Continuous support for women during childbirth (Review)

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[Intervention Review]

Continuous support for women during childbirth

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ABSTRACT

Background

Historically, women have been attended and supported by other women during labour. However, in recent decades in hospitals worldwide, continuous support during labour has become the exception rather than the routine. Concerns about the consequent dehumanization of women's birth experiences have led to calls for a return to continuous support by women for women during labour.

Objectives

Primary: to assess the effects, on mothers and their babies, of continuous, one-to-one intrapartum support compared with usual care. Secondary: to determine whether the effects of continuous support are influenced by: (1) routine practices and policies in the birth environment that may affect a woman's autonomy, freedom of movement and ability to cope with labour; (2) whether the caregiver is a member of the staff of the institution; and (3) whether the continuous support begins early or later in labour.

Search strategy

We searched the Cochrane Pregnancy and Childbirth Group's Trials Register (February 2007).

Selection criteria

All published and unpublished randomized controlled trials comparing continuous support during labour with usual care.

Data collection and analysis

We used standard methods of the Cochrane Collaboration Pregnancy and Childbirth Group. All authors participated in evaluation of methodological quality. One author and a research assistant independently extracted the data. We sought additional information from the trial authors. We used relative risk for categorical data and weighted mean difference for continuous data to present the results.

Main results

Sixteen trials involving 13,391 women met inclusion criteria and provided usable outcome data. Primary comparison: women who had continuous intrapartum support were likely to have a slightly shorter labour, were more likely to have a spontaneous vaginal birth and less likely to have intrapartum analgesia or to report dissatisfaction with their childbirth experiences. Subgroup analyses: in general, continuous intrapartum support was associated with greater benefits when the provider was not a member of the hospital staff, when it began early in labour and in settings in which epidural analgesia was not routinely available.

Authors' conclusions

All women should have support throughout labour and birth.

PLAIN LANGUAGE SUMMARY

Continuous support for women during childbirth

Continuous support in labour increased the chance of a spontaneous vaginal birth, had no identified adverse effects and women were more satisfied.

Historically women have been attended and supported by other women during labour and birth. However in many countries these days, as more women are giving birth in hospital rather than at home, continuous support during labour has become the exception rather than the norm. This has raised concerns about the consequent dehumanization of women's childbirth experiences. Modern obstetric care frequently subjects women to institutional routines, which may have adverse effects on the progress of labour. Supportive care during labour may involve emotional support, comfort measures, information and advocacy. These may enhance normal labour processes as well as women's feelings of control and competence, and thus reduce the need for obstetric intervention. The review of studies included 16 trials, from 11 countries, involving over 13,000 women in a wide range of settings and circumstances. Women who received continuous labour support were more likely to give birth 'spontaneously', i.e. give birth with neither caesarean nor vacuum nor forceps. In addition, women were less likely to use pain medications, were more likely to be satisfied, and had slightly shorter labours. In general, labour support appeared to be more effective when it was provided by women who were not part of the hospital staff. It also appeared to be more effective when commenced early in labour. No adverse effects were identified.

BACKGROUND

The first version of this Cochrane Review was published in 1995 (Hodnett 2003) when the first systematic reviews in the Cochrane Collaboration Pregnancy and Childbirth Group Module were converted to the Cochrane Review format. Thus a formal Cochrane Protocol was never published. The Review author, Ellen Hodnett, had completed a trial of labour support (Hodnett 2002a) with a sample size larger than the entire sample in the prior version of the original Review. As a protection against bias, she sought co-authors who were blind to the results of the new trial and who had special expertise that would enhance the quality of the Review. Discussions among the authors led to decisions to modify the background and methods. The authors decided that the best approach would be to write a new Protocol for the Review. The new Protocol was submitted through the peer review process of the Cochrane Pregnancy and Childbirth Group and then developed into the present Review.

Historically and cross-culturally, women have been attended and supported by other women during labour and birth. However, since the middle of the 20th century, in many countries (in both high-income and low- and middle-income countries) as the majority of women gave birth in hospital rather than at home, continuous support during labour has become the exception rather than the routine. Concerns about the consequent dehumanization of women's birth experiences have led to calls for a return to continuous, one-to-one support by women for women during labour (Klaus 2002). Common elements of this care include emotional support (continuous presence, reassurance and praise), information about labour progress and advice regarding coping techniques, comfort measures (comforting touch, massage, warm baths/showers, promoting adequate fluid intake and output) and advocacy (helping the woman articulate her wishes to others).

Two complementary theoretical explanations have been offered for the effects of labour support on childbirth outcomes. Both explanations hypothesize that labour support enhances labour physiology and mothers' feelings of control and competence, reducing reliance on medical interventions. The first theoretical explanation considers possible mechanisms when companionship during labour is used in stressful, threatening and disempowering clinical birth environments (Hofmeyr 1991). During labour women may be uniquely vulnerable to environmental influences; modern

obstetric care frequently subjects women to institutional routines, high rates of intervention, unfamiliar personnel, lack of privacy and other conditions that may be experienced as harsh. These conditions may have an adverse effect on the progress of labour and on the development of feelings of competence and confidence; this may in turn impair adjustment to parenthood and establishment of breastfeeding, and increase the risk of depression. This process may to some extent be buffered by the provision of support and companionship during labour.

The second theoretical explanation does not focus on a particular type of birth environment. Rather, it describes two pathways - enhanced passage of the fetus through the pelvis and soft tissues, as well as decreased stress response - by which labour support may reduce the likelihood of operative birth and subsequent complications, and enhance women's feelings of control and satisfaction with their childbirth experiences (Hodnett 2002a). Enhanced fetopelvic relationships may be accomplished by encouraging mobility and effective use of gravity, supporting women to assume their preferred positions and recommending specific positions for specific situations. Studies of the relationships among fear and anxiety, the stress response and pregnancy complications have shown that anxiety during labour is associated with high levels of the stress hormone epinephrine in the blood, which may in turn lead to abnormal fetal heart rate patterns in labour, decreased uterine contractility, a longer active labour phase with regular well-established contractions and low Apgar scores (Lederman 1978; Lederman 1981). Emotional support, information and advice, comfort measures and advocacy may reduce anxiety and fear and associated adverse effects during labour.

Recently continuous support has been viewed as a form of pain relief, specifically, as an alternative to epidural analgesia (Dickinson 2002), because of concerns about the deleterious effects of epidural analgesia on labour progress (Anim-Somuah 2005). Many labour and birth interventions routinely involve, or increase the likelihood of, co-interventions to monitor, prevent or treat adverse effects, in a "cascade of interventions". Continuous, one-to-one support has the potential to limit this cascade and therefore to have a broad range of different effects, in comparison to usual care. For example, if continuous support leads to reduced use of epidural analgesia, it may in turn involve less use of electronic fetal monitoring, intravenous drips, synthetic oxytocin, drugs to combat hypotension, bladder catheterization, vacuum extraction or forceps, episiotomy and less morbidity associated with these, and may increase mobility during labour and spontaneous birth (Caton 2002).

A systematic review examining factors associated with women's satisfaction with the childbirth experience suggests that continuous support can make a substantial contribution to this satisfaction. When women evaluate their experience, four factors predominate: the amount of support from caregivers, the quality of relationships with caregivers, being involved with decision-making and having high expectations or having experiences that exceed expectations (Hodnett 2002a).

Clarification of the effects of continuous support during labour, overall and within specific circumstances, is important in light of public and social policies and programs that encourage this type of care. For example, the Congress in Uruguay passed a law in 2001 decreeing that all women have the right to companionship during labour. In several low- and middle-income countries (including China, South Africa, Tanzania and Zimbabwe), the Better Births Initiative promotes labour companionship as a core element of care for improving maternal and infant health (WHO 2002).

In North America, the services of women with special training in labour support have become available. Most commonly known as doula (a Greek word for 'handmaiden'), this new member of the caregiver team may also be called a labour companion, birth companion, labour support specialist, labour assistant or birth assistant. A number of North American organizations offer doula training, certification and professional support; according to one estimate over 50,000 people have received this training to date (P Simkin, personal communication). Some North American hospitals have begun to sponsor doula services. In recent national surveys of childbearing women in the United States, 3% to 5% of respondents indicated that they had used doula services during their most recent labours (Declercq 2002; Declercq 2006). An association for doulas has recently been established in the UK (McGinnis 2001). Efforts to make doula services available are also occurring in countries such as Australia, Bermuda, Brazil, China, the Czech Republic, Israel and South Africa.

Questions have arisen about the ability of employees (such as nurses or midwives) to provide effective labour support, in the context of modern institutional birth environments (Hodnett 1997). For example, nurses and midwives often have simultaneous responsibility for more than one labouring woman, spend a large proportion of time managing technology and keeping records and begin or end work shifts in the middle of women's labours. They may lack labour support skills or may work in short-staffed environments. In addition to questions about the impact of the type of provider of labour support, there are other questions about the effectiveness of support, including its impact under a variety of environmental conditions, and whether its effects are mediated by when continuous support begins (early versus active labour).

Childbearing women, policy-makers, payers of health services, health professionals and facilities and those who provide labour support all need evidence about the effects of continuous support, overall and under specific conditions.

OBJECTIVES

The primary objective was to assess the effects, on mothers and their babies, of continuous, one-to-one intrapartum support com-

pared with usual care, in any setting. Secondary objectives were to determine whether the effects of continuous support are influenced by:

(1) routine practices and policies in the birth environment that may affect a woman's autonomy, freedom of movement and ability to cope with labour, including:

(a) policies about the presence of support people of the woman's own choosing;

(b) epidural analgesia; and

(c) continuous electronic fetal monitoring;

(2) whether the caregiver is a member of the staff of the institution (and thus has additional loyalties or responsibilities, or both); and

(3) whether the continuous support begins early or later in labour.

METHODS

Criteria for considering studies for this review

Types of studies

All controlled trials comparing continuous labour support by either a familiar or unfamiliar person (with or without healthcare professional qualifications) with usual care, in which there was random allocation to treatment and control groups, were considered for inclusion in the Review.

Types of participants

Pregnant women, in labour.

Types of interventions

The form of care that was evaluated was continuous presence and support during labour and birth. The person providing the support could have qualifications as a healthcare professional (nurse, midwife) or training as a doula or childbirth educator, or be a family member, friend or stranger with no special training in labour support. The control group received usual care, as defined by the trialists. In all cases, 'usual care' did not involve continuous intrapartum support, but it could involve other measures, such as routine epidural analgesia, to help women to cope with labour.

Types of outcome measures

Theoretically continuous support can have many diverse physiological and psychosocial effects (both short- and long-term), and therefore a large number of outcomes were considered. The outcomes fall into the following categories: labour events, birth events, neonatal events, immediate maternal psychological outcomes and longer-term maternal outcomes. The outcomes included:

(A) Labour events

(1) Amniotomy (artificial rupture of membranes);
(2) synthetic oxytocin;
(3) use of electronic fetal monitoring;
(4) epidural analgesia;
(5) any analgesia/anaesthesia (pain medication);
(6) severe pain;
(7) labour length.

(B) Birth events

(8) Caesarean birth;
(9) operative vaginal birth (vacuum extraction or forceps);
(10) spontaneous vaginal birth;
(11) episiotomy;
(12) perineal trauma (defined as episiotomy or laceration requiring suturing).

(C) Newborn events

(13) Low five-minute Apgar score (as defined by trial authors);
(14) low cord pH (as defined by trial authors);
(15) admission to special care nursery;
(16) prolonged newborn hospital stay.

(D) Immediate maternal psychological outcomes

(17) Feeling tense, anxious during labour;
(18) negative rating of/negative feeling about the experience;
(19) perceived difficulty in coping with labour;
(20) perceived low control during labour.

(E) Longer-term maternal outcomes

(21) Postpartum depression;
(22) low self-esteem in the postpartum period;
(23) anxiety in the postpartum period;
(24) difficulty mothering;
(25) less than full breastfeeding;
(26) prolonged perineal pain;
(27) pain during sexual intercourse;
(28) urinary incontinence;
(29) faecal incontinence;

(30) poor relationship with partner.

Search methods for identification of studies

Electronic searches

We searched the Cochrane Pregnancy and Childbirth Group's Trials Register by contacting the Trials Search Co-ordinator (February 2007).

The Cochrane Pregnancy and Childbirth Group's Trials Register is maintained by the Trials Search Co-ordinator and contains trials identified from:

1. quarterly searches of the Cochrane Central Register of Controlled Trials (CENTRAL);
2. monthly searches of MEDLINE;
3. handsearches of 30 journals and the proceedings of major conferences;
4. weekly current awareness search of a further 36 journals plus monthly BioMed Central email alerts.

Details of the search strategies for CENTRAL and MEDLINE, the list of handsearched journals and conference proceedings, and the list of journals reviewed via the current awareness service can be found in the 'Search strategies for identification of studies' section within the editorial information about the Cochrane Pregnancy and Childbirth Group.

Trials identified through the searching activities described above are given a code (or codes) depending on the topic. The codes are linked to review topics. The Trials Search Co-ordinator searches the register for each review using these codes rather than keywords. We did not apply any language restrictions.

