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Fader M, Cottenden AM, Getliffe K

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[Intervention Review]

Absorbent products for light urinary incontinence in women

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ABSTRACT

Background

Incontinence is a common and embarrassing problem which has a profound effect on social and psychological well-being. Many people wear absorbent products to contain urine leakage and protect their clothes. It can be difficult to define light urinary incontinence because urine volumes, flow and frequency rates may vary substantially whilst still being considered 'light'. Light incontinence may encompass occasional (monthly) leaks of very small amounts (e.g. 1 g to 2 g) up to frequent leaks (several times per day) of larger amounts (e.g. 20 g to 50 g). A practical definition is urine loss that can be contained within a small absorbent pad (typically 50 g to 500 g; ISO 1996).

Objectives

To assess the effectiveness of different types of absorbent product designs for women with light urinary incontinence.

Search methods

We searched the Cochrane Incontinence Group Specialised Trials Register (searched 2 April 2009) and the reference lists of relevant articles were perused.

Selection criteria

Types of studies

All randomised or quasi-randomised trials of absorbent products for women with light urinary incontinence.

Types of participants

Women with light urinary incontinence.

Types of intervention

Absorbent products (disposable insert pads, menstrual pads, washable pants with integral pad, washable insert pads) suitable for light incontinence.

Data collection and analysis

Two review authors assessed the methodological quality of potentially eligible studies and independently extracted data from the included trial.

Main results

One study with 85 participants met the selection criteria. This trial studied all the absorbent product designs included in this review. Data were presented on all included outcomes. For preventing leakage, for preference and for overall acceptability disposable insert pads are better than disposable menstrual pads which are better than washable pants with integral pad which are better than washable insert pads. There is no strong evidence that either disposables or washables are better for skin health. The disposable insert is the most expensive design and there is no dominant design for cost-effectiveness. There is evidence that some women will prefer alternative designs which are all cheaper than disposable inserts.

Authors' conclusions

Although data were available from only one eligible trial the data were sufficiently robust to make recommendations for practice. Disposable insert pads are typically more effective than the other designs considered. However, because they are the most expensive, providing choice of designs (or combinations of designs for different circumstances) is likely to be cost-effective.

PLAIN LANGUAGE SUMMARY**Absorbent products for light urinary incontinence in women**

Bladder control problems are common in women and many wear absorbent pads to contain urine leakage and protect their clothes. There are four main designs of absorbent products used for light urinary incontinence (i.e. urine loss that can be contained within a small absorbent pad): disposable insert pads, disposable menstrual pads, washable pants with an integral pad and washable inserts. This review found only one eligible clinical trial which compared different designs of these products and had been carried out in the last ten years. This trial included all the designs. There is evidence that for leakage prevention, overall acceptability and preference, disposable inserts are better than menstrual pads, which are better than washable pants with integral pad, which are better than washable inserts. There is no clear benefit for skin health using either washable or disposable designs. Most women preferred the disposable insert pad but some preferred the other cheaper designs or would find them acceptable in some situations. Allowing women to choose their preferred design of absorbent product (or combination of different designs for different circumstances) would be more cost-effective and provide better patient satisfaction than provision of disposable insert pads alone.

BACKGROUND

Urinary incontinence (UI) is a common symptom affecting women of all ages. It is a stigmatizing problem and has a profound impact on health, in particular on social and psychological well-being. It has been estimated that there are around three million people who are regularly incontinent in the UK (Turnberg 1995) although prevalence is difficult to assess due to differing definitions. Most studies of adult women that have used the most inclusive definitions of incontinence ('ever', 'any' or 'at least once in the last 12 months') have reported prevalence in the range of 25% to 45% (Hunnskaar 2005). Around half of incontinent women report symptoms of stress UI, with mixed (stress and urge) incontinence occurring in around 35% of women and urge incontinence in the remainder (Hannestad 2000).

Despite advances in treatments and therapies for incontinence, complete cure is not possible for everyone and many women need to wear absorbent products to contain urine. Absorbent products help to avoid the distress of socially disabling leakage and odour problems and can enable women to carry out their everyday lives confidently. The costs of incontinence are very large. Recent US studies estimate the costs of incontinence to be between 16.5 and 19.5 billion dollars with around 9% of this cost being for 'routine care', which comprises the cost of absorbent products (Hu 2004; Wilson 2001). In 1999 the NHS spent an estimated £82.5 million on absorbent products (Continence 2000), although the true cost is unknown as many people with incontinence choose to obtain their own products over the counter (Roe 1996).

Absorbent products may be classified into two broad categories based on user's severity of incontinence - light, and moderate to heavy incontinence. Within these categories of severity are disposable (single-use) and reusable (washable) products, which are further sub-divided into different bodyworn designs and different underpad designs, the latter being used mainly for moderate to heavy incontinence. Table 1 shows a classification of absorbent products (Table 1). Products for moderate to heavy incontinence are usually large and bulky, with large areas of absorbent material and high total absorbencies (typically 2000 to 3000g). Products for 'light' incontinence are much smaller, discreet products with total absorbencies often ranging from 50 g to 500g (ISO 1996). There is a Cochrane review covering absorbent products for moderate to heavy incontinence (Fader 2008), this review covers absorbent products for light urinary incontinence.

There are three purpose-made product designs for women with light incontinence: disposable insert pads and washable insert pads (both needing to be worn with close-fitting underwear) and washable pants with an integral pad (Continence Directory). In addition, it is known that many women use menstrual pads instead of disposable insert pads because these are readily available in the shops, do not draw attention to incontinence status and are cheaper than purpose-made pads. Disposable inserts dominate the market but these are the most expensive products on a 'per use' basis. Washable products have comparatively high initial costs but have potential to be much cheaper over time so that a shift to the provision of washable products or the cheaper menstrual pads by consumers and health service providers may appear economically attractive. Currently, the UK National Health Service (NHS) purchases disposable insert pads and these are provided to women by some NHS Trusts, a minority also provide washable

pants with an integral pad. Criteria for provision vary but tight budgets usually limit availability to women who are considered to have a significant problem, such as frequent incontinence occurring several times per week.

There are conflicting opinions regarding the selection of absorbent products for women with light incontinence and there is uncertainty about which designs are most cost-effective. This review aims to bring together the best available evidence to address these issues in a systematic way. However, there are important limitations when considering the results of clinical trials of continence products. The materials and designs of absorbent products are changed frequently by manufacturers, particularly those of disposable insert and menstrual pads. It is, therefore, unwise to compare the findings of clinical trials that differ by more than a few years. Absorbent products that purport to be the same also differ widely in absorbency, in other aspects of function and in their acceptability to patients (Clarke-O'Neill 2002; Clarke-O'Neill 2004) and it is possible to compare particularly good or bad products in clinical trials. Findings from studies that have not included a range of products or demonstrated robust selection criteria for the products included in the trial should, therefore, be treated with caution.

Other Cochrane reviews are available covering other management and treatment options for urinary incontinence including voiding and toileting assistance programmes (Eustice 2000; Ostaszkiwicz 2004a; Ostaszkiwicz 2004b; Wallace 2004), physical therapies (Berghmans 2004; Dumoulin 2006), catheters (Jamison 2004; Moore 2007); drugs (Alhasso 2005; Nabi 2006), surgery (Keegan 2007; Lapitan 2009) as well as management of urinary incontinence after stroke (Thomas 2008) or post-prostatectomy surgery (Hunter 2007).

OBJECTIVES

To assess the performance and the costs of different designs of absorbent product for women with light urinary incontinence.

The following comparisons have been considered:

1. disposable insert pads versus disposable menstrual pads;
2. disposable insert pads versus washable pants with integral pad;
3. disposable insert pads versus washable insert pads;
4. disposable menstrual pads versus washable pants with integral pad;
5. disposable menstrual pads versus washable insert pads;
6. washable pants with integral pad versus washable insert pads.

METHODS

Criteria for considering studies for this review

Types of studies

This review was limited to randomised and quasi-randomised controlled trials of absorbent products used for the management of light urinary incontinence.

Types of participants

Women with light urinary incontinence.

Types of interventions

Studies which compared absorbent product designs suitable for light urinary incontinence.

Types of outcome measures

1. Product performance variables (rated as of importance by patients: Getliffe 2007)

Number of products scored as allowing leakage: none versus a little or a lot

Prevention of leakage: number rating design good or okay versus poor

Comfort when dry: number rating design good or okay versus poor

Comfort when wet: number rating design good or okay versus poor

Discreetness (invisibility under clothes): number rating design good or okay versus poor

Staying in place: number rating design good or okay versus poor

Prevention of smell: number rating design good or okay versus poor

Overall acceptability: number rating design acceptable versus unacceptable

Overall opinion: visual analogue scale (worst design to best design)

Preference: number preferring design

2. Effect on quality of life

Effect on everyday activities: number rating design as good or no effect versus bad effect

3. Skin health

Skin health problems: number recording none versus a little or a lot

4. Health economics

Mean number of laundry items used per 24 hours

Cost of laundry

Mean number of products used per 24 hours

Cost of interventions

Cost-effectiveness ratios

5. Other outcomes

Non pre-specified outcomes judged important when review was conducted

Search methods for identification of studies

Electronic searches

This review has drawn on the search strategy developed for the Cochrane Incontinence Group (Please see the 'Specialized Register' section of the Group's module in *The Cochrane Library*). Relevant trials were identified from the Group's Specialised Register of controlled trials which is described under the Cochrane Incontinence Group's details in *The Cochrane Library*. The register contains trials identified from MEDLINE, CINAHL, The Cochrane Central Register of Controlled Trials (CENTRAL) and handsearching of journals and conference proceedings. The date of the most recent search of the register for this review was 2 April 2009. The trials in the Incontinence Group's Specialised Register are also contained in CENTRAL.

The terms used to search the Incontinence Group Specialised Register were:

{(TOPIC.URINE.INCON*)}

AND

{(DESIGN.CCT*) OR {DESIGN.RCT*}}

AND

{INTVENT.MECH.PAD/PANTS/DIAPERS*}

(All searches were of the keywords field on Reference Manager 9.5 N, ISI ResearchSoft).

Searching other resources

The reference lists of relevant articles were searched for other possible relevant trials.

For the previous versions of this review additional searches were performed by the review authors. These are detailed in [Appendix 1](#).

We did not impose any language or other restrictions on any of these searches.

Data collection and analysis

Study selection

Two review authors (M Fader and A Cottenden) assessed the title and abstract of references identified by the search strategy. The full reports of all potentially relevant randomised and quasi-randomised controlled trials were then obtained for further assessment of eligibility.

Methodological quality assessment

The quality of eligible trials was assessed independently by the two reviewers using a pre-defined quality assessment form (see details under Incontinence Group in *The Cochrane Library*). Review authors were not blind to author, institution or journal. Disagreements between review authors were resolved by discussion or referred to the co-ordinating editor of the Incontinence Group.

Data abstraction

Relevant data regarding inclusion criteria (study design, participants, interventions and outcomes), quality criteria (randomisation and blinding), and results were extracted independently by the two review authors using a data abstraction form developed specifically for this review (see details under Incontinence Group).

Studies were excluded from the review if they were not randomised, quasi-randomised controlled trials or randomised cross-over trials, or if they included participants, interventions or comparisons other than those previously specified. Excluded studies, together with their reasons for exclusion, have been detailed in the 'Characteristics of excluded studies' table.

Data analysis

Data were analysed using the statistical package MetaView in Review Manager (version 4.2). For dichotomous variables, odds ratios (OR) and 95% confidence intervals (CI) were derived for each outcome. For continuous variables, mean differences and 95% CI were calculated for each outcome. Outcomes were presented in terms of unfavourable events so that an odds ratio less than one and a mean difference less than zero indicated a reduction in unfavourable events. Data were to be reported qualitatively when a quantitative analysis proved unfeasible or inappropriate.

RESULTS

Description of studies

From the results of the literature search 23 citations were initially identified as potentially pertinent. Eight studies appeared to be possible controlled trials. When full citations were obtained seven studies were subsequently excluded. These studies were all identified within the Cochrane Central Register of Controlled Trials (CENTRAL) in *The Cochrane Library*. Reasons for exclusion are detailed in the 'Characteristics of excluded studies' table. One randomised cross-over trial was included in this review. The included study was conducted in the United Kingdom.

Design

The included study (Fader 2008) had a randomised cross-over design.

Sample Size

The sample size was 85 women.

Setting

Participants were resident in their own homes in the community.

Interventions

Four different designs of absorbent products were included: disposable insert pads, disposable menstrual pads, washable pants with integral pad and washable insert pads.

Data

Data were presented in sufficient detail to be analysed quantitatively.

Costs

Cost-effectiveness ratios (CER), incremental cost-effectiveness ratios (ICER) and laundry costs were calculated for the four designs.

Full details of the included study are reported in the 'Characteristics of included studies' table.

Risk of bias in included studies

Randomisation

In the included study all participants tested all products and it is stated that the order of testing the different designs was randomised according to latin squares. The authors state that data were analysed for order effects but none were found.

Blinding procedures

Blinding of designs of absorbent products is not possible because their appearances are different. The authors stated that disposable insert pads and menstrual pads had the most similar appearance but brand names were printed on some of the products, which precluded blinding. Neither the researchers nor the participants were blind to the different products in the included study.

Sample size

Sample size was moderate (N = 85). A sample size calculation is shown and data are presented on the target number of 85 participants.

Withdrawals and dropouts

A flow-chart to show numbers of participants screened, entered, withdrawing and completing the study was presented. The number and reasons for withdrawals were stated.

Effects of interventions

One randomised cross-over trial was included in this review. This trial included comparisons between all four of the design groups for women with light incontinence.

Comparison 1: disposable insert pads versus disposable menstrual pads

Data were available from the included study for all pre-specified outcomes (see comparisons 01.01 to 01.13). The disposable insert pad was significantly better than the menstrual pad for leakage performance (both diary data and participant rating), prevention of smell, comfort when wet, overall acceptability and preference. The menstrual pad was significantly better than the disposable insert for discreteness. There were no significant differences between the designs for comfort when dry, staying in place, skin health problems and effect on everyday activities, although for the latter variable the confidence interval was wide and only just exceeded 1 (OR 0.28, 95% CI 0.07 to 1.10).

Cost data showed that there was significantly more laundry with the menstrual pad than with the disposable insert. The mean monthly cost of the disposable insert was nearly twice as much as the menstrual pads (£25.40 versus £13.70).

Comparison 2: disposable insert pads versus washable pads with integral pad

Data were available from the included study for all pre-specified outcomes (see comparisons 02.01 to 02.13). The disposable insert pad was significantly better than the washable pants for leakage performance (both diary data and participant rating), prevention of smell, comfort when wet, skin health problems, effect on everyday activities, overall acceptability and preference. The washable pants with an integral pad were not significantly better than the disposable insert for any outcomes. There were no significant differences between the designs for discreteness, comfort when dry and staying in place.

Cost data showed that there was significantly more laundry with the washable pants with integral pad than with the disposable insert pads and this additional laundry was estimated to cost about £1.00 per month. The mean monthly cost of the disposable insert was three times as much as the washable pants with an integral pad (£25.40 versus £8.40)

Comparison 3: disposable insert pads versus washable inserts

Data were available from the included study for all pre-specified outcomes (see comparisons 03.01 to 03.13). The disposable insert pad was significantly better than the washable inserts for all outcomes except for discreteness, which was not significantly different between designs.

Cost data showed that there was significantly more laundry with the washable inserts than with the disposable insert pads and this additional laundry was estimated to cost about about £1.00 per

month. The mean monthly cost of the disposable inserts was nearly ten times as much as the washable inserts (£25.40 versus £2.80).

Comparison 4: disposable menstrual pads versus washable pants with integral pad

Data were available from the included study for all pre-specified outcomes (see comparison 04.01 to 04.13). The menstrual pad was significantly better than the washable pants with integral pad for leakage performance (both diary data and participant rating), prevention of smell, comfort when wet, effect on everyday activities, overall acceptability and preference. There were no significant differences between the designs for discreetness, comfort when dry, staying in place and skin health problems.

Cost data showed that there was significantly more laundry with the washable pants than with the menstrual pad and this additional laundry was estimated to cost about about £1.00 per month. The mean monthly cost of the menstrual pads was substantially more than for the washable pants with integral pad (£13.70 versus £8.40).

Comparison 5: disposable menstrual pads versus washable insert pads

Data were available from the included study for all pre-specified outcomes (see comparison 05.01 to 05.13). The disposable menstrual pad was significantly better than the washable inserts for all outcomes except for discreetness and comfort when dry, which were not significantly different between designs.

Cost data showed that there was significantly more laundry with the washable inserts than with the menstrual pad and this additional laundry was estimated to cost about about £1.00 per month. The mean monthly cost of the menstrual pads was nearly four times as much as the washable inserts (£13.70 versus £2.80).

Comparison 6: washable pants with integral pad versus washable insert pads

Data were available from the included study for all pre-specified outcomes (see comparison 06.01 to 06.13). The washable pants with integral pad were significantly better than the washable inserts for leakage performance (both diary data and participant rating), comfort when dry, effect on everyday activities, staying in place and overall acceptability and preference. There were no significant differences between the designs for prevention of smell, discreetness, comfort when wet and skin health problems.

Cost data showed that there were no significant differences in laundry amounts. The mean monthly cost of the washable pants with integral pad was nearly three times as much as the washable inserts (£8.40 versus £2.80).

DISCUSSION

This review on absorbent products for women with light incontinence is limited because only one study was eligible for inclusion. Although there have been other clinical trials of absorbent products for women with light incontinence these have either been of several products within a design group (Clarke-O'Neill 2002; Clarke-O'Neill 2004) or included experimentally engineered products (Thornburn 1997). A further study (Baker 1996) compared disposable insert pads to menstrual pads and concluded that menstrual pads performed similarly to disposable insert pads, but this study was excluded from the review because

the products tested were those in use more than ten years ago and were likely to be different to those products currently available.

The single trial included in this review had a cross-over design and included all six of the product design comparisons selected. The study was of moderate size (N = 85) and the methodological quality was good. Method of randomising product order was stated and order effects were tested but not found to be significant. The problem of product representation was addressed by including three products, selected according to explicit criteria, to represent each design. The outcome variables used had been validated by interviews with participants (Getliffe 2007). A validated measure of quality of life would have strengthened the study but the authors concluded that no appropriate measure currently existed. By incorporating all four designs within one study, participants could compare and state preferences for all the designs (first choice for washable inserts: n = 1, washable pants: n = 13, disposable menstrual pads: n = 8, disposable insert pads: n = 63). The sample in the included study was of women with frequent (five or more times per week) urinary incontinence who were currently using a small absorbent pad (including menstrual pads). Women with less frequent incontinence (and possibly less severe incontinence) also use these designs of absorbent products and it is possible that findings with this population would be different. However, the included study examined leakage performance at different urine weights and found the same significant differences between the compared designs at 5 g urine weight as at higher weights (40 g), indicating that for leakage performance for 'lighter' incontinence the differences between the designs may be similar.

Inclusion of only one study did not allow for any combining of data for meta-analysis. Although our search was thorough it is possible that we may have missed some relevant studies. Although we did not employ language restrictions in our search, the number of non-English language references is under-represented in electronic databases, such as MEDLINE, and only published articles are included. Consequently there is a potential for language or publication bias, or both (Mulrow 1997).

