementing Xpress clinic (with self-collection of samples for STI testing), 5335 patients were seen (705 in Xpress clinic) compared with 4804 before. The ratio of total patients seen to clinical staff hours rostered after implementing Xpress was 1.49 compared with 1.52 before. Total clinic capacity with Xpress was 8007 patients, compared with 6301 before. Utilization rates were lower after implementing Xpress (67%), compared with 76% before.

i. Downgraded because of differences between intervention and control group at baseline, and lack of clarity around confounders.

j. Considerable heterogeneity (I^2 = 95.33).

k. Downgraded because the 95% CI includes both appreciable benefit and harm.

l. Total number of events fewer than 300.

m. Single study, unknown number of events (reported as overall incidence rate by group with no raw data).

n. Substantial heterogeneity (I^2 = 70.98).

o. Considerable heterogeneity (I^2 = 92.78).

References

1. Xu F, Stoner BP, Taylor SN, Mena L, Tian LH, Papp J, et al. Use of home-obtained vaginal swabs to facilitate rescreening for *Chlamydia trachomatis* infections: two randomized controlled trials. Obstet Gynecol. 2011;118(2 Pt 1):231-9. doi:10.1097/AOG.0b013e3182246a83.
2. Ostergaard L, Andersen B, Olesen F, Moller JK. Efficacy of home sampling for screening of *Chlamydia trachomatis*: randomised study. BMJ. 1998;317(7150):26-7.
3. Ostergaard L, Andersen B, Moller JK, Olesen F, Worm AM. Managing partners of people diagnosed with *Chlamydia trachomatis*: a comparison of two partner testing methods. Sex Transm Infect. 2003;79(5):358-61.
4. Andersen B, Ostergaard L, Moller JK, Olesen F. Home sampling versus conventional contact tracing for detecting *Chlamydia trachomatis* infection in male partners of infected women: randomised study. BMJ. 1998;316(7128):350-1.
5. Cook RL, Ostergaard L, Hillier SL, Murray PJ, Chang C-CH, Comer DM, Ness RB; for the DAISY Study team. Home screening for sexually transmitted diseases in high-risk young women: randomised controlled trial. Sex Transm Infect. 2007;83(4):286-91. doi:10.1136/sti.2006.023762.
6. Bradshaw CS, Pierce LI, Tabrizi SN, Fairley CK, Garland SM. Screening injecting drug users for sexually transmitted infections and blood borne viruses using street outreach and self collected sampling. Sex Transm Infect. 2005;81(1):53-8. doi:10.1136/sti.2004.009423.
7. Barbee LA, Tat S, Dhanireddy S, Marrazzo JM. Effectiveness and patient acceptability of a sexually transmitted infection self-testing program in an HIV care setting. J Acquir Immune Defic Syndr. 2016;72(2):e26-e31. doi:10.1097/QAI.0000000000000979.
8. Habel MA, Brookmeyer KA, Oliver-Veronesi R, Haffner MM. Creating innovative sexually transmitted infection testing options for university students: the impact of an STI self-testing program. Sex Transm Dis. 2018;45(4):272-7. doi:10.1097/olq.0000000000000733.
9. Knight V, Ryder N, Guy R, Lu H, Wand H, McNulty A. New Xpress sexually transmissible infection screening clinic improves patient journey and clinic capacity at a large sexual health clinic. Sex Transm Dis. 2013;40(1):75-80. doi:10.1097/OLQ.0b013e3182793700.
10. Holland-Hall CM, Wiesenfeld HC, Murray PJ. Self-collected vaginal swabs for the detection of multiple sexually transmitted infections in adolescent girls. J Pediatr Adolesc Gynecol. 2002;15(5):307-13. doi:10.1016/S1083-3188(02)00197-3.
11. Gaydos CA, Barnes M, Aumakhan B, Quinn N, Wright C, Agreda P, et al. *Chlamydia trachomatis* age-specific prevalence in women who used an internet-based self-screening program compared to women who were screened in family planning clinics. Sex Transm Dis. 2011;38(2):74-8. doi:10.1097/OLQ.0b013e3182039d7f.