Data collection and analysis

We evaluated trials under consideration for methodological quality and appropriateness for inclusion, without consideration of their results. We processed included trial data as described in Higgins 2005. Quality scores for allocation concealment were assigned to each trial, where A = adequate, B = unclear, C = clearly inadequate. Studies rated as a C were eliminated. Wherever necessary, we requested unpublished data from the trial authors. For all data analyses in this Review, we entered data based on the principle of intention to treat. To be included in a given comparison, outcome data had to be available for at least 80% of those who were randomized.

In trials in which some participants had interventions such as analgesia and synthetic oxytocin prior to enrolment, only those interventions which occurred after randomization were included in the data tables.

Where several measures of dissatisfaction were included in a single trial, we selected the measure of the outcome that was most serious and was most congruent with the particular concept. Six trials reported on aspects of women's views about their childbirth experiences. We combined 'low perceived control during labour' with other indicators of negative ratings of the birth experience, such as difficulty in coping with labour, for a combined outcome, 'dissatisfaction with/negative rating of the childbirth experience'.

We double-entered the data and compared the results until we achieved 100% agreement.

We planned and completed five a priori subgroup analyses. The five subgroup analyses were as follows.

(A) Three subgroup analyses that concern characteristics of the childbirth environment

(1) Trials in settings in which women were permitted to be accompanied by one or more support persons of their own choosing versus trials in which accompaniment was not permitted;

(2) trials conducted in settings in which epidural analgesia was available versus trials in settings in which it was unavailable;

(3) trials in which there was a policy of routine electronic fetal heart rate monitoring versus trials in settings in which continuous electronic fetal monitoring was not routine.

(B) One subgroup analysis that concerns characteristics of the providers of labour support

(4) Trials in which the caregivers were employees of the institution, compared to trials in which the caregivers were not staff members.

(C) One subgroup analysis that concerns differences in the timing of onset of continuous support

(5) Trials in which continuous labour support began prior to the onset of active labour, trials in which women were enrolled after the onset of active labour and trials in which women were enrolled at both early and active labour.

Because few of the trial reports contained all of the information needed for the above subgroup analyses, the trial authors were contacted in an attempt to verify the presence/absence of routine electronic fetal monitoring (EFM), the presence/absence of epidural analgesia and timing of onset of continuous support. Some studies included in the primary comparisons were excluded from the subgroup analyses concerning the use of EFM because their status regarding EFM use was unknown. For tests of differences between these subgroups, the overall analysis was recalculated by including only the studies in which EFM use was known.

The prespecified subgroup analyses were restricted to the following outcomes:

1. analgesia/anaesthesia;
2. ways of giving birth (caesarean, operative vaginal and spontaneous);
3. low five-minute Apgar score (as defined by trial authors);

4. dissatisfaction with or negative views of the childbirth experience; and
5. postpartum depression.

We combined studies using relative risks as the measure of effect size for binary outcomes. Weighted mean differences were used for most continuous outcome measures. Where trials used different ways of measuring the same outcome, we used standardised mean differences. We analyzed scores from rating scales either as continuous variables, if the scale was sufficiently long for this to be reasonable, or converted to dichotomous variables. We used fixed-effect meta-analysis for combination of studies if the trials were sufficiently similar in their design and interventions that a fixed-effect summary would be meaningful. When there were differences between the trials that were likely to lead to differences in their treatment effects, we used random-effects meta-analysis. We performed tests for heterogeneity, and when heterogeneity was identified, either by a significant result ($P < 0.1$) or obvious inconsistency of the effect sizes of the trials in the analysis, random-effects analysis was preferred.

When significant heterogeneity was present within one subgroup analysis in a comparison, we used the random-effects model for both subgroups. We investigated causes of heterogeneity by the prespecified subgroup analyses. We investigated biases in the studies included in the analyses by means of funnel plots. We used chi-squared tests for differences between subgroups, using the method suggested by Deeks 2001, to determine if the subgroup analyses explained any variation among trials.

Additional information from secondary reports and correspondence with the principal investigator about one trial (Dickinson 2002) led to uncertainties about whether the two study groups differed in the provision of continuous support. Therefore we decided to perform sensitivity analyses, in which we compared study results with and without including the trial.

RESULTS

Description of studies

See: Characteristics of included studies; Characteristics of excluded studies.

Please *see* 'Characteristics of included studies' table. While 17 trials met inclusion criteria, one trial (Thomassen 2003) provided no usable outcome data and will not be described here, but details are provided in the 'Characteristics of included studies' table.

All 16 trials that provided usable outcome data were conducted in hospitals. The trials were conducted in Australia, Belgium, Botswana, Canada, Finland, France, Greece, Guatemala, Mexico, South Africa and the United States, under widely disparate hospital conditions, regulations and routines. There was remarkable consistency in the descriptions of continuous support across all trials. In all instances the intervention included continuous or nearly continuous presence, at least during active labour. Fourteen of the 16 trials that provided usable outcome data (all except Cogan 1988 and Dickinson 2002) also included specific mention of comforting touch and words of praise and encouragement.

In 10 trials (Breart - Belgium; Breart - France; Campbell 2006; Cogan 1988; Dickinson 2002; Gagnon 1997; Hemminki 1990a; Hemminki 1990b; Hodnett 1989; Hodnett 2002a), hospital policy permitted women to be accompanied by their husbands/partners or other family members during labour, while in the other six trials, no additional support people were allowed. Epidural analgesia was routinely available in all but four trials (Breart - Greece; Hofmeyr 1991; Klaus 1986; Madi 1999). Electronic fetal heart rate monitoring was not routine in four trials (Hofmeyr 1991; Klaus 1986; Langer 1998; Madi 1999). In nine trials (Campbell 2006; Cogan 1988; Dickinson 2002; Gagnon 1997; Hemminki 1990a; Hemminki 1990b; Hodnett 1989; Hodnett 2002a; Kennell 1991) electronic fetal monitoring was used routinely. We were unsuccessful in obtaining information about the use of electronic fetal monitoring for three trials (Breart - Belgium; Breart - France; Breart - Greece).

While the form of care that was evaluated was always described as continuous one-to-one support, the timing of onset of support varied. In five trials (Cogan 1988; Dickinson 2002; Hodnett 1989; Klaus 1986; Madi 1999) the support began prior to the onset of active labour; in six trials (Gagnon 1997; Hemminki 1990a; Hemminki 1990b; Hofmeyr 1991; Kennell 1991; Langer 1998) the support began in active labour; and in five trials (Breart - Belgium; Breart - France; Breart - Greece; Campbell 2006; Hodnett 2002a) the support could begin in either early or active labour.

In addition, the persons providing the support intervention varied in their experience, qualifications and relationship to the labouring women. In eight trials (Breart - Belgium; Breart - France; Breart - Greece; Dickinson 2002; Gagnon 1997; Hemminki 1990a; Hemminki 1990b; Hodnett 2002a) the support was provided by a member of the hospital staff, for example, a midwife, student midwife or nurse. In the remaining eight trials the providers were not members of the hospital staff; they were women with or without special training (Hodnett 1989; Hofmeyr 1991; Kennell 1991; Klaus 1986): a childbirth educator (Cogan 1988), retired nurses (Langer 1998) or a female relative or friend (Campbell 2006; Madi 1999). With the exception of the latter two trials (Campbell 2006; Madi 1999) all studies evaluated support by a woman who was not part of the childbearing woman's existing social network. One of the two trials of support by a female relative or friend (Campbell 2006) provided two, two-hour training sessions about labour support to the support person. We found no controlled trials that have evaluated effects of husbands or partners as providers of labour support.

Risk of bias in included studies

Allocation concealment: Hodnett 2002a used a central, computerized randomization service accessed by telephone. In 13 trials (Breart - Belgium; Breart - France; Breart - Greece; Campbell 2006; Dickinson 2002; Gagnon 1997; Hemminki 1990a; Hemminki 1990b; Hofmeyr 1991; Kennell 1991; Klaus 1986; Langer 1998; Madi 1999) randomization was by sealed, opaque envelopes. Two trials used methods that were centrally controlled but not concealed (Cogan 1988; Hodnett 1989). One trial (Thomassen 2003) did not describe the method of random assignment.

Performance bias: neither those providing nor receiving care could be blinded to the presence/absence of a person providing continuous support. Hodnett 2002a provided evidence to discount contamination and co-intervention as serious threats to validity. Attrition bias: outcome data were not included in a meta-analysis if there was more than 20% loss to follow up; based on this criterion, one trial (Thomassen 2003) provided no usable outcome data. In the trials which sought participants' evaluations of their birth experiences (Breart - Belgium; Breart - France; Hofmeyr 1991; Hodnett 2002a; Kennell 1991), efforts were made to reduce response bias, through use of an interviewer blinded to the woman's group allocation or self-administered questionnaires.

Effects of interventions

Sixteen trials involving 13,391 women met the criteria for inclusion in this Review and provided usable outcome data. The relative risks (RR) and confidence intervals (CI) reported below reflect our a priori decisions regarding use of random-effects versus fixed-effect analyses.

Main comparison: continuous support versus usual care - all trials

Thirty outcomes were considered. Between 1 and 16 trials contributed to the analyses of each outcome. Because of the large number of outcomes, the following summary of results is restricted to data collected and reported in at least four trials involving at least 1000 women. Please refer to the meta-analyses graphs for the full results.

Women who had continuous, one-to-one support during labour were less likely to:

1. have regional analgesia/anaesthesia (seven trials, n = 10,648; RR 0.92, 95% CI 0.85 to 0.99);
2. have any analgesia/anaesthesia (12 trials, n = 11,651; RR 0.89, 95% CI 0.82 to 0.96);
3. have an instrumental vaginal birth (15 trials, n = 13,357; RR 0.89, 95% CI 0.82 to 0.96);
4. have a caesarean birth (16 trials, n = 13,391; RR 0.91, 95% CI 0.83 to 0.99);
5. report dissatisfaction with or negative rating of the childbirth experience (six trials, n = 9824; RR 0.73, 95% CI 0.65 to 0.83); and
6. they were more likely to have a spontaneous vaginal birth (15 trials, n = 13,357; RR 1.07, 95% CI 1.04 to 1.12).

Continuous support was also associated with a slightly shorter labour length (10 trials, n = 10,922; weighted mean difference -0.43 hours, 95% CI -0.83 to -0.04).

Using the same criteria as above, i.e. at least four trials involving at least 1000 women, continuous support was not associated with decreased likelihood of:

1. synthetic oxytocin during labour (ten trials, n = 11,2566; RR 0.94, 95% CI 0.84 to 1.05);
2. low five-minute Apgar scores (eight trials, n = 11,295; RR 0.72, 95% CI 0.51 to 1.02);
3. admission of the newborn to a special care nursery (four trials, n = 8239; RR 0.94, 95% CI 0.82 to 1.09); or
4. postpartum reports of severe labour pain (four trials, n = 2497; RR 0.97, 95% CI 0.77 to 1.23).

There were two other outcomes that are noteworthy because, although reported in fewer than four trials, the data came from more than 1000 women. The meta-analysis of two trials (Hodnett 2002a; Langer 1998) indicates that continuous support was associated with a reduced likelihood that women will report feeling low levels of personal control during labour and birth (n = 7639; RR 0.79, 95% CI 0.67 to 0.94). There was a slight decrease in the use of electronic fetal monitoring (EFM) in the continuous support group in a North American trial (Hodnett 2002a; n = 6915; RR 0.95, 95% CI 0.92 to 0.97).

There remains relatively little information about the effects of continuous intrapartum support on mothers' and babies' health and well-being in the postpartum period. Perineal trauma, other neonatal outcomes, relationship with partner and urinary and faecal incontinence were assessed in one to three trials each, involving between 189 and 7639 women, and no statistically significant differences were found. No data suitable for incorporation into this Review were available for low cord pH, prolonged perineal pain, postpartum anxiety or pain during sexual intercourse. Hodnett 2002a found that continuous support was not associated with a significantly reduced likelihood of postpartum depression (n = 6915; RR 0.89, 95% CI 0.75 to 1.05). However, the South African trial (Hofmeyr 1991) achieved a remarkable 79% follow up under extremely difficult conditions, and the results (while not included in the meta-analyses because loss to follow up was more than 20%) suggest important longer-term benefits of continuous support when it is provided in a resource-poor environment, including reduced likelihood of postpartum depression and anxiety, improved self-esteem, increased confidence in mothering and greater likelihood of successful breastfeeding.

The results of the subgroup analyses are presented below. For two reasons, the number of trials in each subgroup analysis varies: (1) the number of trials that reported any given outcome was highly

variable (caesarean delivery was the only outcome reported in all 16 trials); and (2) we were unable to obtain information from all trialists about the routine use of EFM.

The text below does not present the results for postpartum depression. Since only one trial (Hodnett 2002a) reported data about postpartum depression from at least 80% of those originally enrolled, subgroup analyses related to this outcome were not possible.

Please refer to the meta analysis graphs, for individual subgroup analyses related to the outcome of low five-minute Apgar scores. Only one of 11 subgroup comparisons of low five-minute Apgar scores was statistically significant: In the three trials (n = 1201) in which the support people were not members of the hospital staff, RR 0.36, 95% CI 0.14 to 0.90. For low Apgar scores, the interaction tests revealed no evidence of any difference between subgroups.