Cost-effectiveness was addressed in the included study. It was stated that the monthly costs of disposables were derived from the retail and mail-order prices prevailing at the time of the study (2004) and assumed a usage rate of four pads per 24 hours. For washable products it was assumed that a minimum stock of 12 products was necessary and that they would be replaced after 120 washes. Purchase of one new washable product per month would maintain stocks and the monthly cost of washable products was taken to be the cost of one item. This showed that there was no dominant design (that is one that is cheaper and better than others). Disposable inserts (the most expensive and most successful design) had the highest unit of cost per unit of effectiveness. On average, washable products were found to be better value for money but had high levels of unacceptability (over 80% for washable inserts, and over 50% for washable pants). Including laundry costs associated with washable products would reduce their cost-effectiveness relative to disposables. It was estimated that the maximum monthly cost of laundering associated washables is £1.00, giving revised average costs per unit of effectiveness of 22p (washable pants) and 20p (washable inserts).

The environmental impact of using washable versus disposable absorbent products is an issue of increasing importance and has recently been examined in relation to babies' nappies

(Environment Agency). That report concluded that there was no significant difference in environmental impact between washable and disposable nappy systems, although the types of impacts did vary.

Although the data from this review come from one study only, the findings show substantial and significant differences (with small to moderate confidence intervals) between the different designs of absorbent products for women with light incontinence. For overall acceptability, preference and for leakage performance, disposable insert pads are better than disposable menstrual pads, which are better than washable pants with integral pad, which are better than washable insert pads. The main drawback of the disposable insert is discreetness (particularly compared to the menstrual pad) and cost. There is no clear benefit for skin health using either washable or disposable designs. Washable inserts are particularly poor for staying in place when worn with patients' own close-fitting pants. Laundry is increased for all designs compared to the disposable insert pad, but the differences are most substantial for the washable designs.

AUTHORS' CONCLUSIONS

Implications for practice

Disposable insert pads are best for leakage prevention, and are the most acceptable and preferred design, and should, therefore, be the mainstay of product provision to women with light urinary incontinence. But a policy of providing only disposable inserts is not the most cost-effective strategy. Washable designs have

poor leakage performance and low acceptability compared to disposable designs (particularly inserts) and a policy of providing washable products alone is not recommended. Some women would prefer the alternative cheaper designs or would find them acceptable in certain situations. Enabling women to choose their absorbent product designs (or combinations of designs for different circumstances), within a pre-determined budget, would increase cost-effectiveness and patient satisfaction.

Implications for research

Only one clinical trial was included in this review and more well-designed trials would strengthen the findings. New variants on existing designs are frequently produced and occasionally new designs are developed. Accordingly it is important that future clinical trials are carried out to evaluate these developments.

Translational research to pilot the feasibility of providing a range of designs and enabling women to choose combinations of designs within a limited budget is needed.

This review has highlighted the comparative weakness of washable designs for light incontinence and further development of washable designs, in particular to improve leakage performance, would be of benefit.

ACKNOWLEDGEMENTS

We are grateful to all members of the Cochrane Incontinence Group in Aberdeen for their continual assistance with the review. The views expressed are those of the authors of the review.

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* Indicates the major publication for the study

CHARACTERISTICS OF STUDIES

Characteristics of included studies [ordered by study ID]

Fader 2008

Methods	Randomised cross-over trial
Participants	85 women living in the community
Interventions	4 different designs of absorbents for light incontinence
Outcomes	Overall opinion, leakage performance, product performance variables, skin health, laundry, consumption
Notes	Order of testing randomised using latin squares

Risk of bias

Bias	Authors' judgement	Support for judgement
Allocation concealment?	Low risk	A - Adequate

Characteristics of excluded studies [ordered by study ID]

Study	Reason for exclusion
Baker 1996	Products included in trial purchased around 15 years ago
Clarke-O'Neill 2002	All participants tested washable pants with integral pad for light incontinence, no direct comparison between products
Clarke-O'Neill 2004	All participants tested disposable pads for light incontinence, no direct comparison between products
Cottenden 1997	Not a clinical trial
Cottenden 2006	Not a clinical trial
McClish 1999	Not a randomized controlled trial of products. Data on pad use and costs taken from women participating in an incontinence treatment study.
Sabatier 1997	Not a randomised controlled trial, no suitable intervention
Thornburn 1997	One design only: disposable inserts were manufactured with different levels of superabsorbent, products not available commercially

DATA AND ANALYSES

Comparison 1. Disposable insert pads versus disposable menstrual pads

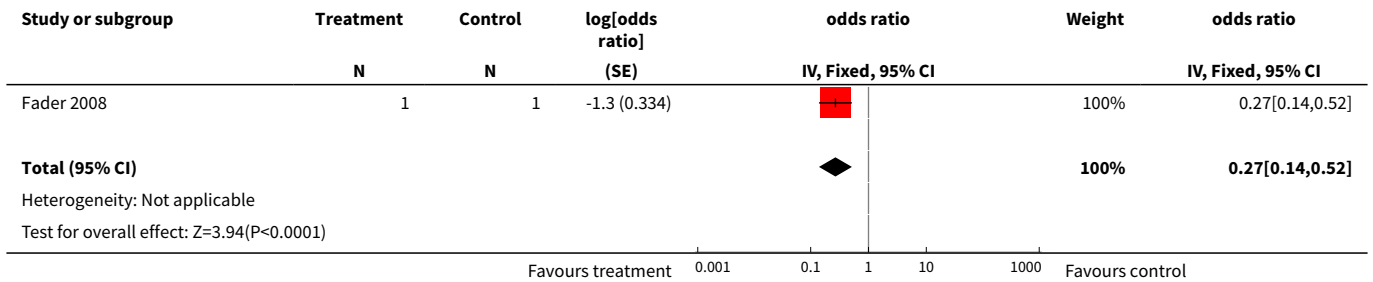
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Number of products scored as leaking: none versus a little or a lot	1		odds ratio (Fixed, 95% CI)	0.46 [0.33, 0.64]
2 Prevention of leakage: number rating design good or okay versus poor	1		odds ratio (Fixed, 95% CI)	0.27 [0.14, 0.52]
3 Comfort when dry: number rating design good or okay versus poor	1		odds ratio (Fixed, 95% CI)	0.56 [0.18, 1.71]
4 Comfort when wet: number rating design good or okay versus poor	1		odds ratio (Fixed, 95% CI)	0.40 [0.24, 0.68]
5 Discreetness (invisibility under clothes): number rating design good or okay versus poor	1		odds ratio (Fixed, 95% CI)	1.69 [1.01, 2.82]
6 Staying in place: number rating design good or okay versus poor	1		odds ratio (Fixed, 95% CI)	1.64 [0.52, 5.19]
7 Prevention of smell: number rating design good or okay versus poor	1		odds ratio (Fixed, 95% CI)	0.44 [0.24, 0.82]
8 Mean number of incontinence laundry items per 24 hours	1		mean (Fixed, 95% CI)	0.67 [0.50, 0.89]
9 Mean number of products used per 24 hours	1		mean (Fixed, 95% CI)	0.10 [-0.03, 0.23]
10 Skin health problems: number recording none versus a little or a lot	1		odds ratio (Fixed, 95% CI)	0.70 [0.37, 1.33]
11 Effect on everyday activities: number rating design as good or no effect versus bad effect	1		odds ratio (Fixed, 95% CI)	0.29 [0.07, 1.11]
12 Overall acceptability: number rating design acceptable versus unacceptable	1		odds ratio (Fixed, 95% CI)	0.16 [0.03, 0.85]
13 Preference: number preferring design	1		odds ratio (Fixed, 95% CI)	0.18 [0.08, 0.41]

Analysis 1.1. Comparison 1 Disposable insert pads versus disposable menstrual pads, Outcome 1 Number of products scored as leaking: none versus a little or a lot.

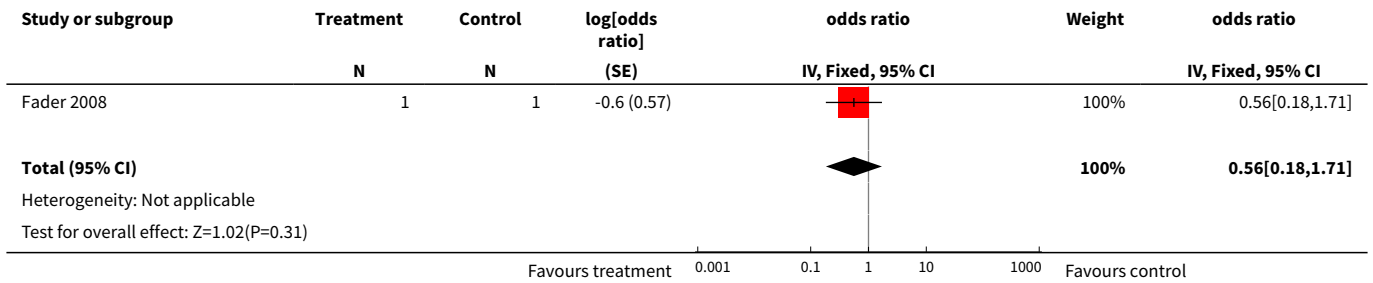
Study or subgroup	Treatment	Control	log[odds ratio] (SE)	odds ratio IV, Fixed, 95% CI	Weight	odds ratio IV, Fixed, 95% CI
	N	N				
Fader 2008	1	1	-0.8 (0.167)		100%	0.46[0.33,0.64]
Total (95% CI)					100%	0.46[0.33,0.64]
Heterogeneity: Not applicable						
Test for overall effect: Z=4.68(P<0.0001)						

Favours treatment 0.001 0.1 1 10 1000 Favours control

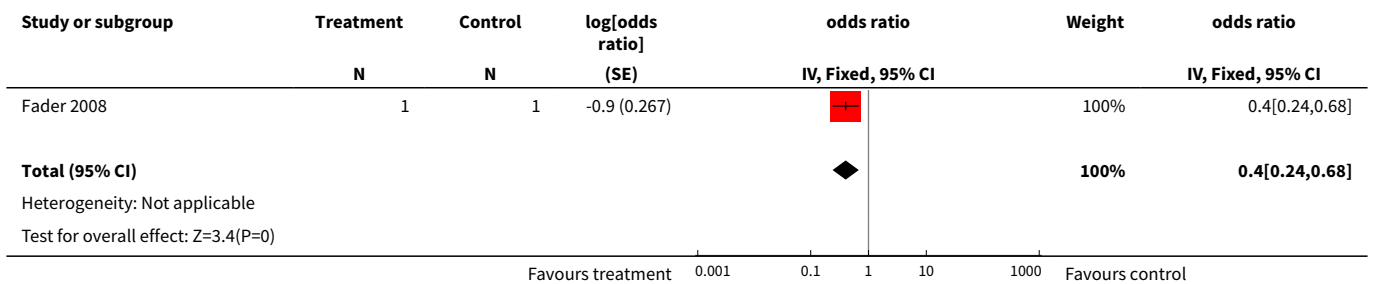
Analysis 1.2. Comparison 1 Disposable insert pads versus disposable menstrual pads, Outcome 2 Prevention of leakage: number rating design good or okay versus poor.



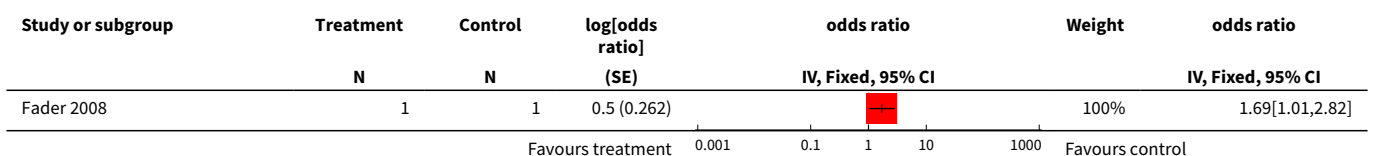
Analysis 1.3. Comparison 1 Disposable insert pads versus disposable menstrual pads, Outcome 3 Comfort when dry: number rating design good or okay versus poor.

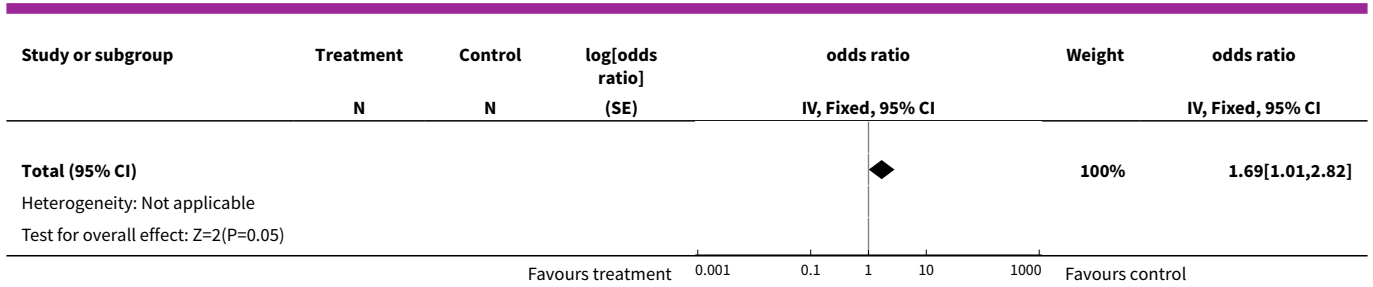


Analysis 1.4. Comparison 1 Disposable insert pads versus disposable menstrual pads, Outcome 4 Comfort when wet: number rating design good or okay versus poor.

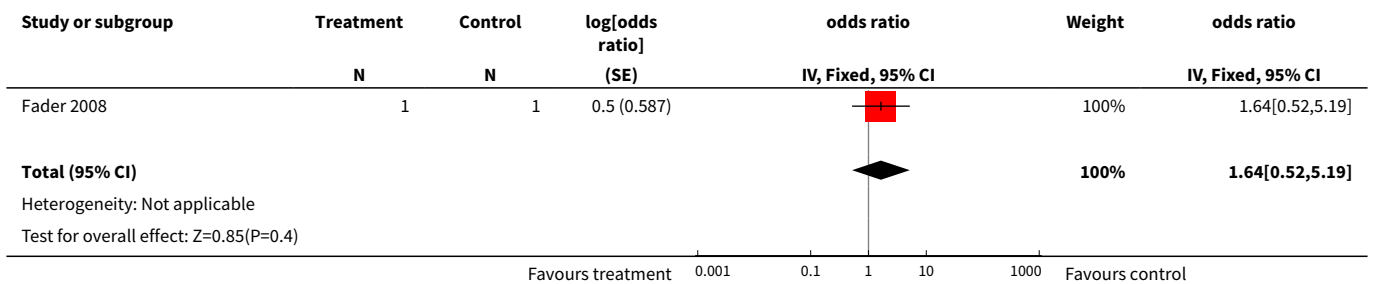


Analysis 1.5. Comparison 1 Disposable insert pads versus disposable menstrual pads, Outcome 5 Discreetness (invisibility under clothes): number rating design good or okay versus poor.

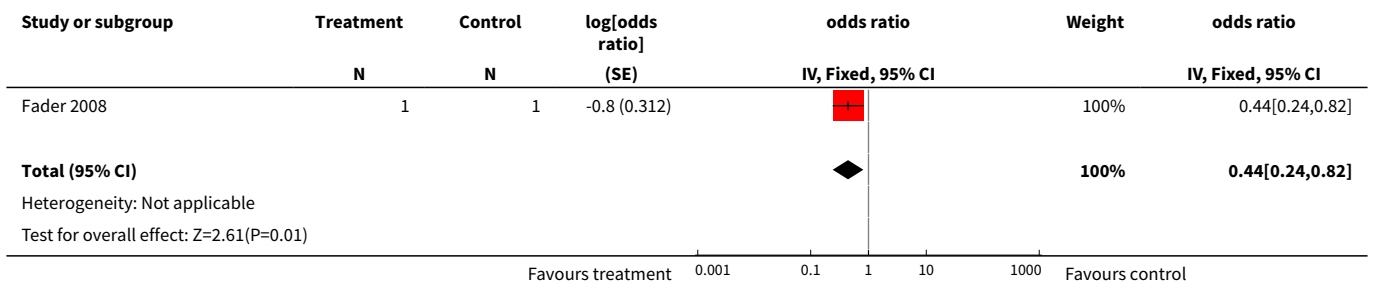




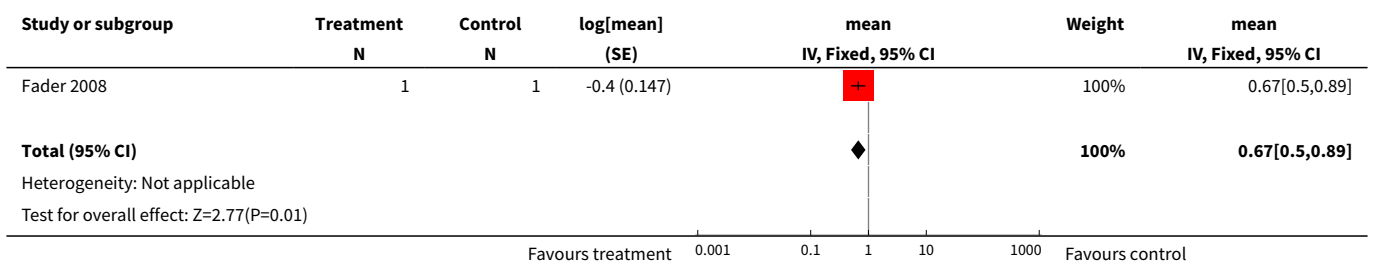
Analysis 1.6. Comparison 1 Disposable insert pads versus disposable menstrual pads, Outcome 6 Staying in place: number rating design good or okay versus poor.



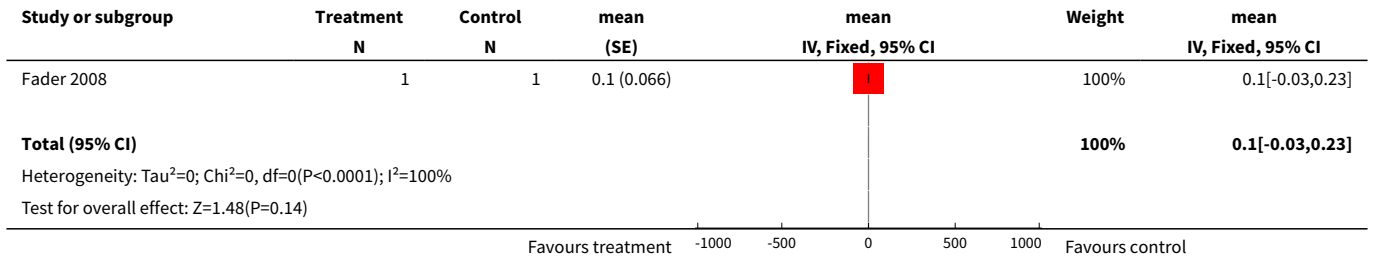
Analysis 1.7. Comparison 1 Disposable insert pads versus disposable menstrual pads, Outcome 7 Prevention of smell: number rating design good or okay versus poor.



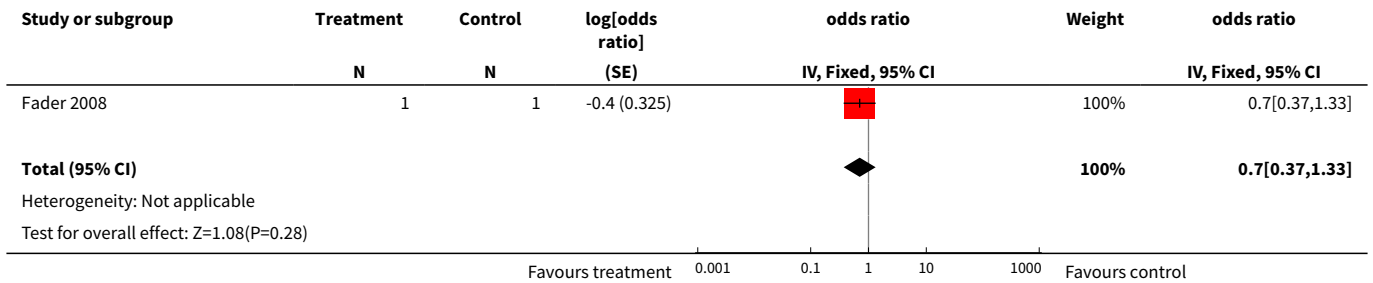
Analysis 1.8. Comparison 1 Disposable insert pads versus disposable menstrual pads, Outcome 8 Mean number of incontinence laundry items per 24 hours.



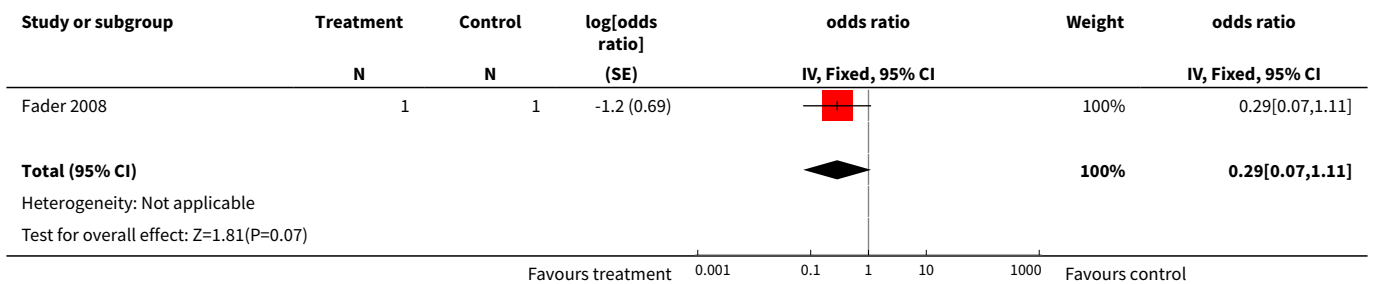
Analysis 1.9. Comparison 1 Disposable insert pads versus disposable menstrual pads, Outcome 9 Mean number of products used per 24 hours.



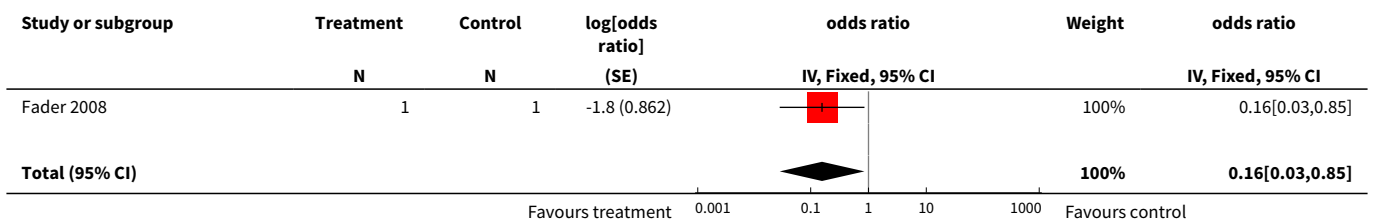
Analysis 1.10. Comparison 1 Disposable insert pads versus disposable menstrual pads, Outcome 10 Skin health problems: number recording none versus a little or a lot.

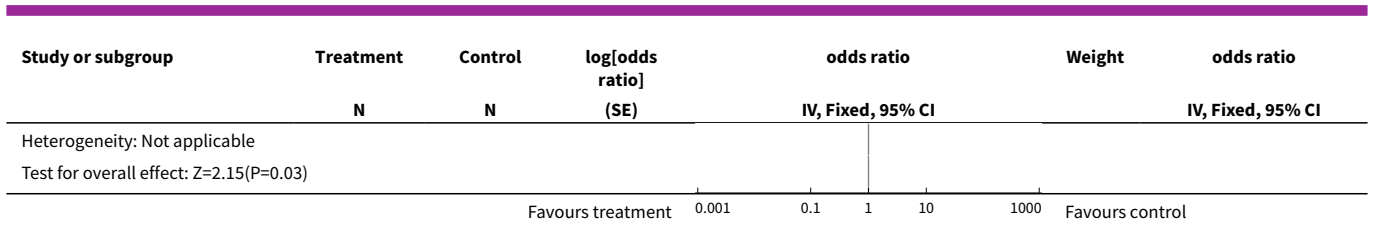


Analysis 1.11. Comparison 1 Disposable insert pads versus disposable menstrual pads, Outcome 11 Effect on everyday activities: number rating design as good or no effect versus bad effect.

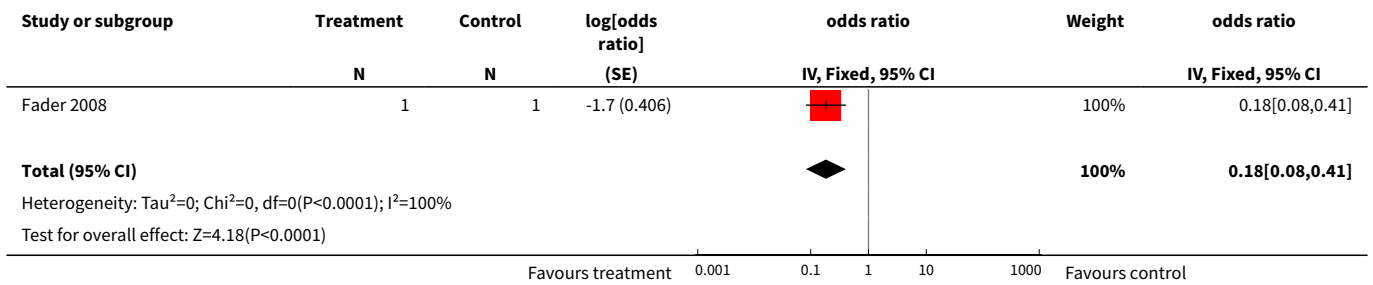


Analysis 1.12. Comparison 1 Disposable insert pads versus disposable menstrual pads, Outcome 12 Overall acceptability: number rating design acceptable versus unacceptable.





Analysis 1.13. Comparison 1 Disposable insert pads versus disposable menstrual pads, Outcome 13 Preference: number preferring design.

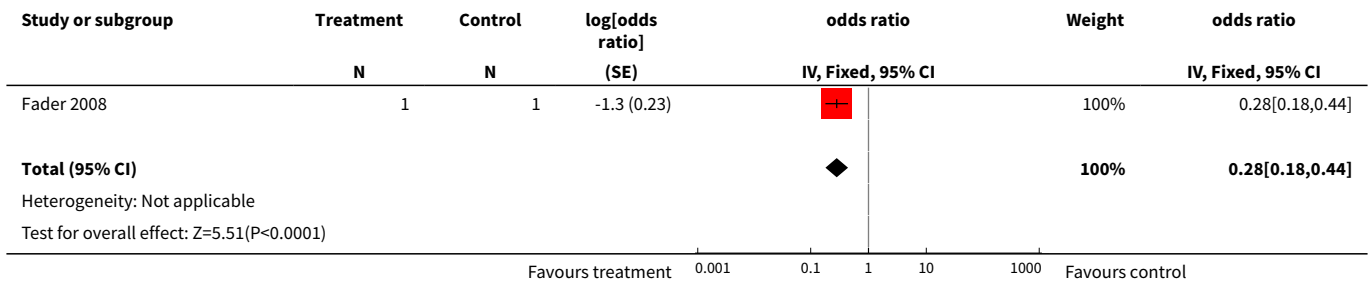


Comparison 2. Disposable insert pads versus washable pants with integral pad

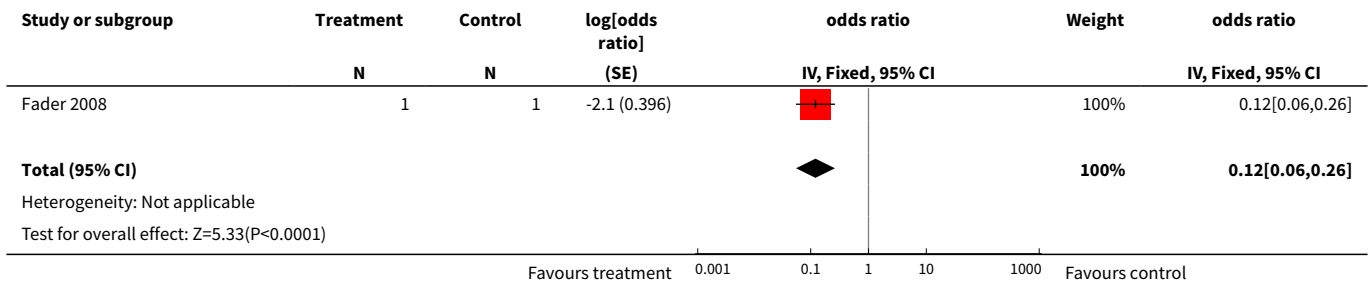
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Number of products scored as leaking: none versus a little or a lot	1		odds ratio (Fixed, 95% CI)	0.28 [0.18, 0.44]
2 Prevention of leakage: number rating design good or okay versus poor	1		odds ratio (Fixed, 95% CI)	0.12 [0.06, 0.26]
3 Comfort when dry: number rating design good or okay versus poor	1		odds ratio (Fixed, 95% CI)	0.49 [0.19, 1.26]
4 Comfort when wet: number rating design good or okay versus poor	1		odds ratio (Fixed, 95% CI)	0.18 [0.10, 0.32]
5 Discreetness (invisibility under clothes): number rating design good or okay versus poor	1		odds ratio (Fixed, 95% CI)	1.23 [0.65, 2.33]
6 Staying in place: number rating design good or okay versus poor	1		odds ratio (Fixed, 95% CI)	1.49 [0.55, 4.02]
7 Prevention of smell: number rating design good or okay versus poor	1		odds ratio (Fixed, 95% CI)	0.18 [0.09, 0.38]
8 Mean number of incontinence laundry items per 24 hours	1		mean (Fixed, 95% CI)	0.04 [0.02, 0.09]
9 Mean number of products used per 24 hours	1		mean (Fixed, 95% CI)	0.07 [-0.13, 0.26]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
10 Skin health problems: number recording none versus a little or a lot	1		odds ratio (Fixed, 95% CI)	0.48 [0.25, 0.92]
11 Effect on everyday activities: number rating design as good or no effect versus bad effect	1		odds ratio (Fixed, 95% CI)	0.09 [0.02, 0.32]
12 Overall acceptability: number rating design acceptable versus unacceptable	1		odds ratio (Fixed, 95% CI)	0.03 [0.00, 0.18]
13 Preference: number preferring design	1		odds ratio (Fixed, 95% CI)	0.27 [0.13, 0.55]

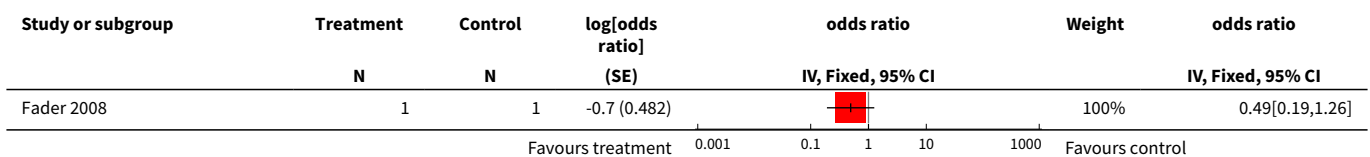
Analysis 2.1. Comparison 2 Disposable insert pads versus washable pants with integral pad, Outcome 1 Number of products scored as leaking: none versus a little or a lot.

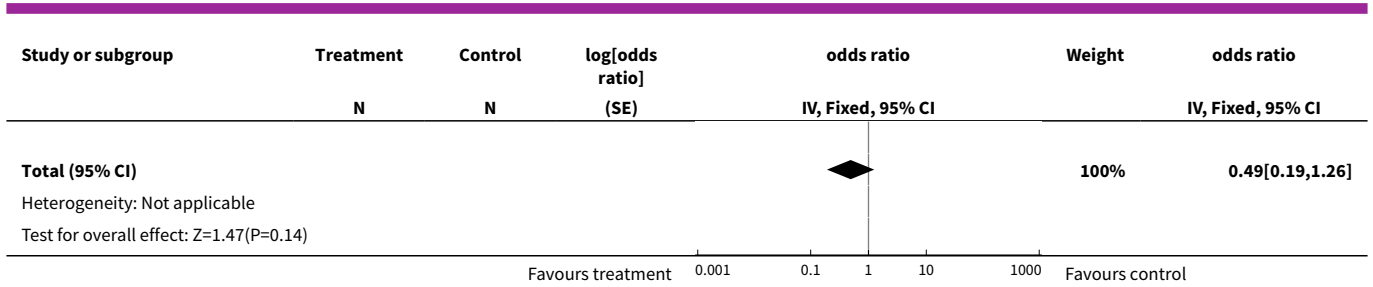


Analysis 2.2. Comparison 2 Disposable insert pads versus washable pants with integral pad, Outcome 2 Prevention of leakage: number rating design good or okay versus poor.

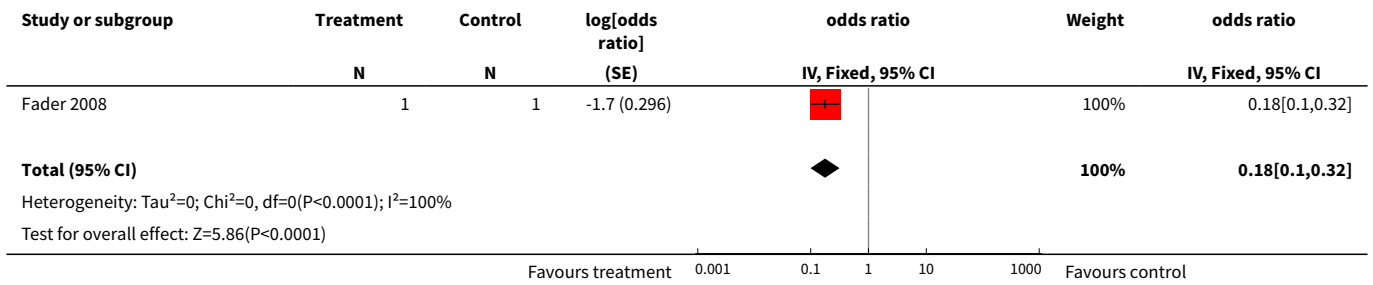


Analysis 2.3. Comparison 2 Disposable insert pads versus washable pants with integral pad, Outcome 3 Comfort when dry: number rating design good or okay versus poor.

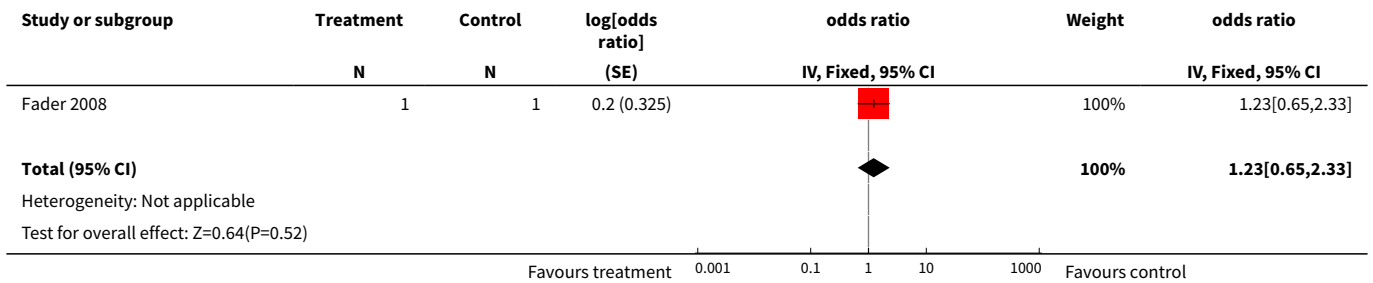




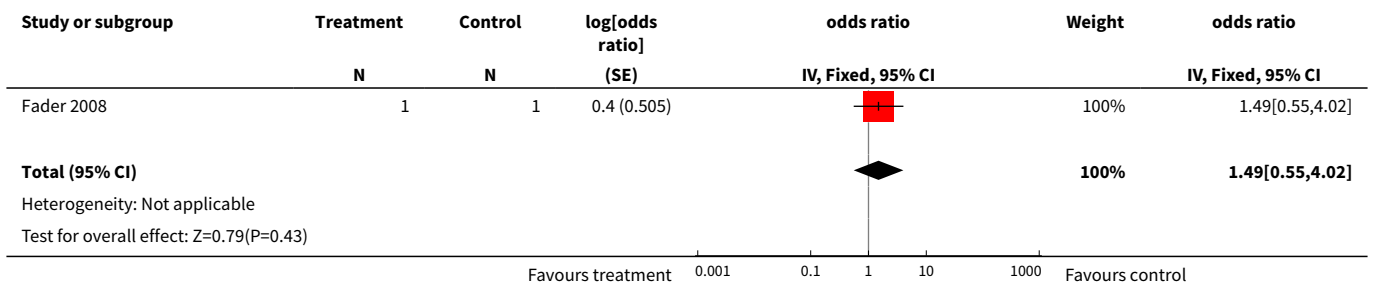
Analysis 2.4. Comparison 2 Disposable insert pads versus washable pants with integral pad, Outcome 4 Comfort when wet: number rating design good or okay versus poor.



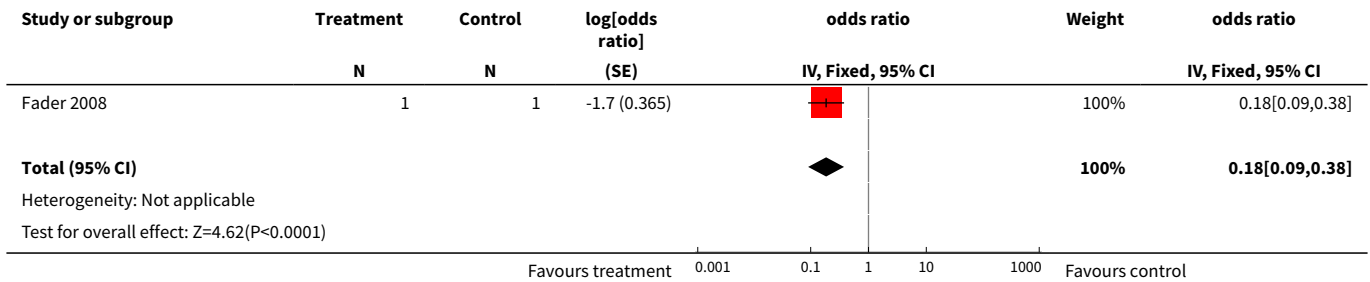
Analysis 2.5. Comparison 2 Disposable insert pads versus washable pants with integral pad, Outcome 5 Discreetness (invisibility under clothes): number rating design good or okay versus poor.



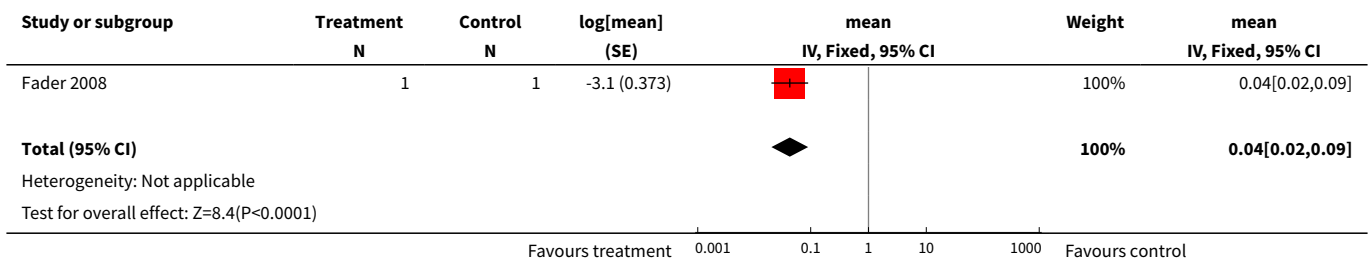
Analysis 2.6. Comparison 2 Disposable insert pads versus washable pants with integral pad, Outcome 6 Staying in place: number rating design good or okay versus poor.