Subgroup comparisons one to three: influences of variations in institutional policies and practices

Note: in all of the comparisons reported below, there were much larger numbers of participants, in settings in which (1) women were permitted to have support people of their own choosing with them in labour, compared to settings in which other support was not permitted; (2) in which epidural analgesia was routinely available, compared to when it was not routinely available; and (3) in which EFM was routine, compared to when EFM was not routine. The differing sample sizes should be taken into account, when results are interpreted.

Outcome: analgesia/anaesthesia

1. Policies about whether women were permitted to have support people of their own choosing with them during labour and birth: in settings in which other support people were permitted (seven trials, n = 9752; RR 0.97, 95% CI 0.96 to 0.99) in settings in which other support people were not permitted (five trials, n = 1899; RR 0.72, 95% CI 0.49 to 1.05). The difference between subgroups was not statistically significant (chi squared = 3.33, P = 0.07).

2. Availability of epidural analgesia: in settings in which epidural analgesia was routinely available (nine trials, n = 10,888; RR 0.90, 95% CI 0.84 to 0.97). In settings in which epidural analgesia was not routinely available (three trials, n = 763; RR 0.71, 95% CI 0.54 to 0.93). The effects of continuous support appeared to be stronger in settings in which epidural analgesia was not routinely available (chi squared = 7.19, P = 0.01).

3. Use of routine electronic fetal monitoring: in settings in which EFM was routine (six trials, n = 8580; RR 0.88, 95% CI 0.79 to 0.99). In settings in which EFM was not routine (four trials, n = 1487; RR 0.82, 95% CI 0.61 to 1.11). The difference between subgroups was not statistically significant (chi squared = 0.24, P = 0.62).

Outcome: spontaneous vaginal birth

1. Policies about whether women were permitted to have support people of their own choosing with them during labour and birth: in settings in which other support people were permitted (eight trials, n = 10,889; RR 1.03, 95% CI 1.00 to 1.06). In settings in which other support was not permitted (six trials, n = 1468; RR 1.11, 95% CI 1.04 to 1.19). The effects of continuous support appeared to be stronger in settings in which other support was not permitted (chi squared = 9.89, P < 0.01).

2. Availability of epidural analgesia: in settings in which epidural analgesia was routinely available (11 trials, n = 12,025; RR 1.06, 95% CI 1.02 to 1.11). In settings in which epidural analgesia was not routinely available (four trials, n = 1332; RR 1.10, 95% CI 1.01 to 1.20). The effects of continuous support appeared to be stronger in settings in which epidural analgesia was not routinely available (chi squared = 4.96, P = 0.03).

3. Use of routine EFM: in settings in which EFM was routine (eight trials, n = 9717; RR 1.07, 95% CI 1.01 to 1.13). In settings in which EFM was not routine (four trials, n = 1487; RR 1.11, 95% CI 1.02 to 1.20). The effects of continuous support appeared to be stronger in settings in which EFM was not routine (chi squared = 6.28, P = 0.01).

Outcome: instrumental vaginal birth

1. Policies about whether women were permitted to have support people of their own choosing with them during labour and birth: in the settings in which other support people were permitted (nine trials, n = 10,889; RR 0.90, 95% CI 0.84 to 0.97). In settings in which other support was not permitted (six trials, n = 2468; RR 0.68, 95% CI 0.42 to 1.10). The difference between subgroups was not statistically significant (chi squared = 1.25, P = 0.26).

2. Availability of epidural analgesia: in the settings in which epidural analgesia was routinely available (11 trials, n = 12,025; RR 0.85, 95% CI 0.75 to 0.96). In the settings in which epidural analgesia was not routinely available (four trials, n = 1332; RR 0.77, 95% CI 0.43 to 1.38). There was no evidence of a difference in instrumental vaginal birth, based on availability of epidural analgesia (chi squared = 0.00, P = 1.00).

3. Routine use of EFM: in the settings in which EFM was routine (eight trials, n = 9717; RR 0.84, 95% CI 0.69 to 1.01). In the settings in which EFM was not routine (four trials, n = 1487; RR 0.72, 95% CI 0.38 to 1.36). The difference between subgroups was not statistically significant (chi squared = 0.39, P = 0.53).

Outcome: caesarean birth

1. Policies about whether women were permitted to have support people of their own choosing with them during labour and birth: in settings in which other support was permitted (10

trials, n = 10,923; RR 0.97, 95% CI 0.88 to 1.07). In settings in which other support was not permitted (six trials, n = 2468; RR 0.71, 95% CI 0.54 to 0.93). The effects of continuous support appeared to be stronger in settings which did not permit the presence of additional support people (chi squared = 4.83, P = 0.03).

2. Availability of epidural analgesia: in settings in which epidural analgesia was routinely available (12 trials, n = 12,059; RR 0.95, 95% CI 0.86 to 1.04). In settings in which epidural analgesia was not routinely available (four trials, n = 1332; RR 0.62, 95% CI 0.41 to 0.95). The effects of continuous support appeared to be stronger in settings in which epidural analgesia was not routinely available (chi squared = 5.20, P = 0.02).

3. Routine use of EFM: in settings in which EFM was routine (nine trials, n = 9751; RR 0.95, 95% CI 0.86 to 1.05). In settings in which EFM was not routine (four trials, n = 1487; RR 0.65, 95% CI 0.41 to 1.04). The difference between subgroups was not statistically significant (chi squared = 2.63, P = 0.10).

Outcome: dissatisfaction with/negative views of childbirth experience

1. Policies about whether women were permitted to have support people of their own choosing with them during labour and birth: in settings in which women were permitted other support (three trials, n = 8499; RR 0.83, 95% CI 0.67 to 1.02). In settings in which other support was not permitted (three trials, n = 1325; RR 0.67, 95% CI 0.58 to 0.78). The difference between subgroups was not statistically significant (chi squared = 3.09, P = 0.08).

2. Availability of epidural analgesia: in settings in which epidural analgesia was routine (five trials, n = 9635; RR 0.77, 95% CI 0.67 to 0.88). Only one trial (n = 189) in a setting without epidural analgesia reported data about women's views (RR 0.55, 95% CI 0.42 to 0.72). The effects of continuous support may be stronger in settings in which epidural analgesia was not routinely available (chi squared = 4.68, P = 0.03).

3. Use of routine EFM: two trials (n = 7327) were conducted in settings with routine EFM; RR 0.75, 95% CI 0.61 to 0.92. Two trials (n = 913) were conducted in settings in which EFM was not routine; RR 0.69, 95% CI 0.58 to 0.82. The difference between subgroups was not statistically significant (chi squared = 0.52, P = 0.47).

Subgroup comparison four: impact of type of provider

Outcome: analgesia/anaesthesia

When the providers of continuous support were members of the staff of the institution (six trials, n = 9152; RR 0.97, 95% CI 0.95 to 0.99). When the providers of support were not staff members (six trials, n = 2499; RR 0.80, 95% CI 0.66 to 0.97). The effects of continuous support appear to be stronger when the provider was not a member of the staff (chi squared = 3.82, P = 0.05).

Outcome: spontaneous vaginal birth

When the providers of continuous support were members of the staff (eight trials, n = 10,713; RR 1.03, 95% CI 1.01 to 1.06). When the providers of support were not staff members (seven trials, n = 3244; RR 1.10, 95% CI 1.05 to 1.14). The effects of continuous support appeared to be stronger when the provider was not a member of the staff (chi squared = 9.14, P = 0.01).

Outcome: instrumental vaginal birth

When the providers of continuous support were members of the staff (eight trials, n = 10,713; RR 0.92, 95% CI 0.85 to 0.99). When the providers of support were not staff members (seven trials, n = 2644; RR 0.59, 95% CI 0.44 to 0.79). The effects of continuous support appeared to be stronger when the provider was not a member of the staff (chi squared = 7.21, P = 0.01).

Outcome: caesarean birth

A significant reduction in the likelihood of caesarean birth was only seen in the eight trials (n = 2678) in which the support providers were not members of the staff (RR 0.80, 95% CI 0.68 to 0.95). In the other eight trials (n = 10,713; RR 0.95, 95% CI 0.86 to 1.06). The difference between subgroups was not statistically significant (chi squared = 1.92, P = 0.17).

Outcome: dissatisfaction with/negative rating of childbirth experience

When the providers of continuous support were members of the staff (three trials, n = 8499; RR 0.83, 95% CI 0.67 to 1.02). When the providers of support were not staff members (three trials, n = 1325; RR 0.67, 95% CI 0.58 to 0.78). The difference between subgroups was not statistically significant (chi squared = 3.09, P = 0.08).

Subgroup comparison five: impact of timing of onset of continuous support

Outcome: analgesia/anaesthesia

When continuous support began before active labour (two trials, n = 574; RR 0.61, 95% CI 0.30 to 1.26). When continuous support could begin in either early or active labour (four trials, n = 9099) , RR 0.96, 95% CI 0.92 to 1.00. When continuous support began in active labour (six trials, n = 1978; RR 0.85, 95% CI 0.70 to 1.04). The effects of continuous support appeared to be stronger

when support began before labour became active (chi squared = 11.20, P < 0.01).

Outcome: spontaneous vaginal birth

When continuous support began before active labour (four trials, n = 1711; RR 1.16, 95% CI 1.08 to 1.24). When continuous support could begin in either early or active labour (five trials, n = 9668; RR 1.02, 95% CI 1.00 to 1.05). When continuous support began in active labour (six trials, n = 1978; RR 1.07, 95% CI 1.02 to 1.13). The effects of continuous support appear to be stronger when support began before labour became active (chi squared = 17.09, P < 0.001).

Outcome: instrumental vaginal birth

When continuous support began before active labour (four trials, n = 1711; RR 0.76, 95% CI 0.53 to 1.07). When continuous support could begin in either early or active labour (five trials, n = 9668; RR 0.89, 95% CI 0.79 to 1.01). When continuous support began in active labour (six trials, n = 1978; RR 0.82, 95% CI 0.52 to 1.30). The differences among subgroups were not statistically significant (chi squared = 0.92, P = 0.63).

Outcome: caesarean birth

When continuous support began before active labour (five trials, n = 1745; RR 0.71, 95% CI 0.56 to 0.90). When continuous support could begin in either early or active labour (five trials, n = 9668; RR 0.99, 95% CI 0.89 to 1.11). When continuous support began in active labour (six trials, n = 1978; RR 0.81, 95% CI 0.67 to 0.99). The difference between subgroups was statistically significant (chi squared = 6.40, P = 0.04), favouring support that began before labour became active.

Outcome: dissatisfaction with/negative rating of childbirth experience

No trials in which continuous support began in early labour reported information about women's views of their childbirth experiences. Only six trials included data suitable for incorporation in this subgroup analysis. In three trials (n = 8499) in which continuous support could begin in early or active labour (RR 0.83, 95% CI 0.67 to 1.02). In three trials (n = 1325) in which continuous support began in active labour (RR 0.67, 95% CI 0.58 to 0.78). The difference between the two subgroups was not statistically significant (chi squared = 3.09, P = 0.21).

Sensitivity analyses

The sensitivity analyses, in which Dickinson 2002 results were excluded, did not materially change the conclusions of any of the comparisons.

DISCUSSION

This Review summarizes results of 16 trials involving 13,391 women, that took place in 11 countries under a wide variety of circumstances. The methodological quality of the 16 trials was good to excellent. All trials involved continuous one-to-one support provided by women with a variety of experiences, through having given birth themselves and/or through education and practice as nurses, midwives, doulas or childbirth educators.

In the primary comparison, women who experienced continuous one-to-one support during labour were more likely to give birth without using analgesia or anesthesia, more likely to have a spontaneous vaginal birth and less likely to report dissatisfaction with their childbirth experiences; in addition their labours tended to be slighter shorter in length. The trial reports do not list any adverse effects, and none are plausible. This form of care appears to confer important benefits without attendant risks. The results of earlier versions of this Review prompted organizations in Canada, the UK and the USA to issue practice guidelines, advocating continuous support (AWHONN 2002; MIDIRS 1999; SOGC 1995). The results of the primary comparison in the current Review offer continued justification for these practice guidelines.

The subgroup analyses should be interpreted with caution, but consistent patterns suggest that the effectiveness of continuous intrapartum support may be enhanced or reduced by policies in the birth setting, type of provider and timing of onset of support.

We chose three aspects of the birth environment - routine use of electronic fetal monitoring, availability of epidural analgesia and policies about the presence of additional support people of the woman's own choosing - as proxies for environmental conditions that may mediate the effectiveness of labour support. This Review cannot answer questions about the mechanisms whereby settings with epidural analgesia limit the effectiveness of labour support. The impact of epidural analgesia may be direct (Anim-Somuah 2005) or indirect, as part of the 'cascade of interventions' described in the Background. These results raise questions about the ability of labour support to act as a buffer against adverse aspects of routine medical interventions. In contrast, labour support appears to be effective in reducing the adverse consequences of the fear and distress associated with labouring alone in an unfamiliar environment. A report of a qualitative component of one of the included trials (Langer 1998), aptly titled "Alone, I wouldn't have known what to do", provides further justification for this argument.