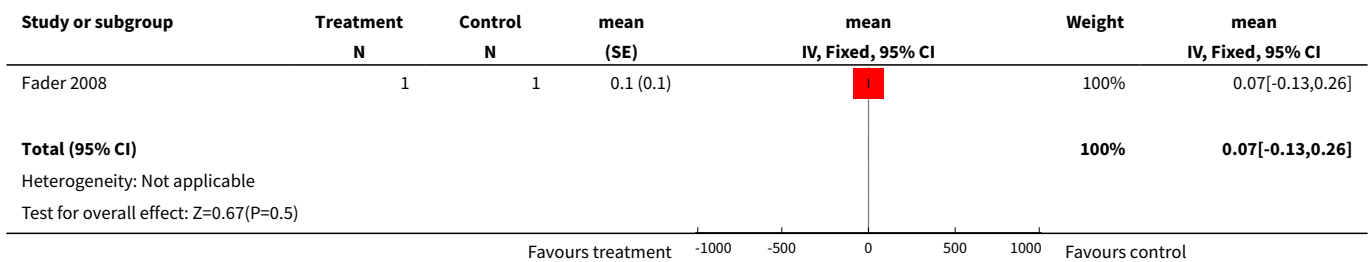
Analysis 2.7. Comparison 2 Disposable insert pads versus washable pants with integral pad, Outcome 7 Prevention of smell: number rating design good or okay versus poor.



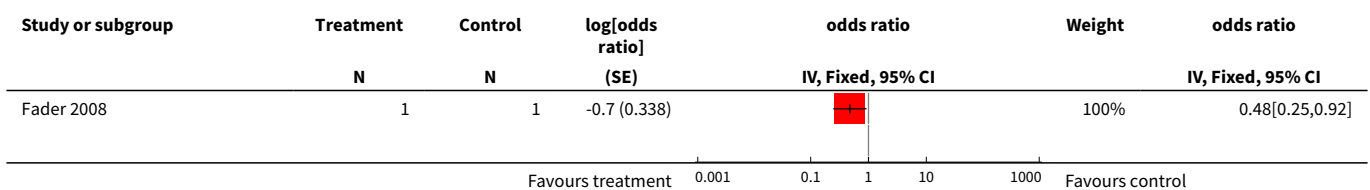
Analysis 2.8. Comparison 2 Disposable insert pads versus washable pants with integral pad, Outcome 8 Mean number of incontinence laundry items per 24 hours.

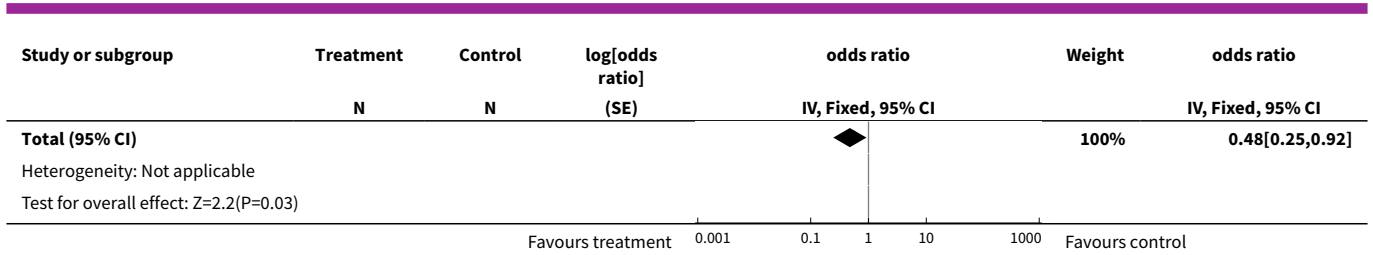


Analysis 2.9. Comparison 2 Disposable insert pads versus washable pants with integral pad, Outcome 9 Mean number of products used per 24 hours.

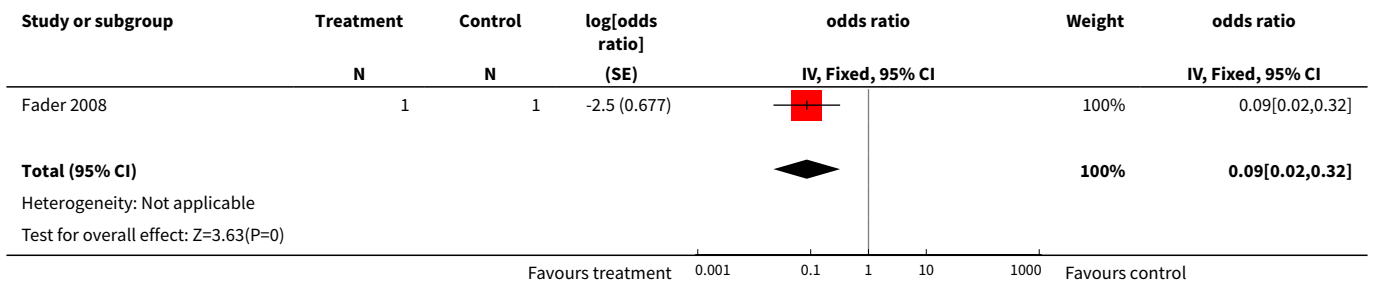


Analysis 2.10. Comparison 2 Disposable insert pads versus washable pants with integral pad, Outcome 10 Skin health problems: number recording none versus a little or a lot.

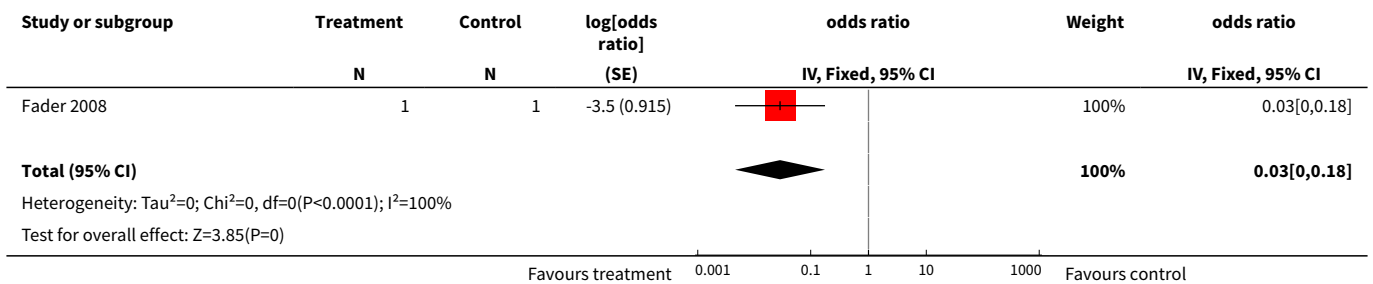




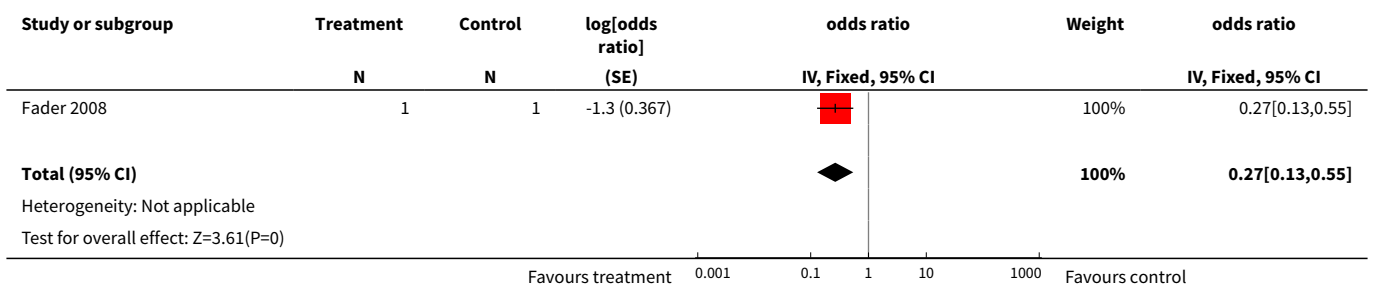
Analysis 2.11. Comparison 2 Disposable insert pads versus washable pants with integral pad, Outcome 11 Effect on everyday activities: number rating design as good or no effect versus bad effe.



Analysis 2.12. Comparison 2 Disposable insert pads versus washable pants with integral pad, Outcome 12 Overall acceptability: number rating design acceptable versus unacceptable.



Analysis 2.13. Comparison 2 Disposable insert pads versus washable pants with integral pad, Outcome 13 Preference: number preferring design.



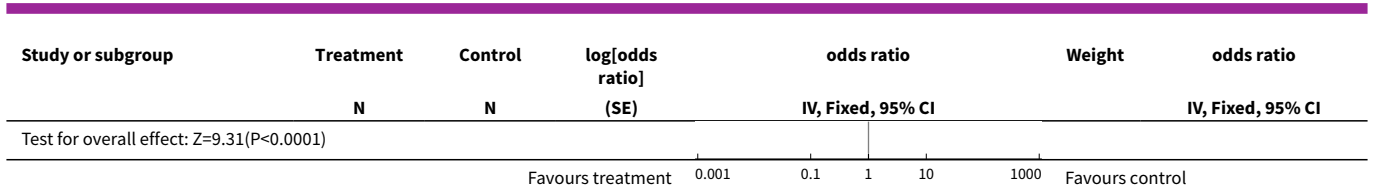
Comparison 3. Disposable insert pads versus washable insert pads

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Number of products scored as leaking: none versus a little or a lot	1		odds ratio (Fixed, 95% CI)	0.14 [0.09, 0.21]
2 Prevention of leakage: number rating design good or okay versus poor	1		odds ratio (Fixed, 95% CI)	0.05 [0.02, 0.12]
3 Comfort when dry: number rating design good or okay versus poor	1		odds ratio (Fixed, 95% CI)	0.23 [0.08, 0.67]
4 Comfort when wet: number rating design good or okay versus poor	1		odds ratio (Fixed, 95% CI)	0.13 [0.07, 0.25]
5 Discreetness (invisibility under clothes): number rating design good or okay versus poor	1		odds ratio (Fixed, 95% CI)	1.36 [0.68, 2.72]
6 Staying in place: number rating design good or okay versus poor	1		odds ratio (Fixed, 95% CI)	0.04 [0.02, 0.11]
7 Prevention of smell: number rating design good or okay versus poor	1		odds ratio (Fixed, 95% CI)	0.16 [0.08, 0.30]
8 Mean number of incontinence laundry items per 24 hours	1		mean (Fixed, 95% CI)	0.04 [0.03, 0.06]
9 Mean number of products used per 24 hours	1		mean (Fixed, 95% CI)	-0.10 [-0.30, 0.09]
10 Skin health problems: number recording none versus a little or a lot	1		odds ratio (Fixed, 95% CI)	0.37 [0.20, 0.71]
11 Effect on everyday activities: number rating design as good or no effect versus bad effect	1		odds ratio (Fixed, 95% CI)	0.04 [0.01, 0.15]
12 Overall acceptability: number rating design acceptable versus unacceptable	1		odds ratio (Fixed, 95% CI)	0.04 [0.01, 0.15]
13 Preference: number preferring design	1		odds ratio (Fixed, 95% CI)	0.09 [0.03, 0.26]

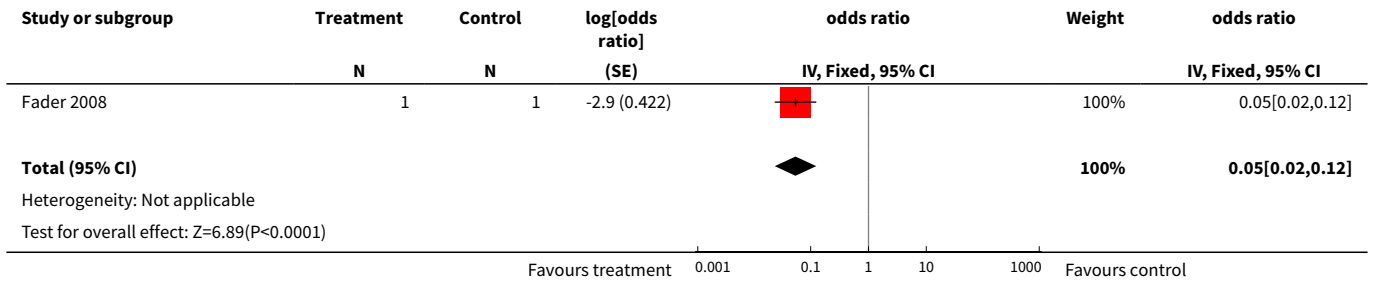
Analysis 3.1. Comparison 3 Disposable insert pads versus washable insert pads, Outcome 1 Number of products scored as leaking: none versus a little or a lot.

Study or subgroup	Treatment	Control	log[odds ratio] (SE)	odds ratio IV, Fixed, 95% CI	Weight	odds ratio IV, Fixed, 95% CI
	N	N				
Fader 2008	1	1	-2 (0.212)		100%	0.14[0.09,0.21]
Total (95% CI)					100%	0.14[0.09,0.21]
Heterogeneity: Not applicable						

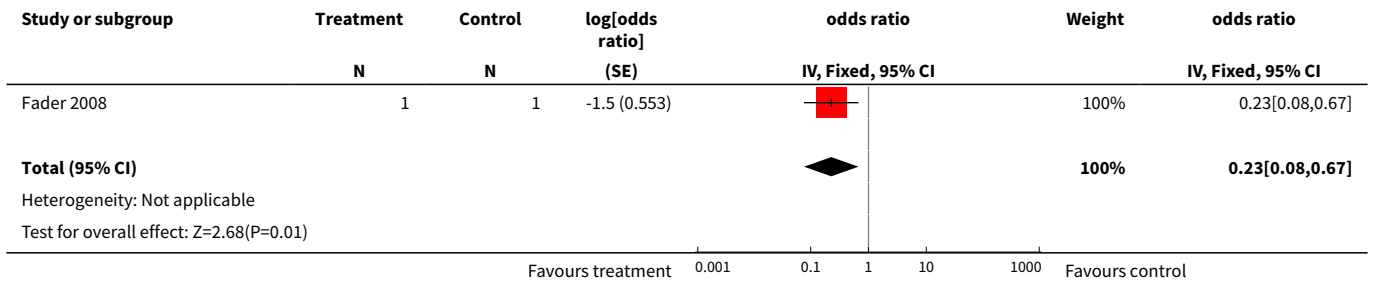
Favours treatment 0.001 0.1 1 10 1000 Favours control



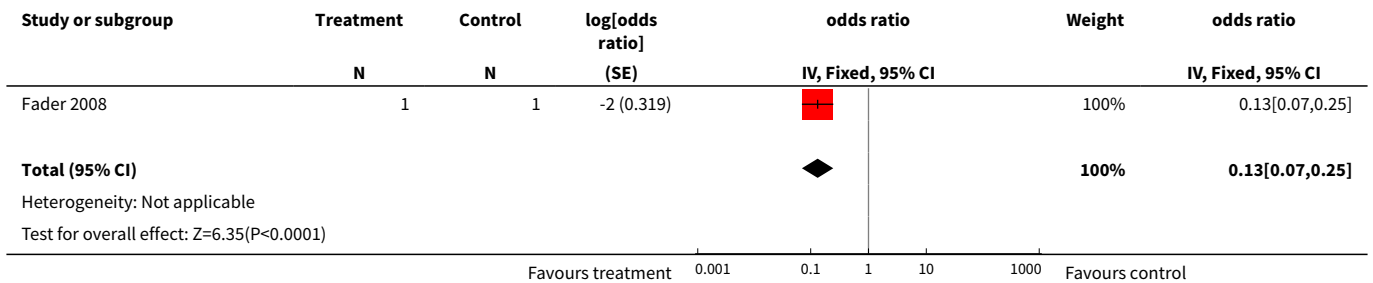
Analysis 3.2. Comparison 3 Disposable insert pads versus washable insert pads, Outcome 2 Prevention of leakage: number rating design good or okay versus poor.



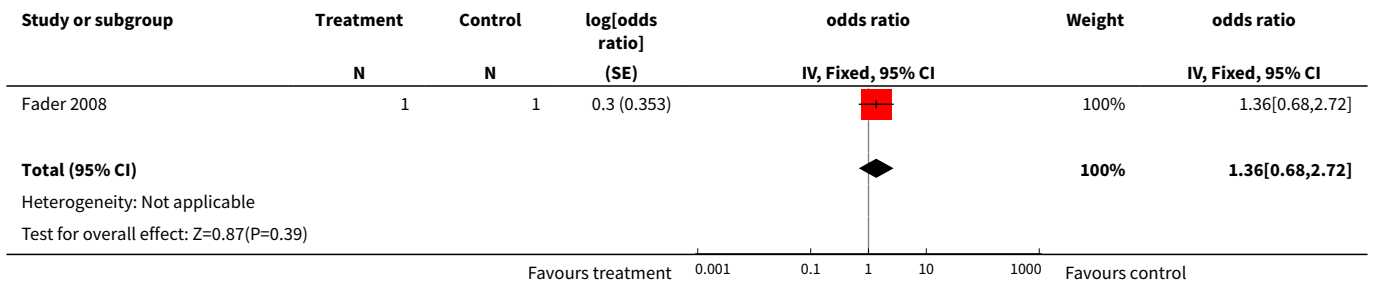
Analysis 3.3. Comparison 3 Disposable insert pads versus washable insert pads, Outcome 3 Comfort when dry: number rating design good or okay versus poor.



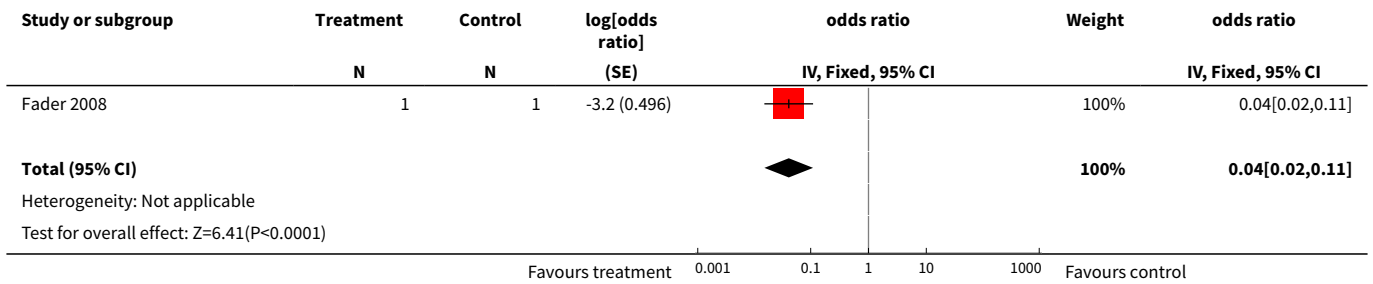
Analysis 3.4. Comparison 3 Disposable insert pads versus washable insert pads, Outcome 4 Comfort when wet: number rating design good or okay versus poor.



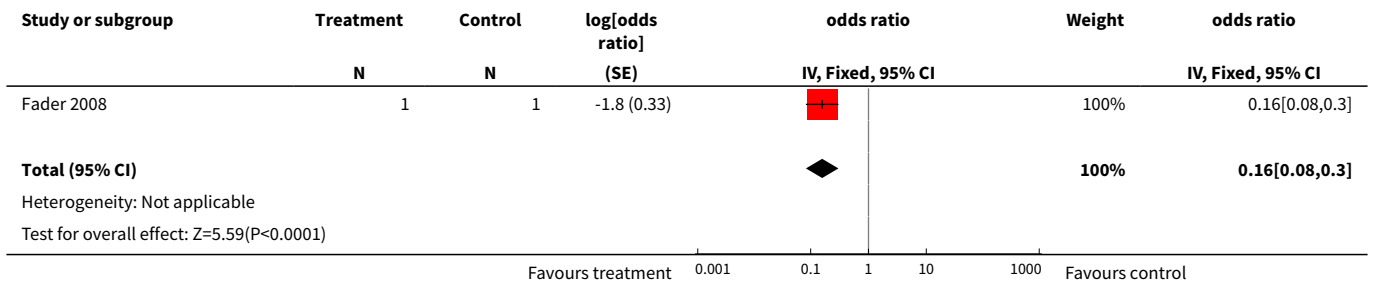
Analysis 3.5. Comparison 3 Disposable insert pads versus washable insert pads, Outcome 5 Discreetness (invisibility under clothes): number rating design good or okay versus poor.



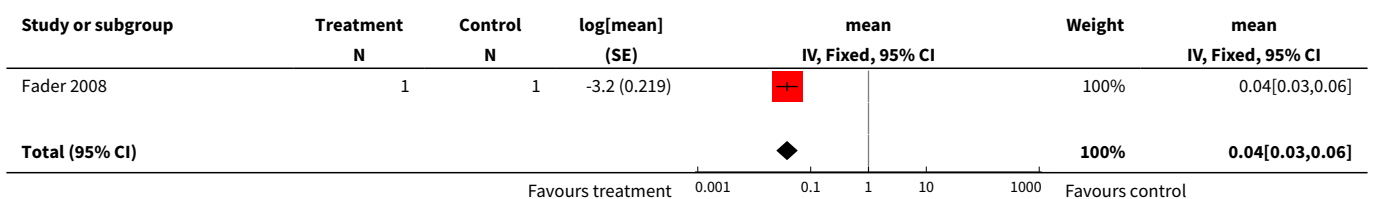
Analysis 3.6. Comparison 3 Disposable insert pads versus washable insert pads, Outcome 6 Staying in place: number rating design good or okay versus poor.

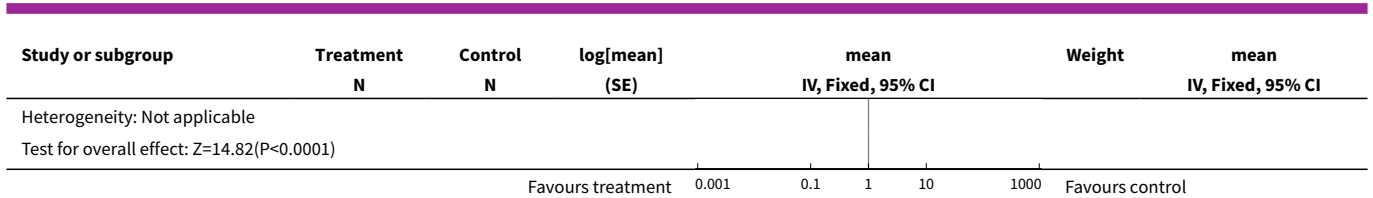


Analysis 3.7. Comparison 3 Disposable insert pads versus washable insert pads, Outcome 7 Prevention of smell: number rating design good or okay versus poor.

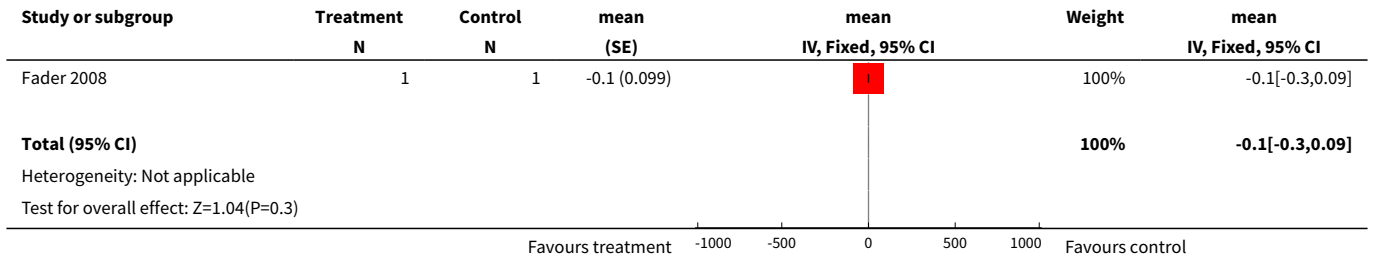


Analysis 3.8. Comparison 3 Disposable insert pads versus washable insert pads, Outcome 8 Mean number of incontinence laundry items per 24 hours.

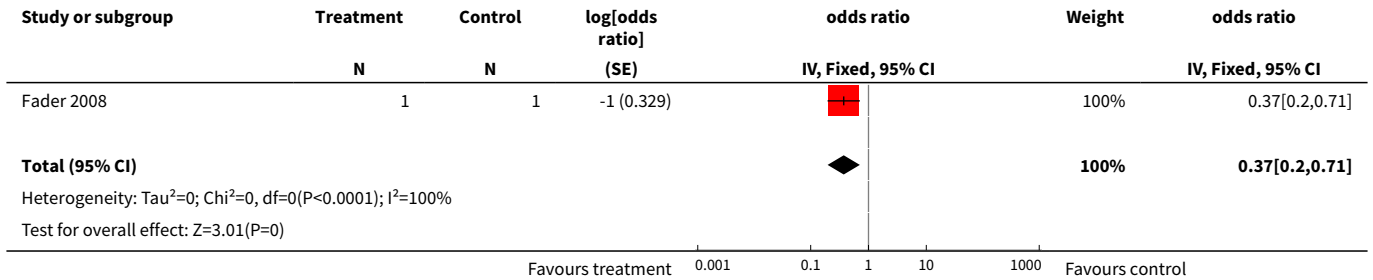




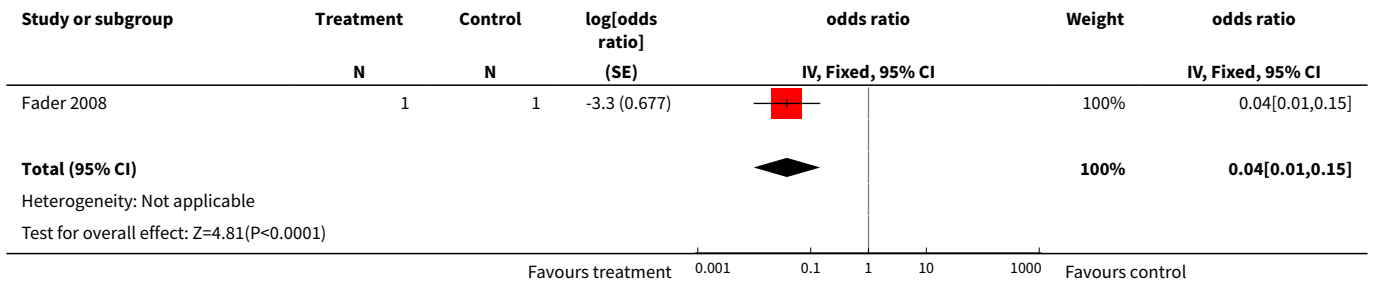
Analysis 3.9. Comparison 3 Disposable insert pads versus washable insert pads, Outcome 9 Mean number of products used per 24 hours.



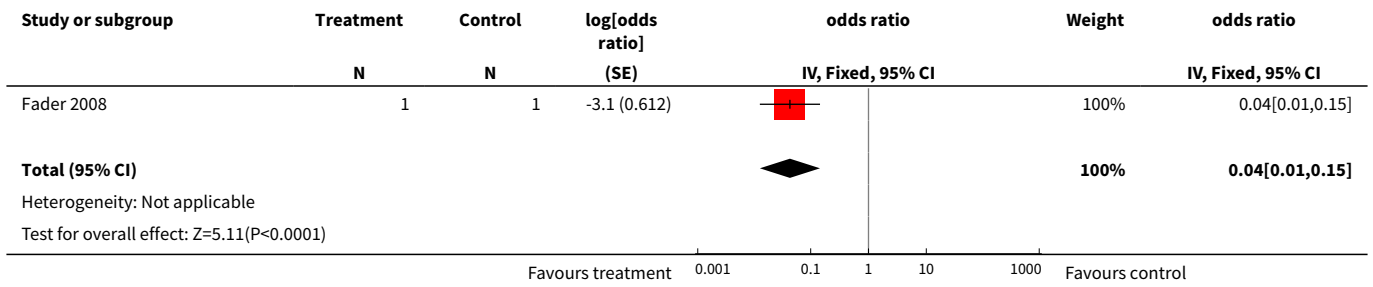
Analysis 3.10. Comparison 3 Disposable insert pads versus washable insert pads, Outcome 10 Skin health problems: number recording none versus a little or a lot.



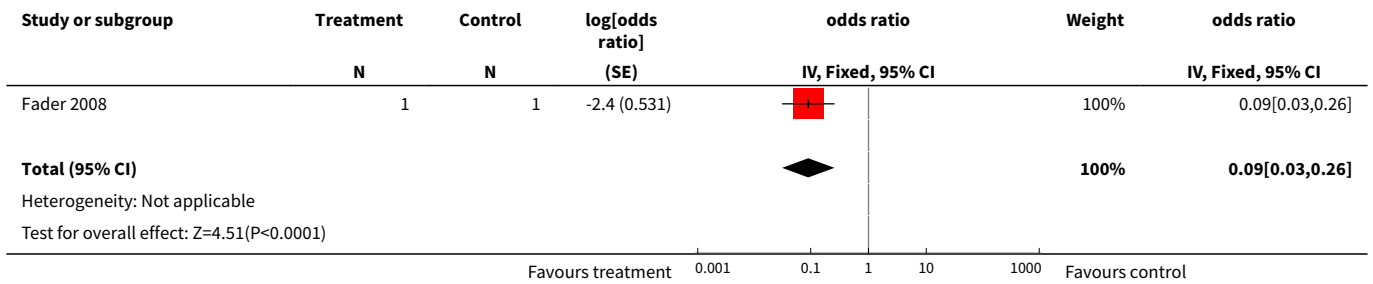
Analysis 3.11. Comparison 3 Disposable insert pads versus washable insert pads, Outcome 11 Effect on everyday activities: number rating design as good or no effect versus bad effect.



Analysis 3.12. Comparison 3 Disposable insert pads versus washable insert pads, Outcome 12 Overall acceptability: number rating design acceptable versus unacceptable.



Analysis 3.13. Comparison 3 Disposable insert pads versus washable insert pads, Outcome 13 Preference: number preferring design.

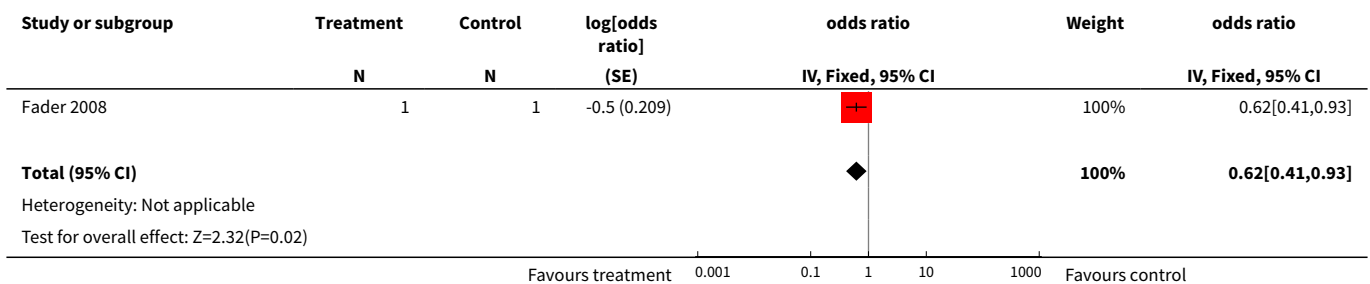


Comparison 4. Disposable menstrual pads versus washable pants with integral pad

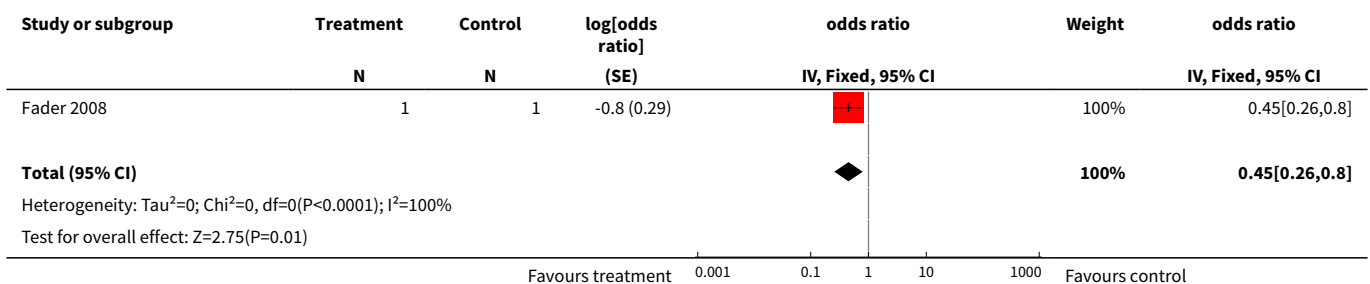
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Number of products scored as leaking: none versus a little or a lot	1		odds ratio (Fixed, 95% CI)	0.62 [0.41, 0.93]
2 Prevention of leakage: number rating design good or okay versus poor	1		odds ratio (Fixed, 95% CI)	0.45 [0.26, 0.80]
3 Comfort when dry: number rating design good or okay versus poor	1		odds ratio (Fixed, 95% CI)	1.14 [0.47, 2.77]
4 Comfort when wet: number rating design good or okay versus poor	1		odds ratio (Fixed, 95% CI)	0.44 [0.26, 0.75]
5 Discreetness (invisibility under clothes): number rating design good or okay versus poor	1		odds ratio (Fixed, 95% CI)	0.73 [0.38, 1.41]
6 Staying in place: number rating design good or okay versus poor	1		odds ratio (Fixed, 95% CI)	1.10 [0.44, 2.77]
7 Prevention of smell: number rating design good or okay versus poor	1		odds ratio (Fixed, 95% CI)	0.42 [0.24, 0.73]

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
8 Mean number of incontinence laundry items per 24 hours	1		mean (Fixed, 95% CI)	0.07 [0.03, 0.13]
9 Mean number of products used per 24 hours	1		mean (Fixed, 95% CI)	0.16 [-0.03, 0.36]
10 Skin health problems: number recording none versus a little or a lot	1		odds ratio (Fixed, 95% CI)	0.68 [0.38, 1.20]
11 Effect on everyday activities: number rating design as good or no effect versus bad effect	1		odds ratio (Fixed, 95% CI)	0.30 [0.13, 0.68]
12 Overall acceptability: number rating design acceptable versus unacceptable	1		odds ratio (Fixed, 95% CI)	0.19 [0.07, 0.52]
13 Preference: number preferring design	1		odds ratio (Fixed, 95% CI)	0.45 [0.24, 0.84]

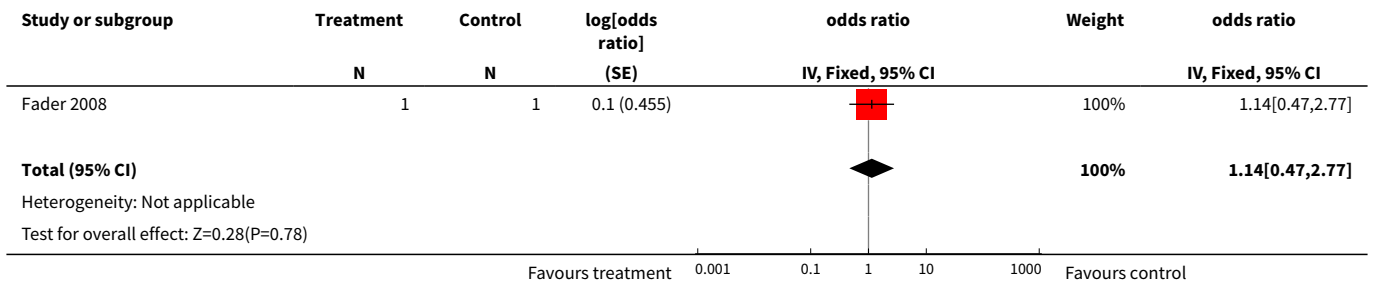
Analysis 4.1. Comparison 4 Disposable menstrual pads versus washable pants with integral pad, Outcome 1 Number of products scored as leaking: none versus a little or a lot.



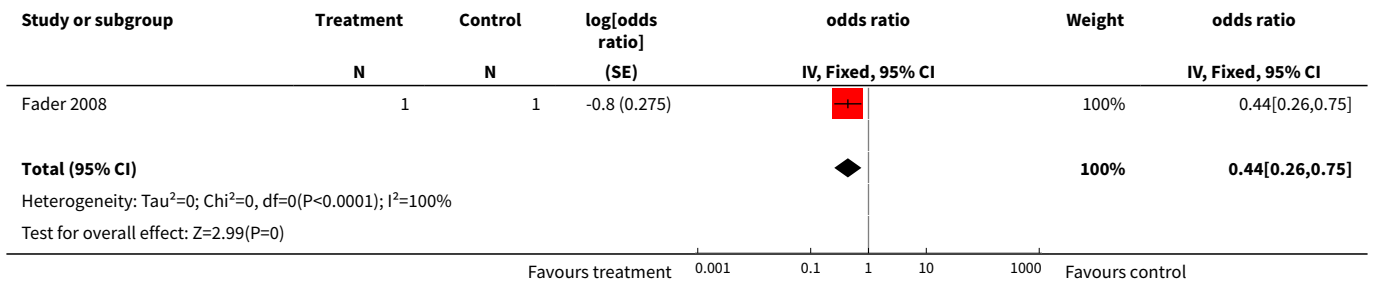
Analysis 4.2. Comparison 4 Disposable menstrual pads versus washable pants with integral pad, Outcome 2 Prevention of leakage: number rating design good or okay versus poor.



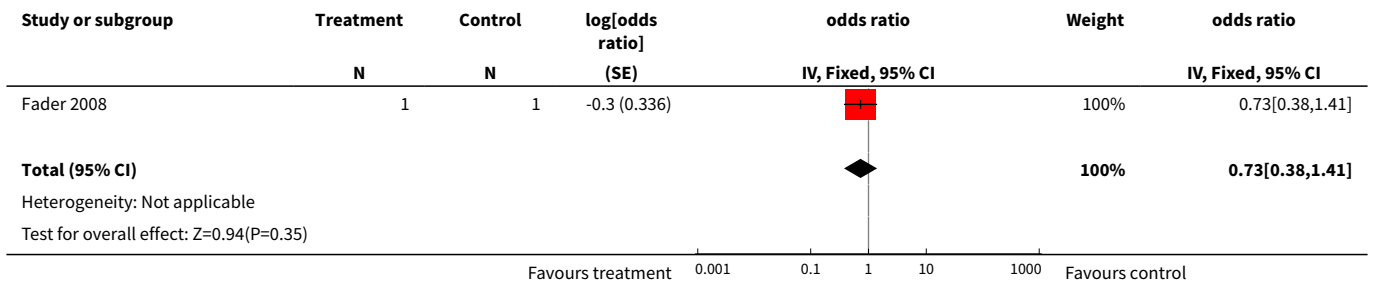
Analysis 4.3. Comparison 4 Disposable menstrual pads versus washable pants with integral pad, Outcome 3 Comfort when dry: number rating design good or okay versus poor.