A major finding of this Review is that effects of continuous labour support appear to vary by type of provider. The reduction in operative birth and the increase in spontaneous birth were lower in magnitude when women received support from women whose training, role or identity, or both, involved responsibilities that extended beyond labour support (that is, members of the staff of the institution), compared to women who were cared for by women whose training, role or identity, or both focused on labour support

(that is, women who were not part of the staff and were there solely to provide support). This Review cannot answer questions about the reasons why support provided by non-staff members was generally more effective than support by institutional staff. Divided loyalties, additional duties besides labour support, self-selection and the constraints of institutional policies and routine practices may all have played a role. Childbirth environments influence the healthcare professionals who work in them as well as the women who labour and give birth in them.

This Review provides evidence of a dose-response phenomenon: a strong and prolonged 'dose' of continuous support may be most effective. Continuous labour support appears to be more effective when it is provided by caregivers who are not employees of an institution (and thus have no obligation to anyone other than the labouring woman) and who have an exclusive focus on this task. Continuous labour support that begins earlier in labour appears to be more effective than support that begins later in labour.

AUTHORS' CONCLUSIONS

Implications for practice

Continuous support during labour should be the norm, rather than the exception. All women should be allowed and encouraged to have support people with them continuously during labour. In general, continuous support from a caregiver during labour appears to confer the greatest benefits when the provider is not an employee of the institution, when epidural analgesia is not routinely used, and when support begins in early labour.

Policy makers and hospital administrators in high income countries who wish to effect clinically important reductions in inappropriately high caesarean rates should be cautioned that continuous support by nurses or midwives may not achieve this goal, in the absence of other changes to policies and routines. In many settings, the labour ward functions according to a risk-oriented, technology-dominated approach to care. Institutional staff are unlikely to be able to offer labouring women benefits comparable to non-staff members, in the absence of fundamental changes in the organization and delivery of maternity care. Changes to the content of health professionals' education and to the core identity of professionals may also be important. Policy makers and administrators must look at system reform and rigorous attention to evidence-based use of interventions that were originally developed to diagnose or treat problems and are now used routinely during normal labours.

Every effort should be made to ensure that women's birth environments are empowering, nonstressful, afford privacy, communicate respect and are not characterized by routine interventions that add risk without clear benefit.

In most areas of the world at this time, childbearing women have limited access to trained doulas. Where available, costs of doula services are frequently borne by childbearing families and may be a barrier to access. It may be possible to increase access to one-to-one continuous labour support worldwide by encouraging women to invite a family member or friend to commit to being present at the birth and assuming this role. A comprehensive guidebook for designated companions is available for those with good English literacy (Simkin 2001). The 'Better Births Initiative' is a structured motivational program which promotes humane, evidence-based care during labour. The program focuses on promoting labour companionship and avoiding unproven interventions such as routine starvation, supine position and routine episiotomy. The educational materials for the Better Births Initiative (including a slide presentation on evidence-based care in labour and a video presentation on childbirth companions) are available in the World Health Organization Reproductive Health Library (www.rhlibrary.com), which is distributed free of charge to health workers in resource-poor countries and for a nominal cost in resource-rich countries, in English, Spanish, French and Chinese. The selection of Cochrane Reviews in the Reproductive Health Library includes this Review of continuous labour support.

Implications for research

There remains relatively little information about the effects of continuous intrapartum support on mothers' and babies' health and well-being in the postpartum period. The trials in resource-constrained countries were relatively small, and additional, large trials may be required in such settings, where the cost of providing continuous support may compete with other resource priorities. Particular attention should be paid to outcomes that have been under-researched in resource-poor settings, but are causes of significant morbidity, including urinary and faecal incontinence, pain during intercourse, prolonged perineal pain and depression. All trials should include economic analyses of the relative costs and benefits.

Questions remain about the best approach to ensuring effective continuous support, under varying conditions. Comparisons of different models of continuous support would be helpful. All comparisons of different models of the provision of support should include cost-effective analyses.

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* *Indicates the major publication for the study*

CHARACTERISTICS OF STUDIES

Characteristics of included studies *[ordered by study ID]*

Breart - Belgium

Methods	RCT, random allocation by sealed, opaque envelopes, prepared by the co-ordinating centre.
Participants	3 trials are reported separately, within 1 publication. Participants were nulliparous, healthy, in spontaneous labour, term, with singleton vertex presentations. Trial in Belgium: n = 264.
Interventions	Permanent presence of a midwife compared to varying degrees of presence. Fathers were allowed to be present.
Outcomes	Oxytocin, epidural analgesia, labour length, mode of birth, Apgar scores, mothers' views of their experiences.
Notes	

Risk of bias

Item	Authors' judgement	Description
Allocation concealment?	Yes	A - Adequate

Breart - France

Methods	See Breart - Belgium.
Participants	See Breart - Belgium. Trial in France: n = 1320.
Interventions	See Breart - Belgium. Fathers were allowed to be present.
Outcomes	See Breart - Belgium.
Notes	

Risk of bias

Item	Authors' judgement	Description
Allocation concealment?	Yes	A - Adequate

Breart - Greece

Methods	See Breart - Belgium.
Participants	See Breart - Belgium. Trial in Greece: n = 569.
Interventions	See Breart - Belgium. Fathers/family members were not permitted to be present.
Outcomes	See Breart - Belgium, except that mothers' views were not reported.
Notes	

Risk of bias

Item	Authors' judgement	Description
Allocation concealment?	Yes	A - Adequate

Campbell 2006

Methods	RCT. Randomization involved opening consecutively- numbered, sealed opaque envelopes containing computer-generated random assignments. After obtaining consent, a research assistant opened the envelope containing the group assignment.
Participants	600 nulliparous, low-income, under-insured pregnant women between 12 and 38 weeks' gestation who were considered low risk, with no contraindications to labour, who had a female friend or relative willing to act as their lay doula, in addition to support people of their own choosing,and were booked for delivery at a hospital in New Jersey, USA.
Interventions	Doula group: support people of their own choosing plus continuous support by a female friend or relative who had had 2, 2-hour sessions about labour support. The training sessions were conducted for nearly all of the lay doulas when the participants were 34-36 weeks' gestation. Control group: support people of their own choosing.
Outcomes	Labour length, epidural analgesia, oxytocin augmentation, cervical dilation at epidural insertion, length of second stage labour, caesarean birth, 1-min Apgar > 6, 5-min Apgar > 6.
Notes	14 women (9 in the doula group and 5 in the control group) were lost to follow up.

Risk of bias

Item	Authors' judgement	Description
Allocation concealment?	Unclear	B - Unclear

Cogan 1988

Methods	RCT. Admitting nurse telephoned research assistant who "randomly assigned the women" to the study groups.
Participants	34 women (primigravidas and multigravidas)at 26-37 weeks' gestation in 2 Texas hospitals. They were in early, uncomplicated preterm labour.
Interventions	Support provided by a Lamaze childbirth preparation instructor compared to usual intermittent nursing care. Support included continuous presence, acting as a liaison with hospital staff, providing information, and teaching relaxation and breathing measures. Family members allowed to be present.
Outcomes	Fetal distress, caesarean birth, artificial oxytocin, labour length, Apgar scores, neonatal intensive care.
Notes	

Risk of bias

Item	Authors' judgement	Description
Allocation concealment?	Unclear	B - Unclear

Dickinson 2002

Methods	RCT. Randomization on presentation in the labour and delivery unit, "by selection from a blocked group of eight sealed opaque envelopes, replenished from blocks of 12." Prospective stratification for spontaneous or induced labour.
Participants	992 nulliparous women at term, cephalic fetal presentation, cervical dilatation < 5 cm, in a hospital in Perth, Western Australia.
Interventions	Group 1: continuous physical and emotional support by midwifery staff, and women were encouraged to use pharmacologic and nonpharmacologic alternatives to epidural analgesia. Group 2: continuous midwifery support was not provided and women were encouraged to have epidural analgesia as their primary method of pain relief in labour.
Outcomes	Labour length (expressed as median and interquartile range), epidural analgesia, mode of delivery, 5 min Apgar Score < 7, arterial cord pH.
Notes	The stated purpose was to compare the effects of intrapartum analgesic techniques on labour outcomes. Continuous midwifery support was conceptualized as an analgesic technique. Both groups had access to opioids and nitrous oxide. No data were presented about the number of women who used no pharmacologic analgesia. Because the type of analgesia used was a measure of compliance rather than an outcome, no data on analgesic outcomes are included in this Review. Uncertain effects of performance bias. Secondary report indicates very similar reports of satisfaction with midwifery support in the 2 groups, but trial author confirmed that the amount and nature of support did differ. Effects on breastfeeding were not analysed by treatment group and thus the results could not be included in the Review. Satisfaction data were not reported in a usable form for the meta-analyses in this Review.

Dickinson 2002 (*Continued*)

Risk of bias		
Item	**Authors' judgement**	**Description**
Allocation concealment?	Yes	A - Adequate

Gagnon 1997

Methods	RCT. Participants were recruited after admission to the delivery suite. Group assignments were in sequentially numbered, sealed, opaque envelopes. Nurses were hired to provide the experimental intervention; they had a 30-hour training program and quarterly refresher workshops. The training program included critical reviews of the literature concerning the effects of intrapartum medical and nursing practices, as well as discussions of stress and pain management techniques.
Participants	413 women admitted to an intrapartum unit at a tertiary care teaching hospital in Montreal, Canada, were randomly allocated to experimental (n = 209) or control (n = 204) groups. All but 3 in the experimental group and 6 in the control group were accompanied by a spouse, relative or friend during labor. All participants were nulliparous, with singleton fetuses, > 37 weeks' gestation, and in labour.
Interventions	Group 1: one-to-one nursing care from on-call nurses who had been hired and trained for the study, from randomization until 1 hour postbirth. The nurse provided the usual nursing care plus physical comfort, emotional support, and instruction on relaxation and coping techniques. The nurse took meal breaks and brief rest breaks. Women in the comparison group received usual nursing care by the regular unit staff, consisting of intermittent support and monitoring.
Outcomes	Caesarean birth, caesarean birth for cephalopelvic disproportion or failure to progress, postrandomization artificial oxytocin augmentation, postrandomization analgesia/anaesthesia, instrumental vaginal delivery (forceps or vacuum extraction), NICU admission, perineal trauma, mean duration of labour postrandomization, postpartum urinary catheterization.
Notes	The participants had been admitted to the unit for an average of 5 hours (SD = 4 hours) prior to randomization. 36 women in the experimental group and 41 in the control group had epidural analgesia prior to randomization. 55 women in the experimental group and 45 in the control group had intravenous oxytocin augmentation of labour prior to randomization. Mean duration of labour postrandomization was 9.2 hours (SD = 4.3).

Risk of bias		
Item	**Authors' judgement**	**Description**
Allocation concealment?	Yes	A - Adequate

Hemminki 1990a

Methods	Two RCTs reported in the same publication. Random allocation in both trials was by sealed opaque envelopes.
Participants	Healthy nulliparous and parous women in labour at a hospital in Finland. 80 women were enrolled in Trial A.
Interventions	Trial A: in 1987, support by midwifery students, who were also responsible for other routine intrapartum care, compared to the usual routine care. The students were not specially trained in support. Over 70% of fathers were present.
Outcomes	Labour length, medical interventions, complications (mother and baby), pharmacologic pain relief, method of birth, mothers' evaluations of their experiences.
Notes	

Risk of bias

Item	Authors' judgement	Description
Allocation concealment?	Yes	A - Adequate

Hemminki 1990b

Methods	See Hemminki 1990a.
Participants	See Hemminki 1990a. 161 women were enrolled in Trial B.
Interventions	Trial B: in 1988, support by a new group of midwifery students. The students were permitted to leave their participants to witness other interventions and deliveries. Slightly less than 70% of fathers were present.
Outcomes	See Hemminki 1990a.
Notes	

Risk of bias

Item	Authors' judgement	Description
Allocation concealment?	Yes	A - Adequate

Hodnett 1989

Methods	RCT. Research assistant telephoned project staff member who used computer-generated table of random numbers.
Participants	145 nulliparous women in the last trimester of a healthy pregnancy, booked for delivery at a Toronto, Canada, hospital.

Hodnett 1989 (*Continued*)

Interventions	Support provided by a monitrice (community 'lay' midwife or midwifery apprentice)compared to usual hospital care, defined as the intermittent presence of a nurse. Support described as including physical comfort measures, continuous presence, information, emotional support, and advocacy. The monitrice met with the woman twice in the latter weeks of pregnancy, to discuss her birth plans. Comparable prenatal attention was provided to the controls. All but 1 woman also had husbands or partners present during labour. Support began in early labour at home or in hospital and continued through delivery.
Outcomes	Intrapartum interventions, perceived control, method of delivery.
Notes	All participants blinded to the intervention. Control participants received prenatal and postpartum support (after the end of data collection); experimental participants received prenatal and intrapartum support. Because of > 20% loss to follow up on most outcomes, the only usable outcomes were method of delivery.