Analysis 4.4. Comparison 4 Disposable menstrual pads versus washable pants with integral pad, Outcome 4 Comfort when wet: number rating design good or okay versus poor.

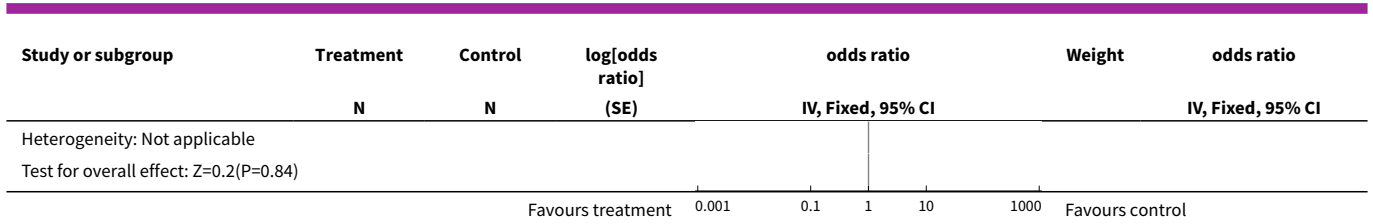


Analysis 4.5. Comparison 4 Disposable menstrual pads versus washable pants with integral pad, Outcome 5 Discreetness (invisibility under clothes): number rating design good or okay versus poor.

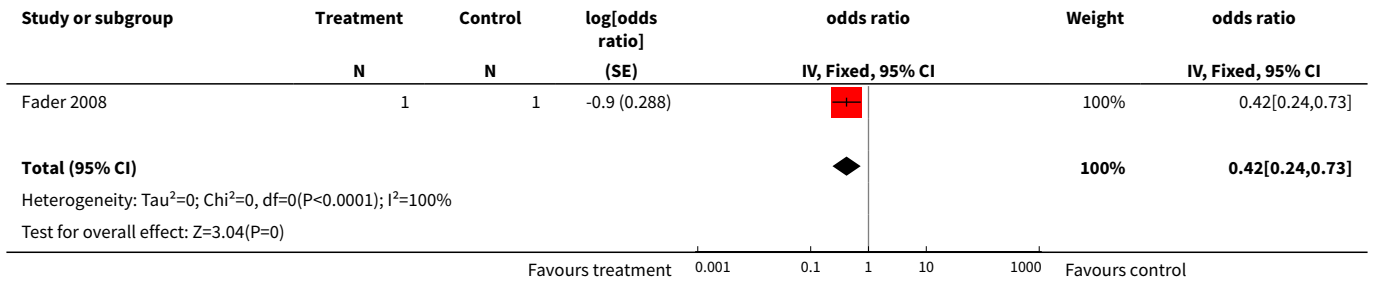


Analysis 4.6. Comparison 4 Disposable menstrual pads versus washable pants with integral pad, Outcome 6 Staying in place: number rating design good or okay versus poor.

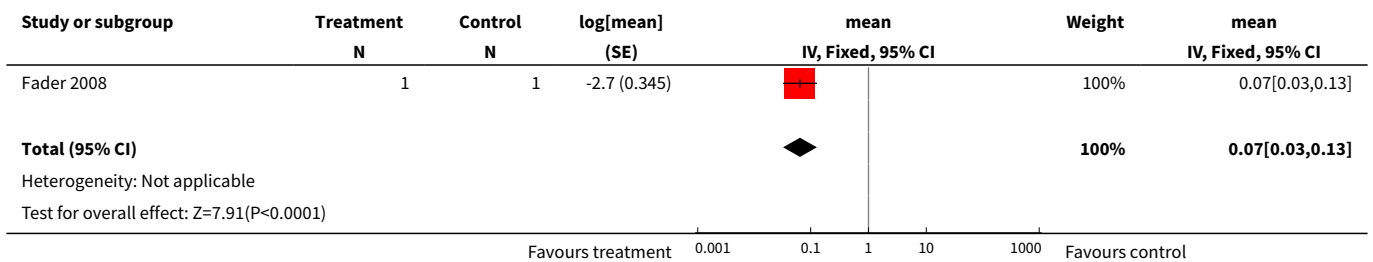




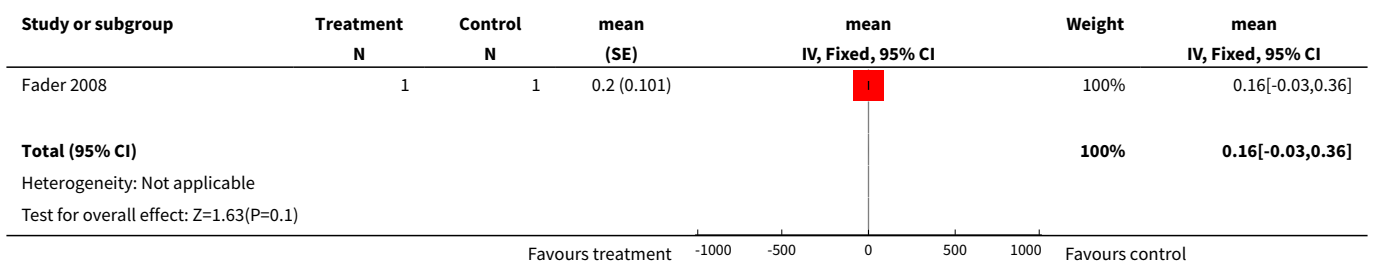
Analysis 4.7. Comparison 4 Disposable menstrual pads versus washable pants with integral pad, Outcome 7 Prevention of smell: number rating design good or okay versus poor.



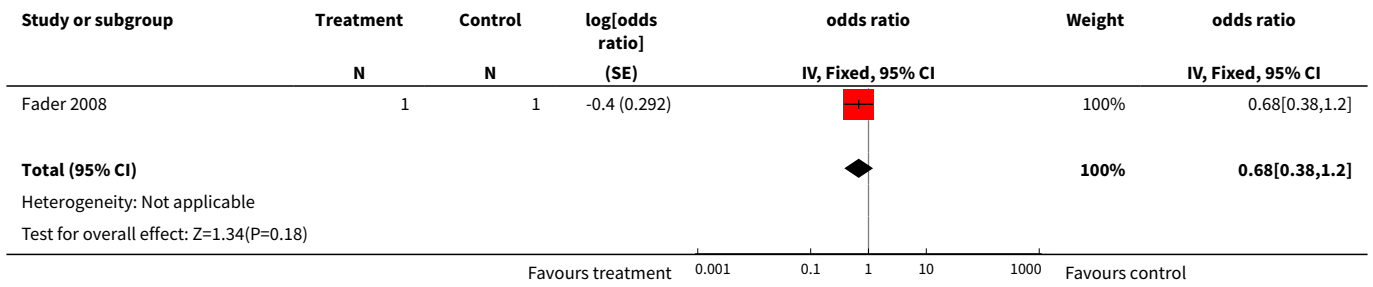
Analysis 4.8. Comparison 4 Disposable menstrual pads versus washable pants with integral pad, Outcome 8 Mean number of incontinence laundry items per 24 hours.



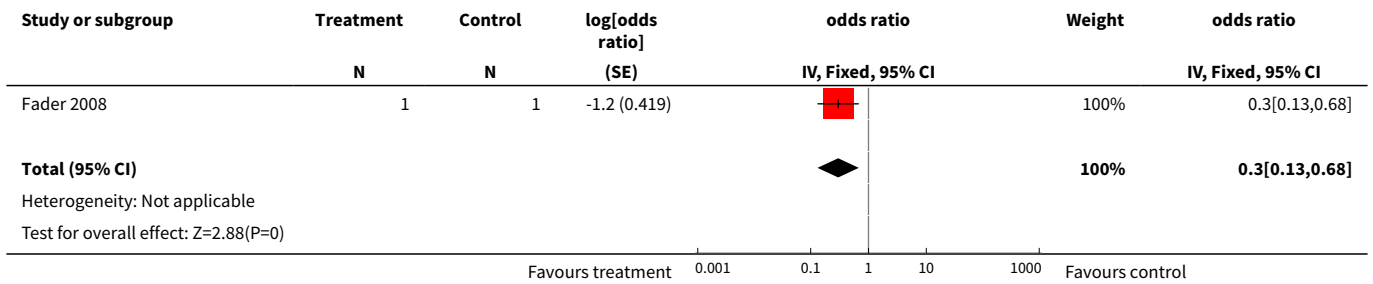
Analysis 4.9. Comparison 4 Disposable menstrual pads versus washable pants with integral pad, Outcome 9 Mean number of products used per 24 hours.



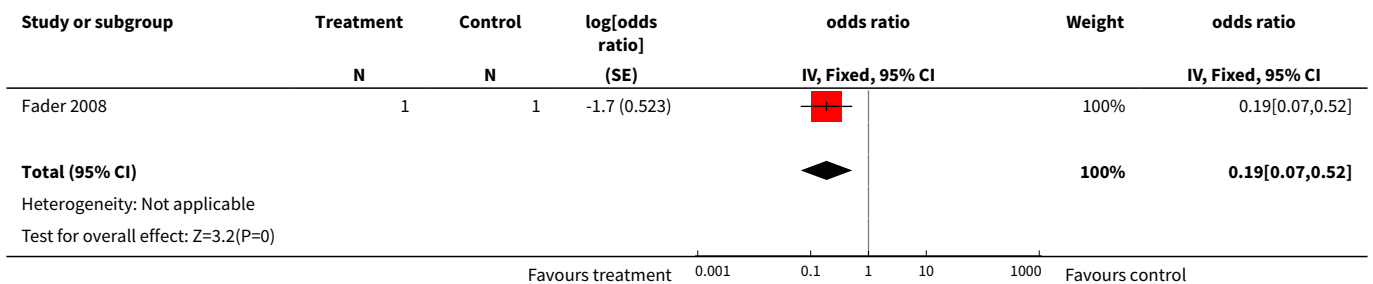
Analysis 4.10. Comparison 4 Disposable menstrual pads versus washable pants with integral pad, Outcome 10 Skin health problems: number recording none versus a little or a lot.



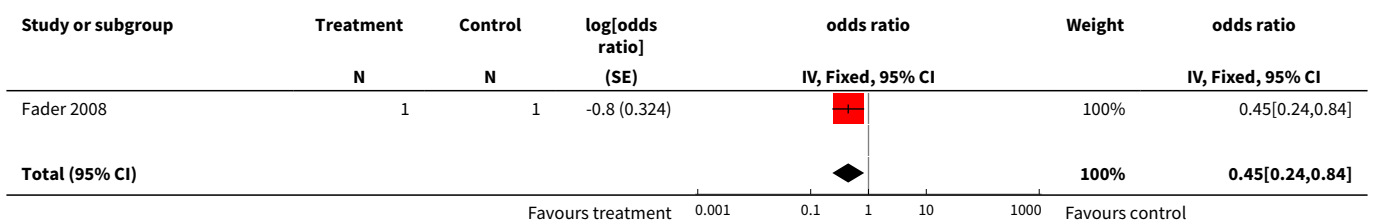
Analysis 4.11. Comparison 4 Disposable menstrual pads versus washable pants with integral pad, Outcome 11 Effect on everyday activities: number rating design as good or no effect versus bad effect.

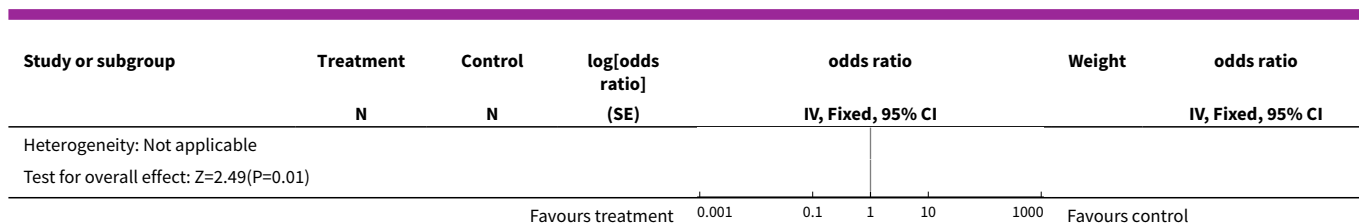


Analysis 4.12. Comparison 4 Disposable menstrual pads versus washable pants with integral pad, Outcome 12 Overall acceptability: number rating design acceptable versus unacceptable.



Analysis 4.13. Comparison 4 Disposable menstrual pads versus washable pants with integral pad, Outcome 13 Preference: number preferring design.

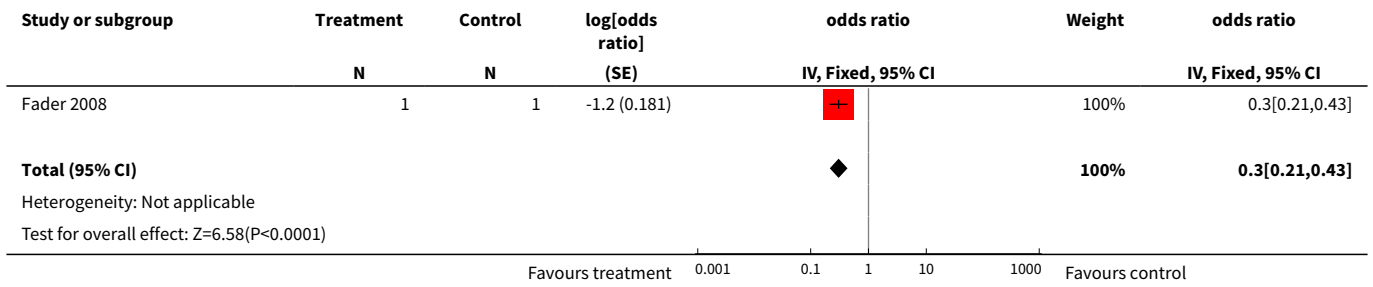




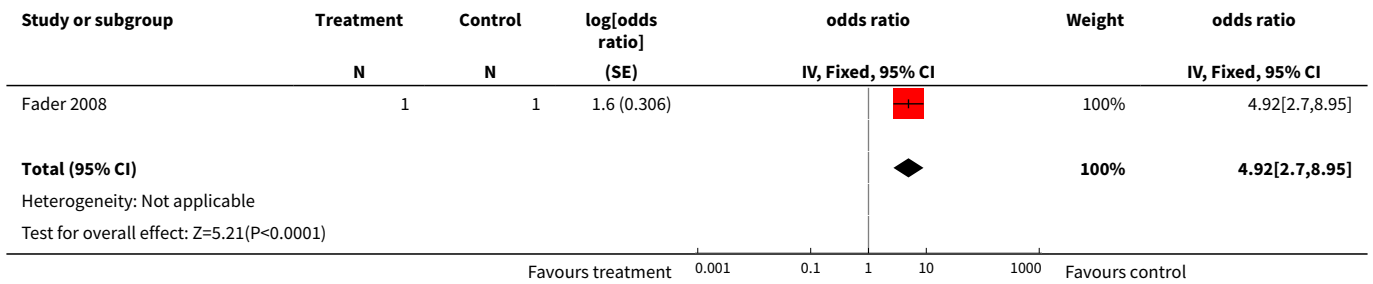
Comparison 5. Disposable menstrual pads versus washable insert pads

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Number of products scored as leaking: none versus a little or a lot	1		odds ratio (Fixed, 95% CI)	0.30 [0.21, 0.43]
2 Prevention of leakage: number rating design good versus okay or poor	1		odds ratio (Fixed, 95% CI)	4.92 [2.70, 8.95]
3 Comfort when dry: number rating design good or okay versus poor	1		odds ratio (Fixed, 95% CI)	0.41 [0.19, 0.89]
4 Comfort when wet: number rating design good or okay versus poor	1		odds ratio (Fixed, 95% CI)	0.33 [0.18, 0.58]
5 Discreetness (invisibility under clothes): number rating design good or okay versus poor	1		odds ratio (Fixed, 95% CI)	0.80 [0.41, 1.56]
6 Staying in place: number rating design good or okay versus poor	1		odds ratio (Fixed, 95% CI)	0.39 [0.22, 0.70]
7 Prevention of smell: number rating design good or okay versus poor	1		odds ratio (Fixed, 95% CI)	0.36 [0.21, 0.60]
8 Mean number of incontinence laundry items per 24 hours	1		mean (Fixed, 95% CI)	0.03 [0.01, 0.05]
9 Mean number of products used per 24 hours	1		mean (Fixed, 95% CI)	-0.01 [-0.18, 0.17]
10 Skin health problems: number recording none versus a little or a lot	1		odds ratio (Fixed, 95% CI)	0.53 [0.30, 0.93]
11 Effect on everyday activities: number rating design as good or no effect versus bad effect	1		odds ratio (Fixed, 95% CI)	0.13 [0.06, 0.31]
12 Overall acceptability: number rating design acceptable versus unacceptable	1		odds ratio (Fixed, 95% CI)	0.01 [0.00, 0.05]
13 Preference: number preferring design	1		odds ratio (Fixed, 95% CI)	0.12 [0.05, 0.30]

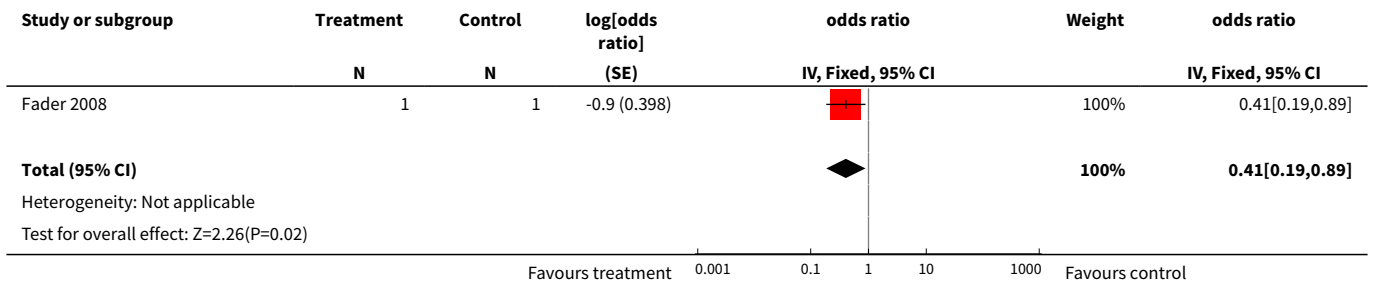
Analysis 5.1. Comparison 5 Disposable menstrual pads versus washable insert pads, Outcome 1 Number of products scored as leaking: none versus a little or a lot.



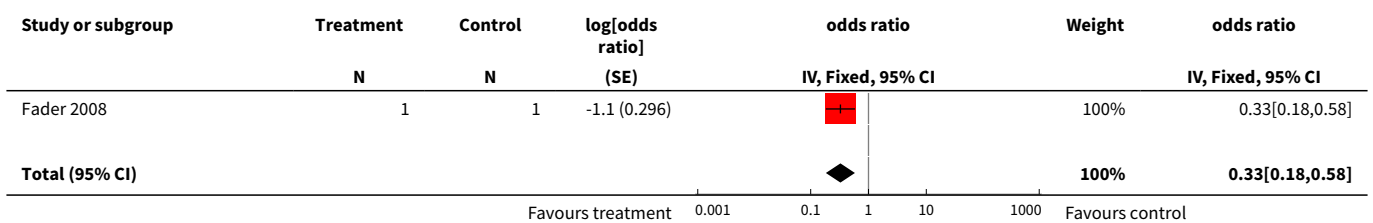
Analysis 5.2. Comparison 5 Disposable menstrual pads versus washable insert pads, Outcome 2 Prevention of leakage: number rating design good versus okay or poor.