Risk of bias

Item	Authors' judgement	Description
Allocation concealment?	No	C - Inadequate

Hodnett 2002

Methods	Multi-centre RCT with prognostic stratification for parity and centre. Women were randomized when staff member telephoned the computerized, centrally-controlled randomization system at the data co-ordinating centre.
Participants	6915 nulliparous and parous women in labour at 13 hospitals in the USA and Canada. Eligibility criteria: live singleton fetus or twins, no contraindications to labour, in labour. Women were excluded if gestational age was < 34 weeks or if they were so high risk that a 1:1 patient-nurse ratio was medically necessary.
Interventions	Continuous support from staff labour and delivery nurses who had volunteered for and received a 2-day training workshop in labour support, compared to usual intrapartum nursing care, defined as intermittent support from a nurse who had not received labour support training. Prior to the trial, the support nurses had opportunities to practice their skills. They also had opportunities to continue learning from each other and the labour support trainer, throughout the trial. The nurses with training were part of the regular staffing complement of the unit and they provided care to the continuous support group but not to the usual care group.
Outcomes	Intrapartum interventions, method of birth, immediate complications (mother or baby), complications (mother or baby) in the first 6-8 weeks' postpartum, perceived control, postpartum depression, breast-feeding at 6-8 weeks, relationship with partner and with baby, likes and dislikes about birth experience and future preferences for labour support.
Notes	

Risk of bias

Item	Authors' judgement	Description

Hodnett 2002 (*Continued*)

Allocation concealment?	Yes	A - Adequate

Hofmeyr 1991

Methods	RCT, randomization by sealed, opaque envelopes.
Participants	189 nulliparous women in active labour at a community hospital serving low-income women in South Africa.
Interventions	Support by carefully trained, volunteer lay women, for at least several hours (supporters not expected to remain after dark), compared to intermittent care on a busy ward. Husbands/family members were not permitted.
Outcomes	Intrapartum interventions, method of birth, complications (mother and baby), anxiety, pain, mothers' perceptions of labour, breastfeeding.
Notes	The report by Wolman 1993 is a further report of the Hofmeyr trial.

Risk of bias

Item	**Authors' judgement**	**Description**
Allocation concealment?	Yes	A - Adequate

Kennell 1991

Methods	RCT plus a retrospective non-random additional control group. Random assignment by sealed, opaque envelopes.
Participants	412 nulliparous women aged 13-34, with singleton, term, healthy pregnancies, many not English-speaking, in active labour at a public hospital in Texas which provides care for low-income patients.
Interventions	Continuous support by a doula compared to routine intermittent presence of a nurse. Family members were not allowed to be present.
Outcomes	Analgesia/anaesthesia, labour length, artificial oxytocin use, method of birth, complications (mother and baby), neonatal health, number of women who rated their experience as negative.
Notes	The description of the setting, the participants, and the type of care echo developing world conditions. This review is restricted to comparisons of the outcomes of the participants who were randomly assigned. In instances in which outcome data (such as analgesia/anaesthesia use) in the published report were only provided for subgroups, the primary author was contacted and he provided complete outcome data for all women who were originally randomized.

Risk of bias

Kennell 1991 (*Continued*)

Item	Authors' judgement	Description
Allocation concealment?	Yes	A - Adequate

Klaus 1986

Methods	RCT, randomized via sequentially numbered, sealed opaque envelopes. The pool of envelopes contained more assignments to the control group. Of the 465 women enrolled in the study, 48 were excluded, leaving 249 in the control group and 168 in the experimental group. Unpublished data on the excluded women were provided by the author, thereby permitting intention-to-treat analyses.
Participants	465 healthy nulliparous women in labour at the Social Security Hospital in Guatemala.
Interventions	Continuous emotional and physical support by a doula compared to usual hospital routines (described as no consistent support). No family members permitted to be present.
Outcomes	Labour length, use of artificial oxytocin, method of birth, problems during labour and birth, fetal distress, Apgar scores, transfer to neonatal intensive care nursery.
Notes	Mother-infant pairs were excluded when the mother developed a serious complication requiring special care, if the baby's weight was below 5.5 lbs or above 8 lbs, if there were twins or congenital malformations. Because labour length data were only available for 48.4% of the sample (225 of 465), the labour length comparison in this Review excludes the data from Klaus 1986.

Risk of bias

Item	Authors' judgement	Description
Allocation concealment?	Yes	A - Adequate

Langer 1998

Methods	RCT. Randomization was centrally controlled, with sealed, opaque envelopes containing computer-generated random numbers. 20/361 in the intervention group and 36/363 controls were lost to follow up at the 1-month postdelivery.
Participants	724 women admitted for delivery at a large social security hospital in Mexico City, who met the following criteria: singleton fetus, no previous vaginal delivery, < 6 cm cervical dilatation, and no indications for an elective caesarean delivery.
Interventions	Group 1: continuous support from 1 of 10 women who had received doula training (6 were retired nurses), throughout labour, birth, and the immediate postpartum period. Support included: emotional support, information, physical comfort measures, social communication, ensuring immediate contact between mother and baby after birth, and offering advice about breastfeeding during a single brief session postnatally. Women in the comparison group received 'routine care'. Partners and family members were not permitted.

Langer 1998 (*Continued*)

Outcomes	The main outcomes were exclusive and full breastfeeding at 1 month postpartum. Other outcomes included labour length, epidural anaesthesia, forceps birth, caesarean birth, meconium staining, and Apgar scores, as well as mothers' perceived control during childbirth, anxiety, pain, satisfaction, and self-esteem.
Notes	

Risk of bias

Item	Authors' judgement	Description
Allocation concealment?	Yes	A - Adequate

Madi 1999

Methods	RCT, randomization by opaque, numbered, sealed envelopes that were shuffled in the woman's presence. No exclusions postrandomization.
Participants	109 Black Botswana, mean age 19 years, 80% unmarried, mostly students, who had met the following criteria: nulliparous, in labour, pregnancy at term, no history of pregnancy complications, cephalic presentation, normal spontaneous labour with cervical dilation 1-6 cm, female relative present who was willing to remain with the woman for the duration of labour.
Interventions	Continuous presence of female relative (usually her mother) in addition to usual hospital care was compared to usual hospital care, which involved staff:patient ratios of 1:4, and no companions permitted during labour.
Outcomes	Spontaneous vaginal birth, vacuum extraction, caesarean birth, analgesia, amniotomy, artificial oxytocin during labour, Apgar scores (1- and 5-min).
Notes	

Risk of bias

Item	Authors' judgement	Description
Allocation concealment?	Yes	A - Adequate

Thomassen 2003

Methods	RCT, no details regarding method of random assignment. Participants were randomized during pregnancy.
Participants	144 women booked for delivery at a Swedish hospital.
Interventions	Continuous presence by a doula who had met the woman during pregnancy, compared to usual care.
Outcomes	Emergency caesarean birth and epidural analgesia.

Thomassen 2003 (*Continued*)

Notes	No usable outcome data, due to serious risk of attrition bias. Outcomes are reported for 55/72 (76%) of the intervention group and 46/72 (64%) of the control group. Reason for the 41 "dropouts" were preterm birth, induction, or caesarean section "for medical reasons", and participant withdrawal. No numbers are given for individual reasons, or by group, but it is clear that some "dropouts" were prior to labour and others were during labour. Unfortunately the trial author reported that the information about randomization method and outcomes of those lost to follow up is no longer available.

Risk of bias

Item	Authors' judgement	Description
Allocation concealment?	Unclear	B - Unclear

min: minutes
NICU: neonatal intensive care unit
RCT: randomized controlled trial
SD: standard deviation

Characteristics of excluded studies *[ordered by study ID]*

Bender 1968	2 studies are reported, n = 12 in the first study and n = 30 in the second. Neither one was an RCT. Both employed alternate allocation that was neither centrally controlled nor concealed. The researcher delivered the intervention and collected outcome data. In the first study the researcher also enrolled participants. No usable outcome data are reported.
Dalal 2006	Not an RCT. 100 randomly-selected mothers who had a birth companion were compared to 50 randomly-selected mothers who did not have one. Mothers were matched for age and socioeconomic status.
Gordon 1999	30% of those enrolled were excluded postrandomization, 73/232 in the doula group and 69/246 in the control group. A letter was sent to the first author, asking for data on the excluded participants that would permit an intent-to-treat analysis. If and when a response is received, the trial report will be evaluated again.
Lindow 1998	Support was not continuous, and was quite brief in duration. 16 women in active labour were randomized to either 1 hour with a supportive companion or 1 hour without. The only outcome was maternal oxytocin level for 16 minutes postsupport or control period.
McGrath 1999	An abstract. Insufficient details to permit evaluation of the quality of the trial, and insufficient details regarding results. Thus far, attempts to locate a full report of the trial have been unsuccessful.
Orenstein 1998	Not a randomized trial. Women chose to either have a doula or have Lamaze preparation for childbirth.

(*Continued*)

Pinheiro 1996	An abstract of a paper presented at the Xth World Congress of Psychiatry in Madrid, 1996. Preliminary results were reported. Efforts to locate a published report of the full trial have been unsuccessful. The abstract provides insufficient details regarding methods, to permit evaluation of the quality of the trial. The purpose was to compare the effectiveness of female vs male doulas vs routine care without doulas. The doulas were medical and psychology students.
Scott 1999	Not a trial. A review of selected studies of intrapartum support.
Sosa 1980	Strong evidence of selection bias. "A woman was removed from the study if labor was false or prolonged; if fetal distress necessitated an intervention such as oxytocin, caesarean delivery, or forceps"; or if the infant was asphyxiated or ill at birth, etc. "If a woman was removed, her group assignment was inserted at random into the pool of unused assignments. Women were enrolled in the study until there were 20 in the control group and 20 in the experimental group." The total study sample of 127 mothers includes 95 in the control group and 32 in the experimental group. Thus assignment was not random.
Trueba 2000	Direct contact with investigator revealed that randomization was not used. On arrival at the hospital, women were asked if they wanted to have a doula. If they accepted, a doula was assigned to them. Also support was not continuous throughout active labour for most women, since admission to the labour ward (and assignment of a doula) did not usually occur until 8 cm.
Tryon 1966	Not an RCT. "After a random start, the matched groups were alternately assigned to experimental and control groups." Women who developed severe complications in labour (number not specified), such as fetal distress, were dropped from the study.
Zhang 1996	Not a trial of continuous one-to-one support. On admission to the labour ward, women received instruction about normal labour, nonpharmacological methods to ease pain, and how to push in second stage, from a team of physicians and nurses. Support was continuous, depending on the women's needs, but not one-to-one.

RCT: randomised controlled trial
vs: versus

DATA AND ANALYSES

Comparison 1. Continuous support versus usual care - all trials

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Amniotomy	2	298	Risk Ratio (M-H, Random, 95% CI)	0.78 [0.43, 1.43]
2 Synthetic oxytocin during labour	10	11256	Risk Ratio (M-H, Random, 95% CI)	0.94 [0.84, 1.05]
3 Regional analgesia/anaesthesia	7	10648	Risk Ratio (M-H, Random, 95% CI)	0.92 [0.85, 0.99]
4 Any analgesia/anaesthesia	12	11651	Risk Ratio (M-H, Random, 95% CI)	0.89 [0.82, 0.96]
5 Electronic fetal monitoring	1	6915	Risk Ratio (M-H, Fixed, 95% CI)	0.95 [0.92, 0.97]
6 Labour length	10	10922	Mean Difference (IV, Random, 95% CI)	-0.43 [-0.83, -0.04]
7 Spontaneous vaginal birth	15	13357	Risk Ratio (M-H, Random, 95% CI)	1.07 [1.04, 1.12]
8 Instrumental vaginal birth	15	13357	Risk Ratio (M-H, Fixed, 95% CI)	0.89 [0.82, 0.96]
9 Caesarean birth	16	13391	Risk Ratio (M-H, Fixed, 95% CI)	0.91 [0.83, 0.99]
10 Episiotomy	1	6915	Risk Ratio (M-H, Fixed, 95% CI)	0.97 [0.90, 1.05]
11 Perineal trauma	2	7328	Risk Ratio (M-H, Fixed, 95% CI)	0.99 [0.95, 1.03]
12 Low 5-minute Apgar score	8	11295	Risk Ratio (M-H, Fixed, 95% CI)	0.72 [0.51, 1.02]
13 Low cord pH	0	0	Risk Ratio (M-H, Random, 95% CI)	Not estimable
14 Admission to special care nursery	4	8239	Risk Ratio (M-H, Fixed, 95% CI)	0.94 [0.82, 1.09]
15 Prolonged neonatal hospital stay	1	412	Risk Ratio (M-H, Fixed, 95% CI)	0.61 [0.37, 1.01]
16 Postpartum report of severe labour pain	4	2497	Risk Ratio (M-H, Random, 95% CI)	0.97 [0.77, 1.23]
17 Postpartum report of difficulty in coping with labour	1	189	Risk Ratio (M-H, Fixed, 95% CI)	0.55 [0.42, 0.72]
18 Postpartum report of low control during labour	2	7639	Risk Ratio (M-H, Fixed, 95% CI)	0.79 [0.67, 0.94]
19 Postpartum report of high anxiety during labour	3	1773	Risk Ratio (M-H, Random, 95% CI)	0.88 [0.43, 1.78]
20 Dissatisfaction with/negative views of birth experience	6	9824	Risk Ratio (M-H, Fixed, 95% CI)	0.73 [0.65, 0.83]
21 Prolonged perineal pain	0	0	Risk Ratio (M-H, Random, 95% CI)	Not estimable
22 Difficulty mothering	1	6915	Risk Ratio (M-H, Random, 95% CI)	1.03 [0.95, 1.11]
23 Not breastfeeding at 1-2 months postpartum	2	7639	Risk Ratio (M-H, Fixed, 95% CI)	1.06 [0.99, 1.13]
24 Postpartum depression	1	6915	Risk Ratio (M-H, Fixed, 95% CI)	0.89 [0.75, 1.05]
25 Postpartum anxiety/tension	0	0	Risk Ratio (M-H, Random, 95% CI)	Not estimable
26 Low postpartum self-esteem	1	724	Risk Ratio (M-H, Fixed, 95% CI)	1.07 [0.82, 1.40]
27 Poor relationship with partner postpartum	1	6915	Risk Ratio (M-H, Fixed, 95% CI)	1.00 [0.80, 1.23]
28 Pain during sexual intercourse	0	0	Risk Ratio (M-H, Random, 95% CI)	Not estimable
29 Postpartum urinary incontinence	1	6915	Risk Ratio (M-H, Fixed, 95% CI)	0.93 [0.81, 1.06]
30 Postpartum faecal incontinence	1	6915	Risk Ratio (M-H, Fixed, 95% CI)	0.89 [0.64, 1.24]

Comparison 2. Continuous support during labour versus usual care - variations in institutional policies and practices

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Use of analgesia/anaesthesia	12		Risk Ratio (M-H, Random, 95% CI)	Subtotals only
1.1 Other support permitted	7	9752	Risk Ratio (M-H, Random, 95% CI)	0.97 [0.96, 0.99]
1.2 Other support not permitted	5	1899	Risk Ratio (M-H, Random, 95% CI)	0.72 [0.49, 1.05]
1.3 Epidural analgesia routinely available	9	10888	Risk Ratio (M-H, Random, 95% CI)	0.90 [0.84, 0.97]
1.4 Epidural analgesia not routinely available	3	763	Risk Ratio (M-H, Random, 95% CI)	0.71 [0.54, 0.93]
1.5 Setting had routine EFM	6	8580	Risk Ratio (M-H, Random, 95% CI)	0.88 [0.79, 0.99]
1.6 Setting did not have routine EFM	4	1487	Risk Ratio (M-H, Random, 95% CI)	0.82 [0.61, 1.11]
2 Spontaneous vaginal birth	15		Risk Ratio (M-H, Random, 95% CI)	Subtotals only
2.1 Other support permitted	9	10889	Risk Ratio (M-H, Random, 95% CI)	1.03 [1.00, 1.06]
2.2 Other support not permitted	6	2468	Risk Ratio (M-H, Random, 95% CI)	1.11 [1.04, 1.19]
2.3 Epidural analgesia routinely available	11	12025	Risk Ratio (M-H, Random, 95% CI)	1.06 [1.02, 1.11]
2.4 Epidural analgesia not routinely available	4	1332	Risk Ratio (M-H, Random, 95% CI)	1.10 [1.01, 1.20]
2.5 Setting had routine EFM	8	9717	Risk Ratio (M-H, Random, 95% CI)	1.07 [1.01, 1.13]
2.6 Setting did not have routine EFM	4	1487	Risk Ratio (M-H, Random, 95% CI)	1.11 [1.02, 1.20]
3 Instrumental vaginal birth	15		Risk Ratio (M-H, Random, 95% CI)	Subtotals only
3.1 Other support permitted	9	10889	Risk Ratio (M-H, Random, 95% CI)	0.90 [0.84, 0.97]
3.2 Other support not permitted	6	2468	Risk Ratio (M-H, Random, 95% CI)	0.68 [0.42, 1.10]
3.3 Epidural analgesia routinely available	11	12025	Risk Ratio (M-H, Random, 95% CI)	0.85 [0.75, 0.96]
3.4 Epidural analgesia not routinely available	4	1332	Risk Ratio (M-H, Random, 95% CI)	0.77 [0.43, 1.38]
3.5 Setting had routine EFM	8	9717	Risk Ratio (M-H, Random, 95% CI)	0.84 [0.69, 1.01]
3.6 Setting did not have routine EFM	4	1487	Risk Ratio (M-H, Random, 95% CI)	0.72 [0.38, 1.36]
4 Caesarean birth	16		Risk Ratio (M-H, Random, 95% CI)	Subtotals only
4.1 Other support permitted	10	10923	Risk Ratio (M-H, Random, 95% CI)	0.97 [0.88, 1.07]
4.2 Other support not permitted	6	2468	Risk Ratio (M-H, Random, 95% CI)	0.71 [0.54, 0.93]
4.3 Epidural analgesia routinely available	12	12059	Risk Ratio (M-H, Random, 95% CI)	0.95 [0.86, 1.04]
4.4 Epidural analgesia not routinely available	4	1332	Risk Ratio (M-H, Random, 95% CI)	0.62 [0.41, 0.95]
4.5 Setting had routine EFM	9	9751	Risk Ratio (M-H, Random, 95% CI)	0.95 [0.85, 1.05]
4.6 Setting did not have routine EFM	4	1487	Risk Ratio (M-H, Random, 95% CI)	0.65 [0.41, 1.04]

5 Low 5-minute Apgar score	8		Risk Ratio (M-H, Random, 95% CI)	Subtotals only
5.1 Other support permitted	5	10125	Risk Ratio (M-H, Random, 95% CI)	0.58 [0.28, 1.21]
5.2 Other support not permitted	3	1170	Risk Ratio (M-H, Random, 95% CI)	0.67 [0.32, 1.43]
5.3 Epidural analgesia routinely available	6	10537	Risk Ratio (M-H, Random, 95% CI)	0.59 [0.30, 1.14]
5.4 Epidural analgesia not routinely available	2	758	Risk Ratio (M-H, Random, 95% CI)	0.70 [0.32, 1.55]
5.5 Setting had routine EFM	4	8953	Risk Ratio (M-H, Random, 95% CI)	0.57 [0.22, 1.52]
5.6 Setting did not have routine EFM	1	189	Risk Ratio (M-H, Random, 95% CI)	0.70 [0.20, 2.41]
6 Dissatisfaction with/negative views of childbirth experience	6		Risk Ratio (M-H, Fixed, 95% CI)	Subtotals only
6.1 Other support permitted	3	8499	Risk Ratio (M-H, Fixed, 95% CI)	0.83 [0.67, 1.02]
6.2 Other support not permitted	3	1325	Risk Ratio (M-H, Fixed, 95% CI)	0.67 [0.58, 0.78]
6.3 Epidural analgesia routinely available	5	9635	Risk Ratio (M-H, Fixed, 95% CI)	0.77 [0.67, 0.88]
6.4 Epidural analgesia not routinely available	1	189	Risk Ratio (M-H, Fixed, 95% CI)	0.55 [0.42, 0.72]
6.5 Setting had routine EFM	2	7327	Risk Ratio (M-H, Fixed, 95% CI)	0.75 [0.61, 0.92]
6.6 Setting did not have routine EFM	2	913	Risk Ratio (M-H, Fixed, 95% CI)	0.69 [0.58, 0.82]
7 Postpartum depression	1		Risk Ratio (M-H, Fixed, 95% CI)	Subtotals only
7.1 Other support permitted	1	6915	Risk Ratio (M-H, Fixed, 95% CI)	0.89 [0.75, 1.05]
7.2 Other support not permitted	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
7.3 Epidural analgesia routinely available	1	6915	Risk Ratio (M-H, Fixed, 95% CI)	0.89 [0.75, 1.05]
7.4 Epidural analgesia not routinely available	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
7.5 Setting had routine EFM	1	6915	Risk Ratio (M-H, Fixed, 95% CI)	0.89 [0.75, 1.05]
7.6 Setting did not have routine EFM	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable

Comparison 3. Continuous support during labour versus usual care - variations in type of provider

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Use of analgesia/anaesthesia	12		Risk Ratio (M-H, Random, 95% CI)	Subtotals only
1.1 Support people were hospital staff	6	9152	Risk Ratio (M-H, Random, 95% CI)	0.97 [0.95, 0.99]
1.2 Support people were not hospital staff	6	2499	Risk Ratio (M-H, Random, 95% CI)	0.80 [0.66, 0.97]
2 Spontaneous vaginal birth	15		Risk Ratio (M-H, Fixed, 95% CI)	Subtotals only
2.1 Support people were hospital staff	8	10713	Risk Ratio (M-H, Fixed, 95% CI)	1.03 [1.01, 1.06]

2.2 Support people were not hospital staff	7	2644	Risk Ratio (M-H, Fixed, 95% CI)	1.10 [1.05, 1.14]
3 Instrumental vaginal birth	15		Risk Ratio (M-H, Fixed, 95% CI)	Subtotals only
3.1 Support people were hospital staff	8	10713	Risk Ratio (M-H, Fixed, 95% CI)	0.92 [0.85, 0.99]
3.2 Support people were not hospital staff	7	2644	Risk Ratio (M-H, Fixed, 95% CI)	0.59 [0.44, 0.79]
4 Caesarean birth	16		Risk Ratio (M-H, Fixed, 95% CI)	Subtotals only
4.1 Support people were hospital staff	8	10713	Risk Ratio (M-H, Fixed, 95% CI)	0.95 [0.86, 1.06]
4.2 Support people were not hospital staff	8	2678	Risk Ratio (M-H, Fixed, 95% CI)	0.80 [0.68, 0.95]
5 Low 5-minute Apgar score	8		Risk Ratio (M-H, Fixed, 95% CI)	Subtotals only
5.1 Support people were hospital staff	5	10094	Risk Ratio (M-H, Fixed, 95% CI)	0.83 [0.56, 1.22]
5.2 Support people were not hospital staff	3	1201	Risk Ratio (M-H, Fixed, 95% CI)	0.36 [0.14, 0.90]
6 Dissatisfaction with/negative views of childbirth experience	6		Risk Ratio (M-H, Fixed, 95% CI)	Subtotals only
6.1 Support people were hospital staff	3	8499	Risk Ratio (M-H, Fixed, 95% CI)	0.83 [0.67, 1.02]
6.2 Support people were not hospital staff	3	1325	Risk Ratio (M-H, Fixed, 95% CI)	0.67 [0.58, 0.78]
7 Postpartum depression	1		Risk Ratio (M-H, Fixed, 95% CI)	Subtotals only
7.1 Support people were hospital staff	1	6915	Risk Ratio (M-H, Fixed, 95% CI)	0.89 [0.75, 1.05]
7.2 Support people were not hospital staff	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable

Comparison 4. Continuous support during labour versus usual care - variations in timing of onset of support

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Use of analgesia/anaesthesia	12		Risk Ratio (M-H, Random, 95% CI)	Subtotals only
1.1 Support began before active labour	2	574	Risk Ratio (M-H, Random, 95% CI)	0.61 [0.30, 1.26]
1.2 Support began at any time in first stage labour	4	9099	Risk Ratio (M-H, Random, 95% CI)	0.96 [0.92, 1.00]
1.3 Support began in active labour	6	1978	Risk Ratio (M-H, Random, 95% CI)	0.85 [0.70, 1.04]
2 Spontaneous vaginal birth	15		Risk Ratio (M-H, Fixed, 95% CI)	Subtotals only
2.1 Support began before active labour	4	1711	Risk Ratio (M-H, Fixed, 95% CI)	1.16 [1.08, 1.24]
2.2 Support began at any time in first stage labour	5	9668	Risk Ratio (M-H, Fixed, 95% CI)	1.02 [1.00, 1.05]
2.3 Support began in active labour	6	1978	Risk Ratio (M-H, Fixed, 95% CI)	1.07 [1.02, 1.13]
3 Instrumental vaginal birth	15		Risk Ratio (M-H, Random, 95% CI)	Subtotals only

3.1 Support began before active labour	4	1711	Risk Ratio (M-H, Random, 95% CI)	0.76 [0.53, 1.07]
3.2 Support began at any time in first stage labour	5	9668	Risk Ratio (M-H, Random, 95% CI)	0.89 [0.79, 1.01]
3.3 Support began in active labour	6	1978	Risk Ratio (M-H, Random, 95% CI)	0.82 [0.52, 1.30]
4 Caesarean birth	16		Risk Ratio (M-H, Fixed, 95% CI)	Subtotals only
4.1 Support began before active labour	5	1745	Risk Ratio (M-H, Fixed, 95% CI)	0.71 [0.56, 0.90]
4.2 Support began at any time in first stage labour	5	9668	Risk Ratio (M-H, Fixed, 95% CI)	0.99 [0.89, 1.11]
4.3 Support began in active labour	6	1978	Risk Ratio (M-H, Fixed, 95% CI)	0.81 [0.67, 0.99]
5 Low 5-minute Apgar score	8		Risk Ratio (M-H, Fixed, 95% CI)	Subtotals only
5.1 Support began before active labour	1	992	Risk Ratio (M-H, Fixed, 95% CI)	0.49 [0.15, 1.63]
5.2 Support began at any time in first stage labour	5	9702	Risk Ratio (M-H, Fixed, 95% CI)	0.76 [0.52, 1.13]
5.3 Support began in active labour	2	601	Risk Ratio (M-H, Fixed, 95% CI)	0.64 [0.22, 1.92]
6 Dissatisfaction with/negative views of childbirth experience	6		Risk Ratio (M-H, Fixed, 95% CI)	Subtotals only
6.1 Support began before active labour	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
6.2 Support began at any time in first stage labour	3	8499	Risk Ratio (M-H, Fixed, 95% CI)	0.83 [0.67, 1.02]
6.3 Support began in active labour	3	1325	Risk Ratio (M-H, Fixed, 95% CI)	0.67 [0.58, 0.78]
7 Postpartum depression	1		Risk Ratio (M-H, Fixed, 95% CI)	Subtotals only
7.1 Support began before active labour	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
7.2 Support began at any time in first stage labour	1	6915	Risk Ratio (M-H, Fixed, 95% CI)	0.89 [0.75, 1.05]
7.3 Support began in active labour	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable

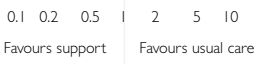
Analysis 1.1. Comparison 1 Continuous support versus usual care - all trials, Outcome 1 Amniotomy.