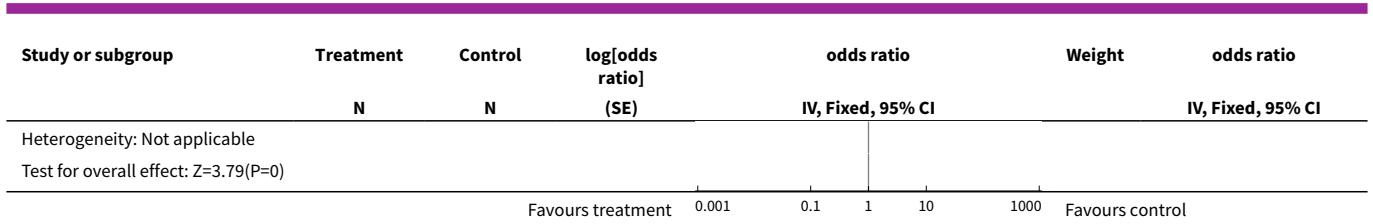


Analysis 5.3. Comparison 5 Disposable menstrual pads versus washable insert pads, Outcome 3 Comfort when dry: number rating design good or okay versus poor.

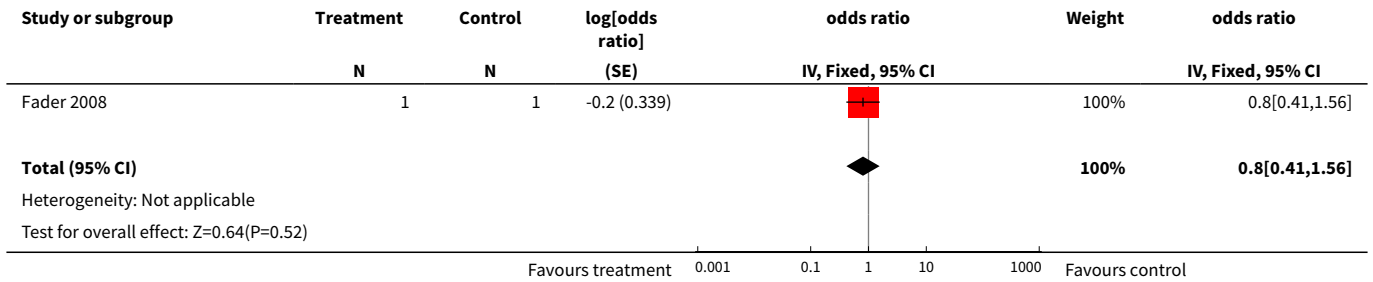


Analysis 5.4. Comparison 5 Disposable menstrual pads versus washable insert pads, Outcome 4 Comfort when wet: number rating design good or okay versus poor.

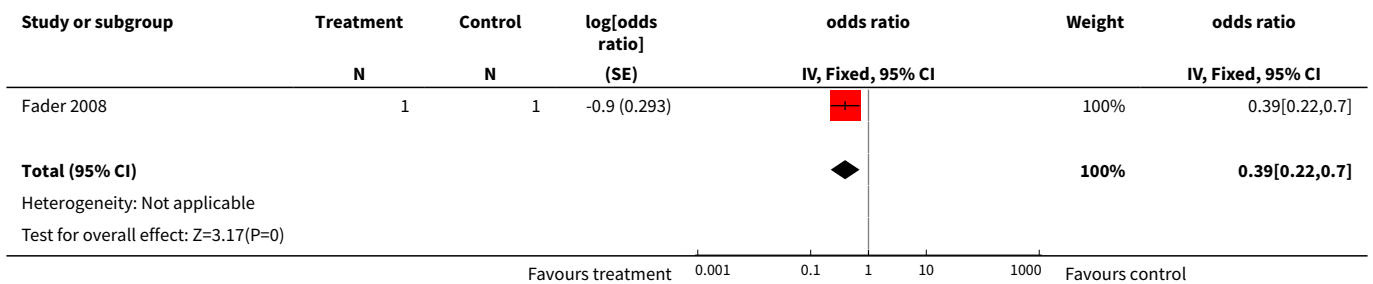




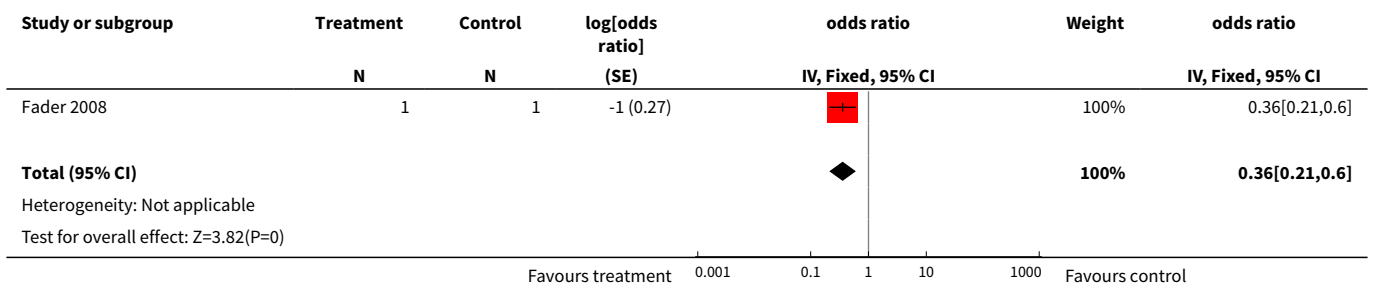
Analysis 5.5. Comparison 5 Disposable menstrual pads versus washable insert pads, Outcome 5 Discreetness (invisibility under clothes): number rating design good or okay versus poor.



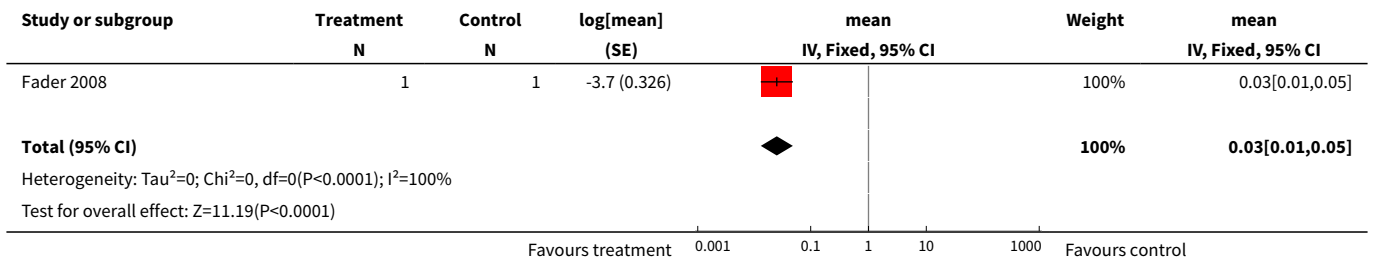
Analysis 5.6. Comparison 5 Disposable menstrual pads versus washable insert pads, Outcome 6 Staying in place: number rating design good or okay versus poor.



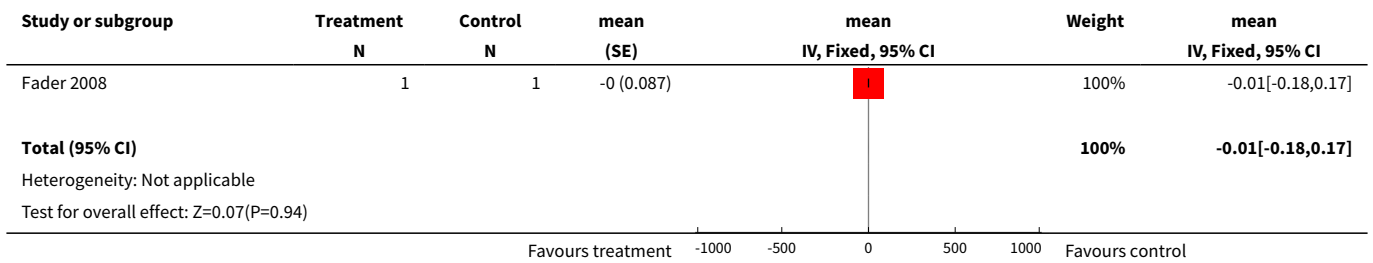
Analysis 5.7. Comparison 5 Disposable menstrual pads versus washable insert pads, Outcome 7 Prevention of smell: number rating design good or okay versus poor.



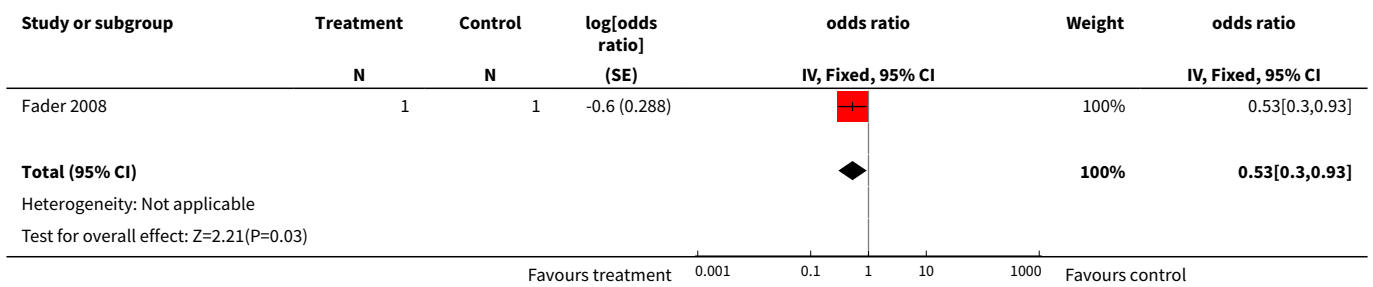
Analysis 5.8. Comparison 5 Disposable menstrual pads versus washable insert pads, Outcome 8 Mean number of incontinence laundry items per 24 hours.



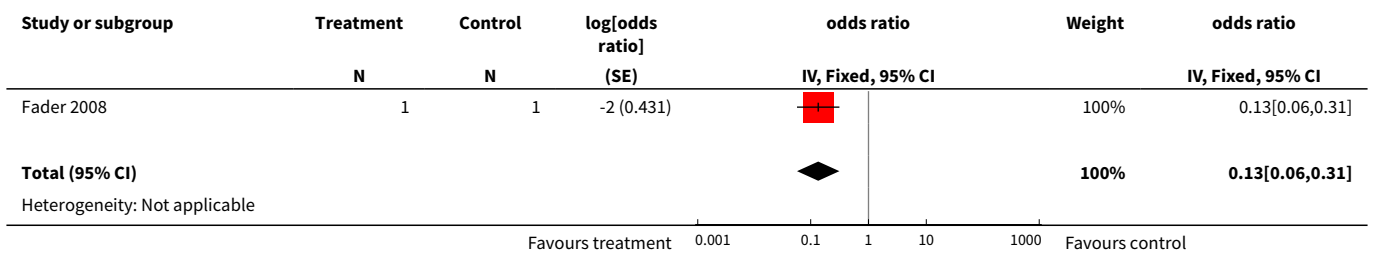
Analysis 5.9. Comparison 5 Disposable menstrual pads versus washable insert pads, Outcome 9 Mean number of products used per 24 hours.

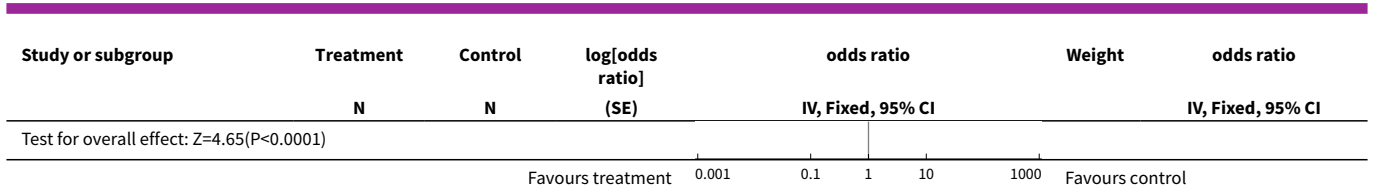


Analysis 5.10. Comparison 5 Disposable menstrual pads versus washable insert pads, Outcome 10 Skin health problems: number recording none versus a little or a lot.

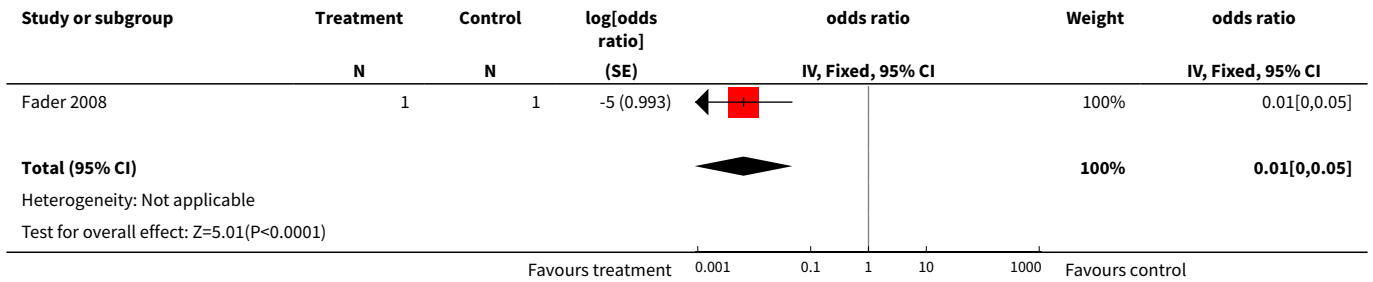


Analysis 5.11. Comparison 5 Disposable menstrual pads versus washable insert pads, Outcome 11 Effect on everyday activities: number rating design as good or no effect versus bad effect.

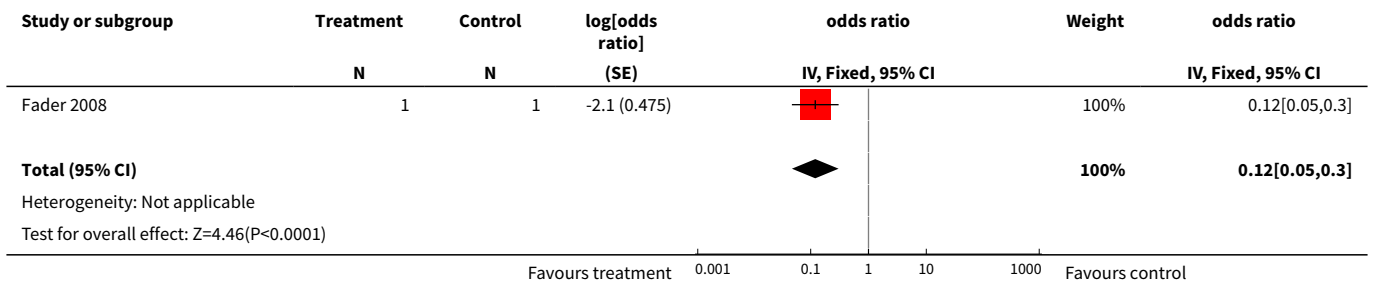




Analysis 5.12. Comparison 5 Disposable menstrual pads versus washable insert pads, Outcome 12 Overall acceptability: number rating design acceptable versus unacceptable.



Analysis 5.13. Comparison 5 Disposable menstrual pads versus washable insert pads, Outcome 13 Preference: number preferring design.

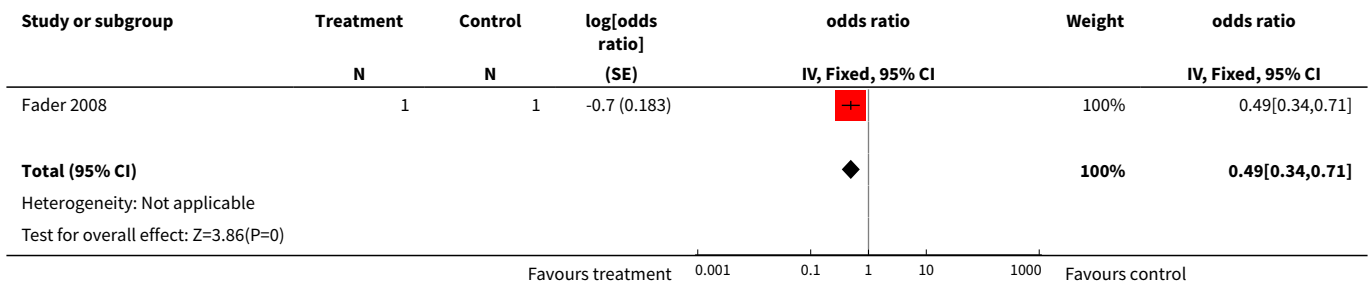


Comparison 6. Washable pants versus washable insert pads

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Number of products scored as leaking: none versus a little or a lot	1		odds ratio (Fixed, 95% CI)	0.49 [0.34, 0.71]
2 Prevention of leakage: number rating design good or okay versus poor	1		odds ratio (Fixed, 95% CI)	0.45 [0.26, 0.78]
3 Comfort when dry: number rating design good or okay versus poor	1		odds ratio (Fixed, 95% CI)	0.46 [0.22, 0.95]
4 Comfort when wet: number rating design good or okay versus poor	1		odds ratio (Fixed, 95% CI)	0.74 [0.45, 1.24]

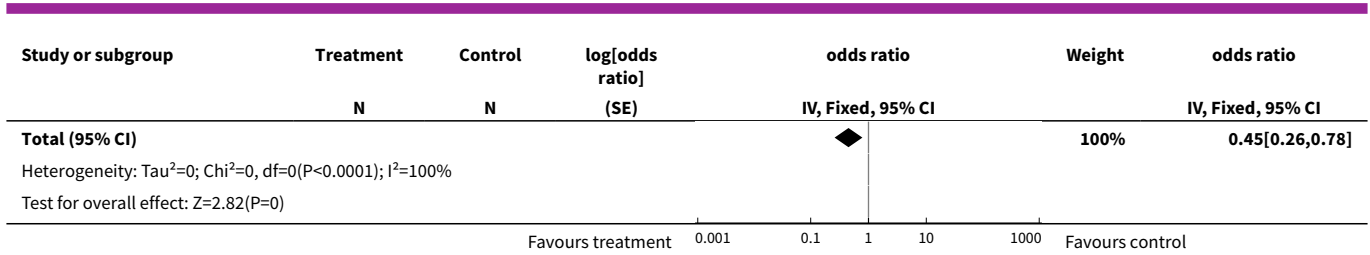
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
5 Discreetness (invisibility under clothes): number rating design good or okay versus poor	1		odds ratio (Fixed, 95% CI)	1.10 [0.52, 2.36]
6 Staying in place: number rating design good or okay versus poor	1		odds ratio (Fixed, 95% CI)	0.06 [0.03, 0.13]
7 Prevention of smell: number rating design good or okay versus poor	1		odds ratio (Fixed, 95% CI)	0.85 [0.46, 1.58]
8 Mean number of incontinence laundry items per 24 hours	1		mean (Fixed, 95% CI)	0.60 [0.35, 1.03]
9 Mean number of products used per 24 hours	1		mean (Fixed, 95% CI)	-0.17 [-0.34, -0.00]
10 Skin health problems: number recording none versus a little or a lot	1		odds ratio (Fixed, 95% CI)	0.78 [0.42, 1.46]
11 Effect on everyday activities: number rating design as good or no effect versus bad effect	1		odds ratio (Fixed, 95% CI)	0.45 [0.20, 1.03]
12 Overall acceptability: number rating design acceptable versus unacceptable	1		odds ratio (Fixed, 95% CI)	0.23 [0.09, 0.61]
13 Preference: number preferring design	1		odds ratio (Fixed, 95% CI)	0.33 [0.17, 0.65]

Analysis 6.1. Comparison 6 Washable pants versus washable insert pads, Outcome 1 Number of products scored as leaking: none versus a little or a lot.