Review: Continuous support for women during childbirth

Comparison: 1 Continuous support versus usual care - all trials

Outcome: 1 Amniotomy

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Random,95% CI	Weight	Risk Ratio M-H,Random,95% CI
Madi 1999	16/53	30/56		43.4 %	0.56 [0.35, 0.91]
Hofmeyr 1991	66/92	69/97		56.6 %	1.01 [0.84, 1.21]
Total (95% CI)	**145**	**153**		**100.0 %**	**0.78 [0.43, 1.43]**
Total events: 82 (Continuous support), 99 (Usual care)					
Heterogeneity: $Tau^2 = 0.16$; $Chi^2 = 5.68$, df = 1 (P = 0.02); $I^2 = 82\%$					
Test for overall effect: Z = 0.79 (P = 0.43)					



Analysis 1.2. Comparison 1 Continuous support versus usual care - all trials, Outcome 2 Synthetic oxytocin during labour.

Review: Continuous support for women during childbirth

Comparison: 1 Continuous support versus usual care - all trials

Outcome: 2 Synthetic oxytocin during labour

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Random,95% CI	Weight	Risk Ratio M-H,Random,95% CI
Hodnett 2002	1040/3454	942/3461		18.5 %	1.11 [1.03, 1.19]
Madi 1999	7/53	17/56		1.8 %	0.44 [0.20, 0.96]
Gagnon 1997	82/209	96/204		11.3 %	0.83 [0.67, 1.04]
Breart - Belgium	55/133	64/131		9.5 %	0.85 [0.65, 1.11]
Breart - France	383/656	371/664		17.7 %	1.04 [0.95, 1.15]
Breart - Greece	224/295	193/274		17.4 %	1.08 [0.98, 1.19]
Hofmeyr 1991	16/92	17/97		2.9 %	0.99 [0.53, 1.85]
Kennell 1991	36/212	46/200		5.9 %	0.74 [0.50, 1.09]
Klaus 1986	4/186	37/279		1.2 %	0.16 [0.06, 0.45]

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Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Random,95% CI	Weight	Risk Ratio M-H,Random,95% CI
Campbell 2006	134/300	145/300		13.8 %	0.92 [0.78, 1.10]
Total (95% CI)	**5590**	**5666**		**100.0 %**	**0.94 [0.84, 1.05]**

Total events: 1981 (Continuous support), 1928 (Usual care)

Heterogeneity: $Tau^2 = 0.02$; $Chi^2 = 31.67$, df = 9 (P = 0.00023); $I^2 = 72\%$

Test for overall effect: Z = 1.08 (P = 0.28)

Analysis 1.3. Comparison 1 Continuous support versus usual care - all trials, Outcome 3 Regional analgesia/anaesthesia.

Review: Continuous support for women during childbirth

Comparison: 1 Continuous support versus usual care - all trials

Outcome: 3 Regional analgesia/anaesthesia

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Random,95% CI	Weight	Risk Ratio M-H,Random,95% CI
Hodnett 2002	2331/3454	2406/3461		22.5 %	0.97 [0.94, 1.00]
Langer 1998	295/361	303/363		19.6 %	0.98 [0.92, 1.05]
Gagnon 1997	139/209	142/204		13.3 %	0.96 [0.84, 1.09]
Breart - Belgium	55/133	62/131		5.6 %	0.87 [0.67, 1.15]
Breart - France	281/656	319/664		14.6 %	0.89 [0.79, 1.00]
Kennell 1991	47/212	94/200		5.0 %	0.47 [0.35, 0.63]
Campbell 2006	247/300	260/300		19.5 %	0.95 [0.89, 1.02]
Total (95% CI)	**5325**	**5323**		**100.0 %**	**0.92 [0.85, 0.99]**

Total events: 3395 (Continuous support), 3586 (Usual care)

Heterogeneity: $Tau^2 = 0.01$; $Chi^2 = 26.47$, df = 6 (P = 0.00018); $I^2 = 77\%$

Test for overall effect: Z = 2.36 (P = 0.018)

Analysis 1.4. Comparison 1 Continuous support versus usual care - all trials, Outcome 4 Any analgesia/anaesthesia.

Review: Continuous support for women during childbirth

Comparison: 1 Continuous support versus usual care - all trials

Outcome: 4 Any analgesia/anaesthesia

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Random,95% CI	Weight	Risk Ratio M-H,Random,95% CI
Hodnett 2002	3077/3454	3159/3461		16.8 %	0.98 [0.96, 0.99]
Madi 1999	28/53	41/56		4.7 %	0.72 [0.53, 0.97]
Langer 1998	295/361	302/363		14.9 %	0.98 [0.92, 1.05]
Gagnon 1997	141/209	142/204		11.3 %	0.97 [0.85, 1.10]
Breart - Belgium	55/133	62/131		5.4 %	0.87 [0.67, 1.15]
Breart - France	281/656	319/664		12.0 %	0.89 [0.79, 1.00]
Hofmeyr 1991	11/92	15/97		1.0 %	0.77 [0.37, 1.59]
Kennell 1991	93/212	150/200		9.1 %	0.58 [0.49, 0.69]
Hemminki 1990a	25/41	23/38		3.6 %	1.01 [0.71, 1.44]
Hemminki 1990b	45/81	52/80		5.9 %	0.85 [0.66, 1.10]
Klaus 1986	2/186	10/279		0.3 %	0.30 [0.07, 1.35]
Campbell 2006	247/300	260/300		14.9 %	0.95 [0.89, 1.02]
Total (95% CI)	**5778**	**5873**		**100.0 %**	**0.89 [0.82, 0.96]**

Total events: 4300 (Continuous support), 4535 (Usual care)

Heterogeneity: $Tau^2 = 0.01$; $Chi^2 = 52.14$, df = 11 ($P<0.00001$); $I^2 = 79\%$

Test for overall effect: Z = 3.02 (P = 0.0025)

Analysis 1.5. Comparison 1 Continuous support versus usual care - all trials, Outcome 5 Electronic fetal monitoring.

Review: Continuous support for women during childbirth

Comparison: 1 Continuous support versus usual care - all trials

Outcome: 5 Electronic fetal monitoring

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Fixed,95% CI	Weight	Risk Ratio M-H,Fixed,95% CI
Hodnett 2002	2590/3454	2741/3461		100.0 %	0.95 [0.92, 0.97]
Total (95% CI)	**3454**	**3461**		**100.0 %**	**0.95 [0.92, 0.97]**

Total events: 2590 (Continuous support), 2741 (Usual care)

Heterogeneity: not applicable

Test for overall effect: Z = 4.16 (P = 0.000032)

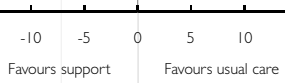
Analysis 1.6. Comparison 1 Continuous support versus usual care - all trials, Outcome 6 Labour length.

Review: Continuous support for women during childbirth

Comparison: 1 Continuous support versus usual care - all trials

Outcome: 6 Labour length

Study or subgroup	Continuous support N	Mean(SD)	Usual care N	Mean(SD)	Mean Difference IV,Random,95% CI	Weight	Mean Difference IV,Random,95% CI
Hodnett 2002	3454	7.1 (4.4)	3461	6.9 (4.3)		18.0 %	0.20 [-0.01, 0.41]
Gagnon 1997	209	9.1 (4.1)	204	9.4 (4.7)		10.1 %	-0.30 [-1.15, 0.55]
Breart - Belgium	133	6.27 (5.37)	131	6.8 (4.07)		7.3 %	-0.53 [-1.68, 0.62]
Breart - France	656	6.77 (2.57)	664	7.07 (2.68)		17.2 %	-0.30 [-0.58, -0.02]
Breart - Greece	295	6.67 (3.75)	274	6.33 (3.92)		12.7 %	0.34 [-0.29, 0.97]
Kennell 1991	212	7.4 (3.8)	200	8.4 (4.2)		10.9 %	-1.00 [-1.77, -0.23]
Hofmeyr 1991	92	9.6 (3.93)	97	10.2 (4.92)		6.4 %	-0.60 [-1.87, 0.67]
Hemminki 1990a	41	8.3 (6.2)	38	10 (6.8)		1.7 %	-1.70 [-4.58, 1.18]
Hemminki 1990b	81	7.6 (4.9)	80	9.2 (6.1)		4.1 %	-1.60 [-3.31, 0.11]
Campbell 2006	300	10.4 (4.3)	300	11.7 (4.8)		11.5 %	-1.30 [-2.03, -0.57]



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Study or subgroup	Continuous support N	Mean(SD)	Usual care N	Mean(SD)	Mean Difference IV,Random,95% CI	Weight	Mean Difference IV,Random,95% CI
Total (95% CI)	**5473**		**5449**			**100.0 %**	**-0.43 [-0.83, -0.04]**
Heterogeneity: Tau² = 0.21; Chi² = 33.07, df = 9 (P = 0.00013); I² =73%							
Test for overall effect: Z = 2.16 (P = 0.031)							

Analysis 1.7. Comparison 1 Continuous support versus usual care - all trials, Outcome 7 Spontaneous vaginal birth.

Review: Continuous support for women during childbirth

Comparison: 1 Continuous support versus usual care - all trials

Outcome: 7 Spontaneous vaginal birth

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Random,95% CI	Weight	Risk Ratio M-H,Random,95% CI
Hodnett 2002	2481/3454	2463/3461		14.0 %	1.01 [0.98, 1.04]
Dickinson 2002	280/499	239/493		6.0 %	1.16 [1.03, 1.30]
Madi 1999	48/53	40/56		3.2 %	1.27 [1.05, 1.53]
Langer 1998	264/361	254/363		8.0 %	1.05 [0.95, 1.15]
Gagnon 1997	132/209	127/204		4.5 %	1.01 [0.87, 1.18]
Breart - Belgium	97/133	87/131		4.1 %	1.10 [0.94, 1.29]
Breart - France	453/656	424/664		9.4 %	1.08 [1.00, 1.17]
Breart - Greece	215/295	194/274		7.1 %	1.03 [0.93, 1.14]
Hofmeyr 1991	74/92	76/97		4.7 %	1.03 [0.89, 1.19]
Kennell 1991	179/212	137/200		6.6 %	1.23 [1.10, 1.38]
Hemminki 1990a	38/41	34/38		4.9 %	1.04 [0.90, 1.19]
Hemminki 1990b	76/81	72/80		8.0 %	1.04 [0.95, 1.14]
Hodnett 1989	47/72	42/73		1.8 %	1.13 [0.88, 1.47]
Klaus 1986	172/186	225/279		10.0 %	1.15 [1.07, 1.23]
Campbell 2006	223/300	220/300		7.7 %	1.01 [0.92, 1.11]
Total (95% CI)	**6644**	**6713**		**100.0 %**	**1.07 [1.04, 1.12]**

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Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Random,95% CI	Weight	Risk Ratio M-H,Random,95% CI
Total events: 4779 (Continuous support), 4634 (Usual care)					
Heterogeneity: Tau² = 0.00; Chi² = 29.60, df = 14 (P = 0.01); I² =53%					
Test for overall effect: Z = 3.77 (P = 0.00016)					

Analysis 1.8. Comparison 1 Continuous support versus usual care - all trials, Outcome 8 Instrumental vaginal birth.

Review: Continuous support for women during childbirth

Comparison: 1 Continuous support versus usual care - all trials

Outcome: 8 Instrumental vaginal birth

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Fixed,95% CI	Weight	Risk Ratio M-H,Fixed,95% CI
Hodnett 2002	541/3454	561/3461		47.4 %	0.97 [0.87, 1.08]
Dickinson 2002	148/499	169/493		14.4 %	0.87 [0.72, 1.04]
Madi 1999	2/53	9/56		0.7 %	0.23 [0.05, 1.04]
Langer 1998	12/361	12/363		1.0 %	1.01 [0.46, 2.21]
Gagnon 1997	48/209	44/204		3.8 %	1.06 [0.74, 1.53]
Breart - Belgium	31/133	39/131		3.3 %	0.78 [0.52, 1.17]
Breart - France	163/656	204/664		17.2 %	0.81 [0.68, 0.96]
Breart - Greece	50/295	46/274		4.0 %	1.01 [0.70, 1.45]
Hofmeyr 1991	7/92	7/97		0.6 %	1.05 [0.38, 2.89]
Kennell 1991	16/212	37/200		3.2 %	0.41 [0.23, 0.71]
Hemminki 1990a	3/41	1/38		0.1 %	2.78 [0.30, 25.59]
Hemminki 1990b	3/81	5/80		0.4 %	0.59 [0.15, 2.40]
Hodnett 1989	13/72	18/73		1.5 %	0.73 [0.39, 1.38]
Klaus 1986	2/186	7/279		0.5 %	0.43 [0.09, 2.04]
Campbell 2006	13/300	22/300		1.9 %	0.59 [0.30, 1.15]
Total (95% CI)	**6644**	**6713**		**100.0 %**	**0.89 [0.82, 0.96]**
Total events: 1052 (Continuous support), 1181 (Usual care)					
Heterogeneity: Chi² = 20.16, df = 14 (P = 0.13); I² =31%					
Test for overall effect: Z = 3.12 (P = 0.0018)					

Analysis 1.9. Comparison 1 Continuous support versus usual care - all trials, Outcome 9 Caesarean birth.