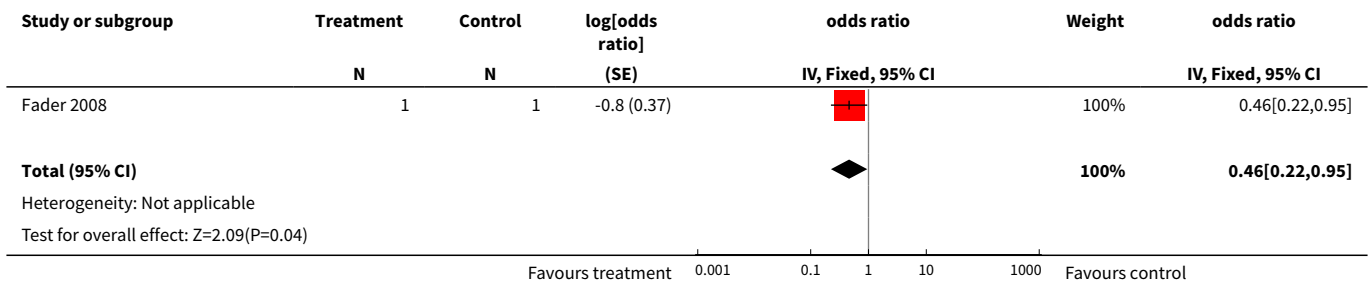


Analysis 6.2. Comparison 6 Washable pants versus washable insert pads, Outcome 2 Prevention of leakage: number rating design good or okay versus poor.

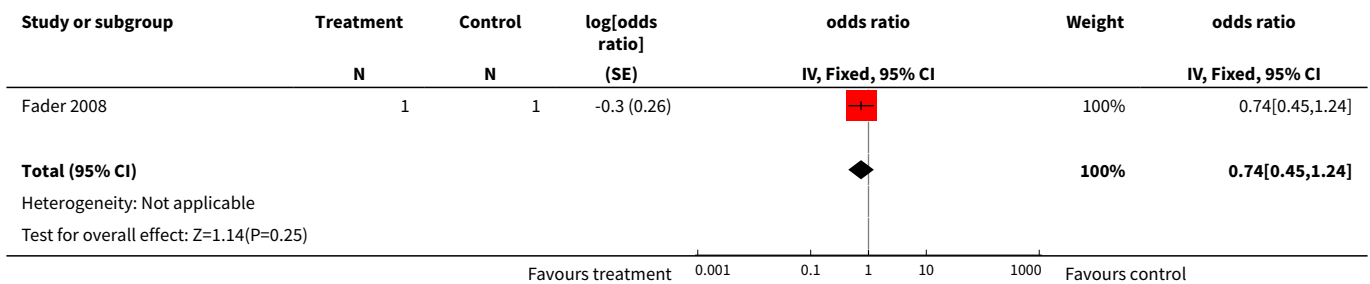




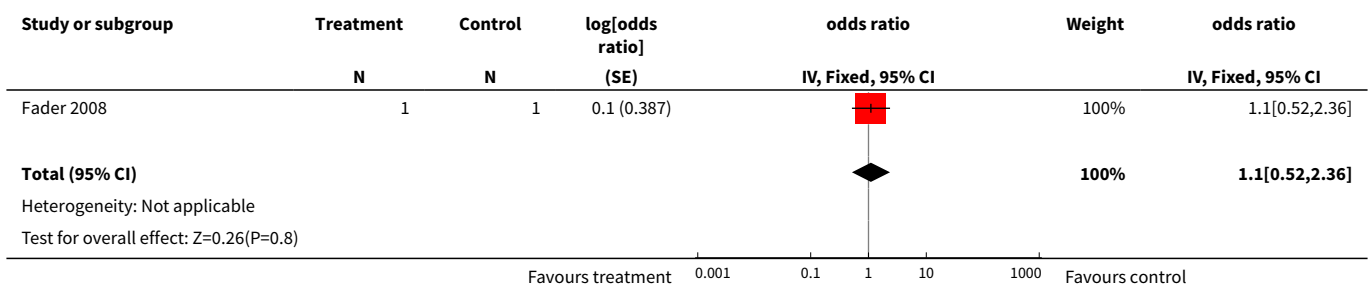
Analysis 6.3. Comparison 6 Washable pants versus washable insert pads, Outcome 3 Comfort when dry: number rating design good or okay versus poor.



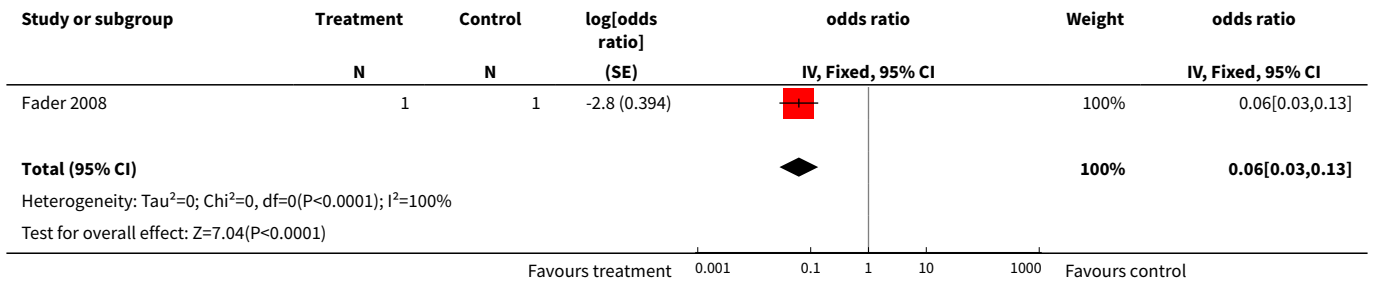
Analysis 6.4. Comparison 6 Washable pants versus washable insert pads, Outcome 4 Comfort when wet: number rating design good or okay versus poor.



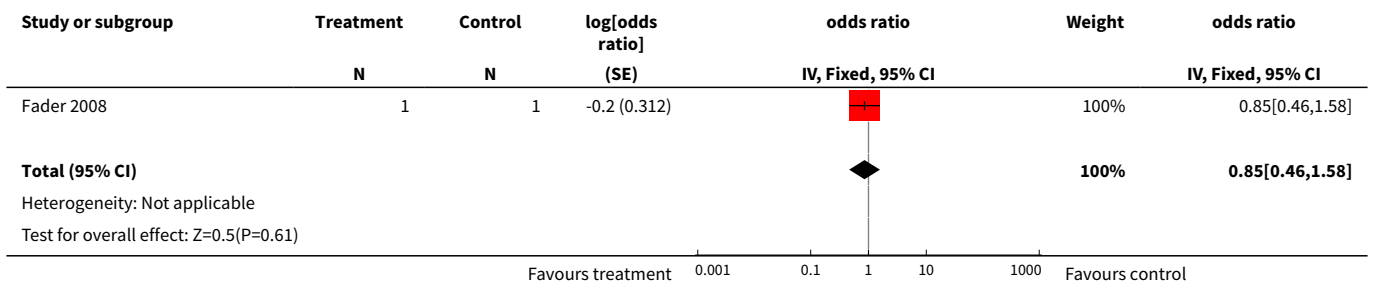
Analysis 6.5. Comparison 6 Washable pants versus washable insert pads, Outcome 5 Discreetness (invisibility under clothes): number rating design good or okay versus poor.



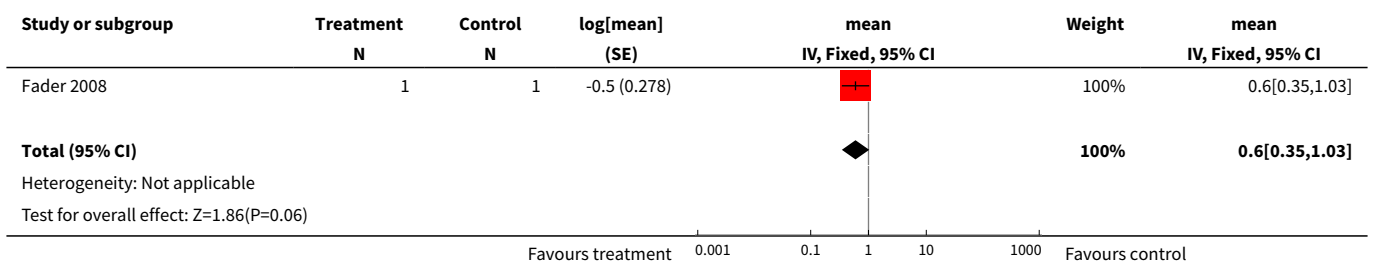
Analysis 6.6. Comparison 6 Washable pants versus washable insert pads, Outcome 6 Staying in place: number rating design good or okay versus poor.



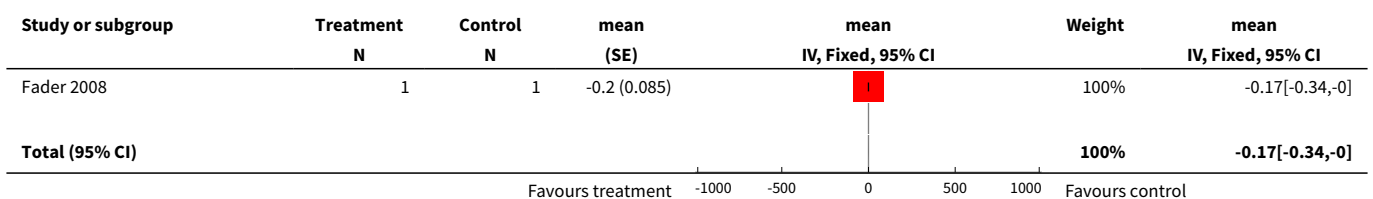
Analysis 6.7. Comparison 6 Washable pants versus washable insert pads, Outcome 7 Prevention of smell: number rating design good or okay versus poor.



Analysis 6.8. Comparison 6 Washable pants versus washable insert pads, Outcome 8 Mean number of incontinence laundry items per 24 hours.

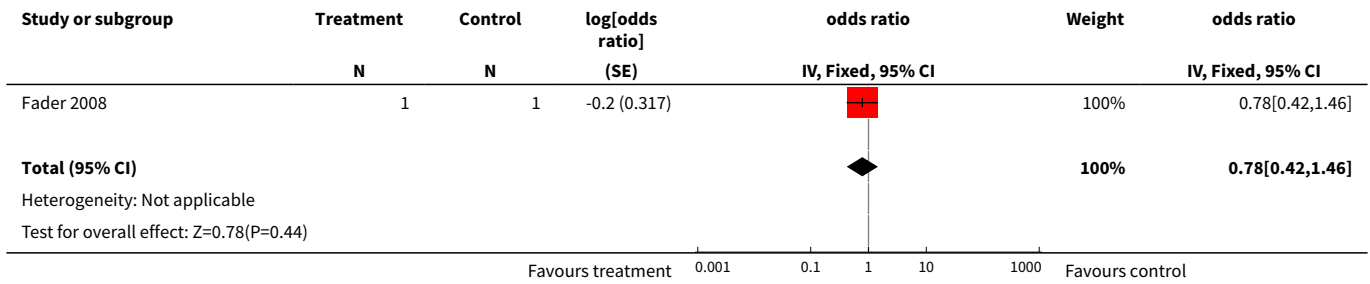


Analysis 6.9. Comparison 6 Washable pants versus washable insert pads, Outcome 9 Mean number of products used per 24 hours.

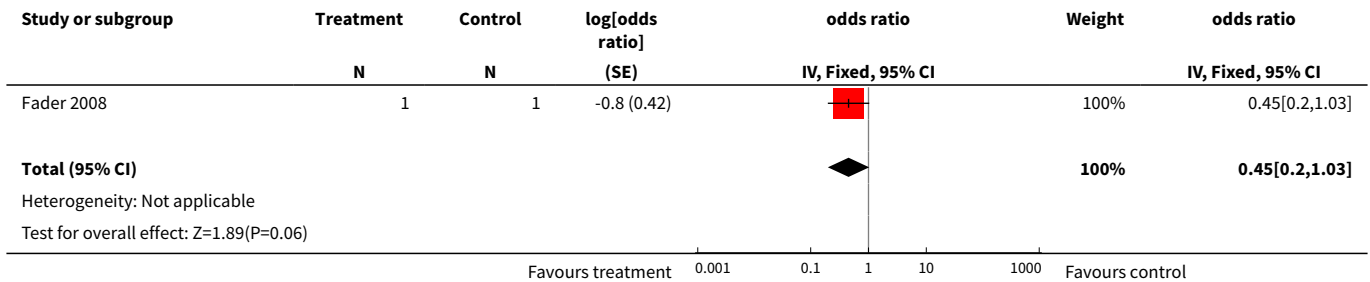




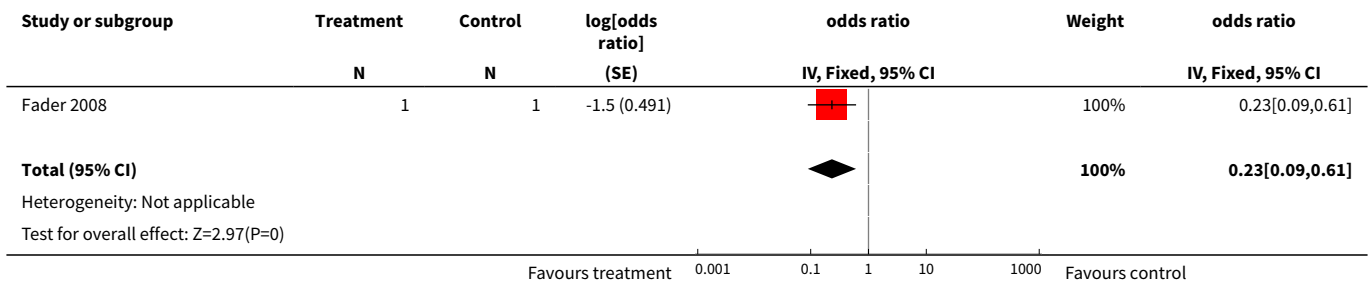
Analysis 6.10. Comparison 6 Washable pants versus washable insert pads, Outcome 10 Skin health problems: number recording none versus a little or a lot.



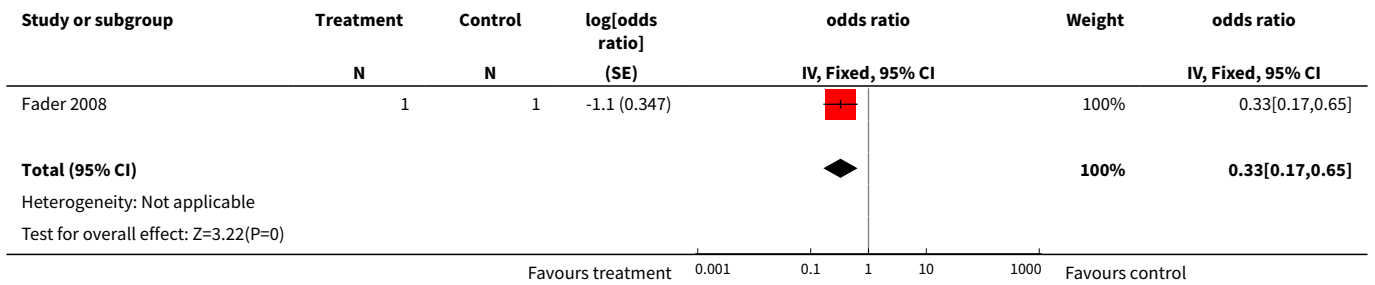
Analysis 6.11. Comparison 6 Washable pants versus washable insert pads, Outcome 11 Effect on everyday activities: number rating design as good or no effect versus bad effect.



Analysis 6.12. Comparison 6 Washable pants versus washable insert pads, Outcome 12 Overall acceptability: number rating design acceptable versus unacceptable.



Analysis 6.13. Comparison 6 Washable pants versus washable insert pads, Outcome 13 Preference: number preferring design.



ADDITIONAL TABLES

Table 1. Classification of absorbent continence products

Method of use	Body-worns	Underpads
Designs for moderate/heavy incontinence	Inserts	Bedpads
	Diapers	Chairpads
	T-shaped diapers	
	Pull-ups	
Design for light incontinence	Inserts	
	Menstrual pads (W) disposable only	
	Pouches (M)	
	Leafs (M)	
	Pants with integral pad	

Most products may be used by women or men. (W) or (M) denotes products specifically designed for women (W) or men (M). All designs have disposable and washable variants.

APPENDICES

Appendix 1. Search methods used for the previous versions of this review

The following electronic bibliographic databases were searched: MEDLINE (OVID for Windows, version 3.0, CDROM) (January 1966 to January 2000), CINAHL (OVID for Windows, version 3.0, on CDROM) (January 1982 to November 1999), EMBASE (on BIDS OVID services on the web) (January 1980 to January 2000) and HealthSTAR (OVID for Windows, version 3.0, on CDROM) (January 1975 to December 1999). The following search terms were used:

2 bodyworn\$.tw.

3 (pant or pants).tw.

5 ((continen\$ or incontinen\$) adj2 pad\$).tw.

6 or/1-5

The following search terms were used for CENTRAL (*The Cochrane Library* 2000, Issue 1), The UK National Research Register (Issue 1, 2000) (searched in April 2000) and www.ClinicalTrials.gov (searched in April 2000)

1. Incontinence pads*:ME

2. Body worn*

4. Pant

5. Pants

6. Continen* near pad*

7. Incontinen* near pad*

8. #1 or #2 or #3 or #4 or #5 or #6 or #7

Key: \$ or * = wildcard; tw = textwords in title or abstract; / or ME = MeSH term or other index term; adj or near = proximity searching.

The reference lists of relevant articles were searched for other possible relevant trials. Studies were also found in the commercial literature supplied by the providers of absorbent products. Investigators were contacted (in 1999) to ask for other possible relevant trials, published or unpublished.

We did not impose any language or other restrictions on any of these searches.

WHAT'S NEW

Date	Event	Description
12 May 2009	New search has been performed	updated search, no new trials

HISTORY

Protocol first published: Issue 1, 1999

Review first published: Issue 3, 1999

Date	Event	Description
13 August 2008	Amended	Converted to new review format.
21 February 2007	New citation required and conclusions have changed	Substantive amendment The previous review on absorbent products (Absorbent products for containing urinary and/or faecal incontinence in adults. Brazzelli M, Shirran E, Vale L) has been split into several reviews, of which this is one. The others include women with moderate to heavy incontinence, men with light urinary incontinence, and children with disabilities and incontinence. At the time of publication of this review (issue 2, 2007) these were in preparation.

CONTRIBUTIONS OF AUTHORS

Mandy Fader and Alan Cottenden assessed the eligible studies and extracted the data from the reports of included trials. Mandy Fader wrote the review. Kathy Getliffe helped with the interpretation of the data and commented on the completed review.

DECLARATIONS OF INTEREST

The authors of this review are also the authors of the single included trial

SOURCES OF SUPPORT

Internal sources

- Department of Health Cochrane Review Incentive Scheme 2005, UK.

External sources

- No sources of support supplied

INDEX TERMS

Medical Subject Headings (MeSH)

*Clothing; *Feminine Hygiene Products; *Urinary Incontinence; Absorption

MeSH check words

Female; Humans