Review: Continuous support for women during childbirth

Comparison: 1 Continuous support versus usual care - all trials

Outcome: 9 Caesarean birth

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Fixed,95% CI	Weight	Risk Ratio M-H,Fixed,95% CI
Hodnett 2002	432/3454	437/3461		49.2 %	0.99 [0.87, 1.12]
Dickinson 2002	71/499	85/493		9.6 %	0.83 [0.62, 1.10]
Madi 1999	3/53	7/56		0.8 %	0.45 [0.12, 1.66]
Langer 1998	85/361	97/363		10.9 %	0.88 [0.68, 1.13]
Gagnon 1997	29/209	33/204		3.8 %	0.86 [0.54, 1.36]
Breart - Belgium	5/133	5/131		0.6 %	0.98 [0.29, 3.32]
Breart - France	40/656	36/664		4.0 %	1.12 [0.73, 1.74]
Breart - Greece	30/295	34/274		4.0 %	0.82 [0.52, 1.30]
Hofmeyr 1991	11/92	14/97		1.5 %	0.83 [0.40, 1.73]
Kennell 1991	17/212	26/200		3.0 %	0.62 [0.35, 1.10]
Hemminki 1990a	0/41	3/38		0.4 %	0.13 [0.01, 2.49]
Hemminki 1990b	2/81	3/80		0.3 %	0.66 [0.11, 3.84]
Hodnett 1989	12/72	13/73		1.5 %	0.94 [0.46, 1.91]
Cogan 1988	2/20	1/14		0.1 %	1.40 [0.14, 13.98]
Klaus 1986	12/186	47/279		4.2 %	0.38 [0.21, 0.70]
Campbell 2006	55/300	53/300		6.0 %	1.04 [0.74, 1.46]
Total (95% CI)	**6664**	**6727**		**100.0 %**	**0.91 [0.83, 0.99]**

Total events: 806 (Continuous support), 894 (Usual care)

Heterogeneity: Chi^2 = 16.69, df = 15 (P = 0.34); I^2 =10%

Test for overall effect: Z = 2.08 (P = 0.038)

Analysis 1.10. Comparison 1 Continuous support versus usual care - all trials, Outcome 10 Episiotomy.

Review: Continuous support for women during childbirth

Comparison: 1 Continuous support versus usual care - all trials

Outcome: 10 Episiotomy

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Fixed,95% CI	Weight	Risk Ratio M-H,Fixed,95% CI
Hodnett 2002	894/3454	919/3461		100.0 %	0.97 [0.90, 1.05]
Total (95% CI)	**3454**	**3461**		**100.0 %**	**0.97 [0.90, 1.05]**
Total events: 894 (Continuous support), 919 (Usual care)					
Heterogeneity: not applicable					
Test for overall effect: Z = 0.63 (P = 0.53)					

Analysis 1.11. Comparison 1 Continuous support versus usual care - all trials, Outcome 11 Perineal trauma.

Review: Continuous support for women during childbirth

Comparison: 1 Continuous support versus usual care - all trials

Outcome: 11 Perineal trauma

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Fixed,95% CI	Weight	Risk Ratio M-H,Fixed,95% CI
Hodnett 2002	1828/3454	1860/3461		91.7 %	0.98 [0.94, 1.03]
Gagnon 1997	168/209	166/204		8.3 %	0.99 [0.90, 1.08]
Total (95% CI)	**3663**	**3665**		**100.0 %**	**0.99 [0.95, 1.03]**
Total events: 1996 (Continuous support), 2026 (Usual care)					
Heterogeneity: Chi^2 = 0.00, df = 1 (P = 0.95); I^2 =0.0%					
Test for overall effect: Z = 0.72 (P = 0.47)					

Analysis 1.12. Comparison 1 Continuous support versus usual care - all trials, Outcome 12 Low 5-minute Apgar score.

Review: Continuous support for women during childbirth

Comparison: 1 Continuous support versus usual care - all trials

Outcome: 12 Low 5-minute Apgar score

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Fixed,95% CI	Weight	Risk Ratio M-H,Fixed,95% CI
Hodnett 2002	30/3476	25/3473		34.2 %	1.20 [0.71, 2.03]
Dickinson 2002	4/499	8/493		11.0 %	0.49 [0.15, 1.63]
Breart - Belgium	3/133	4/131		5.5 %	0.74 [0.17, 3.24]
Breart - France	4/656	11/664		14.9 %	0.37 [0.12, 1.15]
Breart - Greece	6/295	8/274		11.3 %	0.70 [0.24, 1.98]
Hofmeyr 1991	4/92	6/97		8.0 %	0.70 [0.20, 2.41]
Kennell 1991	1/212	2/200		2.8 %	0.47 [0.04, 5.16]
Campbell 2006	1/300	9/300		12.3 %	0.11 [0.01, 0.87]
Total (95% CI)	**5663**	**5632**		**100.0 %**	**0.72 [0.51, 1.02]**

Total events: 53 (Continuous support), 73 (Usual care)

Heterogeneity: Chi^2 = 8.57, df = 7 (P = 0.28); I^2 =18%

Test for overall effect: Z = 1.82 (P = 0.068)

Analysis 1.14. Comparison 1 Continuous support versus usual care - all trials, Outcome 14 Admission to special care nursery.

Review: Continuous support for women during childbirth

Comparison: 1 Continuous support versus usual care - all trials

Outcome: 14 Admission to special care nursery

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Fixed,95% CI	Weight	Risk Ratio M-H,Fixed,95% CI
Hodnett 2002	246/3476	254/3473		72.4 %	0.97 [0.82, 1.15]
Gagnon 1997	15/209	10/204		2.9 %	1.46 [0.67, 3.18]
Kennell 1991	69/212	71/200		20.8 %	0.92 [0.70, 1.20]
Klaus 1986	3/186	17/279		3.9 %	0.26 [0.08, 0.89]
Total (95% CI)	**4083**	**4156**		**100.0 %**	**0.94 [0.82, 1.09]**

Total events: 333 (Continuous support), 352 (Usual care)

Heterogeneity: Chi^2 = 5.57, df = 3 (P = 0.13); I^2 =46%

Test for overall effect: Z = 0.80 (P = 0.42)

Analysis 1.15. Comparison 1 Continuous support versus usual care - all trials, Outcome 15 Prolonged neonatal hospital stay.

Review: Continuous support for women during childbirth

Comparison: 1 Continuous support versus usual care - all trials

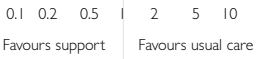
Outcome: 15 Prolonged neonatal hospital stay

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Fixed,95% CI	Weight	Risk Ratio M-H,Fixed,95% CI
Kennell 1991	22/212	34/200		100.0 %	0.61 [0.37, 1.01]
Total (95% CI)	**212**	**200**		**100.0 %**	**0.61 [0.37, 1.01]**

Total events: 22 (Continuous support), 34 (Usual care)

Heterogeneity: not applicable

Test for overall effect: Z = 1.93 (P = 0.053)



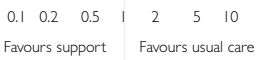
Analysis 1.16. Comparison 1 Continuous support versus usual care - all trials, Outcome 16 Postpartum report of severe labour pain.

Review: Continuous support for women during childbirth

Comparison: 1 Continuous support versus usual care - all trials

Outcome: 16 Postpartum report of severe labour pain

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Random,95% CI	Weight	Risk Ratio M-H,Random,95% CI
Langer 1998	261/361	248/363		36.7 %	1.06 [0.96, 1.16]
Breart - Belgium	51/133	44/131		22.0 %	1.14 [0.83, 1.58]
Breart - France	24/656	21/664		11.3 %	1.16 [0.65, 2.06]
Hofmeyr 1991	53/92	76/97		29.9 %	0.74 [0.60, 0.90]
Total (95% CI)	**1242**	**1255**		**100.0 %**	**0.97 [0.77, 1.23]**
Total events: 389 (Continuous support), 389 (Usual care)					
Heterogeneity: $Tau^2 = 0.03$; $Chi^2 = 11.00$, df = 3 (P = 0.01); $I^2 = 73\%$					
Test for overall effect: Z = 0.22 (P = 0.83)					



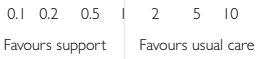
Analysis 1.17. Comparison 1 Continuous support versus usual care - all trials, Outcome 17 Postpartum report of difficulty in coping with labour.

Review: Continuous support for women during childbirth

Comparison: 1 Continuous support versus usual care - all trials

Outcome: 17 Postpartum report of difficulty in coping with labour

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Fixed,95% CI	Weight	Risk Ratio M-H,Fixed,95% CI
Hofmeyr 1991	38/92	73/97		100.0 %	0.55 [0.42, 0.72]
Total (95% CI)	**92**	**97**		**100.0 %**	**0.55 [0.42, 0.72]**
Total events: 38 (Continuous support), 73 (Usual care)					
Heterogeneity: not applicable					
Test for overall effect: Z = 4.37 (P = 0.000012)					



Analysis 1.18. Comparison 1 Continuous support versus usual care - all trials, Outcome 18 Postpartum report of low control during labour.

Review: Continuous support for women during childbirth

Comparison: 1 Continuous support versus usual care - all trials

Outcome: 18 Postpartum report of low control during labour

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Fixed,95% CI	Weight	Risk Ratio M-H,Fixed,95% CI
Hodnett 2002	96/3454	117/3461		47.6 %	0.82 [0.63, 1.07]
Langer 1998	98/361	129/363		52.4 %	0.76 [0.61, 0.95]
Total (95% CI)	**3815**	**3824**		**100.0 %**	**0.79 [0.67, 0.94]**

Total events: 194 (Continuous support), 246 (Usual care)

Heterogeneity: $Chi^2 = 0.18$, df = 1 (P = 0.67); $I^2 = 0.0\%$

Test for overall effect: Z = 2.68 (P = 0.0074)

Analysis 1.19. Comparison 1 Continuous support versus usual care - all trials, Outcome 19 Postpartum report of high anxiety during labour.

Review: Continuous support for women during childbirth

Comparison: 1 Continuous support versus usual care - all trials

Outcome: 19 Postpartum report of high anxiety during labour

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Random,95% CI	Weight	Risk Ratio M-H,Random,95% CI
Breart - Belgium	33/133	25/131		33.4 %	1.30 [0.82, 2.06]
Breart - France	24/656	21/664		30.9 %	1.16 [0.65, 2.06]
Hofmeyr 1991	28/92	62/97		35.6 %	0.48 [0.34, 0.67]
Total (95% CI)	**881**	**892**		**100.0 %**	**0.88 [0.43, 1.78]**

Total events: 85 (Continuous support), 108 (Usual care)

Heterogeneity: $Tau^2 = 0.34$; $Chi^2 = 14.68$, df = 2 (P = 0.00065); $I^2 = 86\%$

Test for overall effect: Z = 0.36 (P = 0.72)

Analysis 1.20. Comparison 1 Continuous support versus usual care - all trials, Outcome 20 Dissatisfaction with/negative views of birth experience.

Review: Continuous support for women during childbirth

Comparison: 1 Continuous support versus usual care - all trials

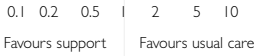
Outcome: 20 Dissatisfaction with/negative views of birth experience

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Fixed,95% CI	Weight	Risk Ratio M-H,Fixed,95% CI
Hodnett 2002	96/3454	117/3461		25.7 %	0.82 [0.63, 1.07]
Langer 1998	98/361	129/363		28.3 %	0.76 [0.61, 0.95]
Breart - Belgium	24/133	30/131		6.6 %	0.79 [0.49, 1.27]
Breart - France	30/656	35/664		7.7 %	0.87 [0.54, 1.40]
Hofmeyr 1991	38/92	73/97		15.6 %	0.55 [0.42, 0.72]
Kennell 1991	47/212	71/200		16.1 %	0.62 [0.46, 0.85]
Total (95% CI)	**4908**	**4916**		**100.0 %**	**0.73 [0.65, 0.83]**

Total events: 333 (Continuous support), 455 (Usual care)

Heterogeneity: Chi^2 = 6.86, df = 5 (P = 0.23); I^2 =27%

Test for overall effect: Z = 4.92 (P < 0.00001)



Analysis 1.22. Comparison 1 Continuous support versus usual care - all trials, Outcome 22 Difficulty mothering.

Review: Continuous support for women during childbirth

Comparison: 1 Continuous support versus usual care - all trials

Outcome: 22 Difficulty mothering

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Random,95% CI	Weight	Risk Ratio M-H,Random,95% CI
Hodnett 2002	873/3454	853/3461		100.0 %	1.03 [0.95, 1.11]
Total (95% CI)	**3454**	**3461**		**100.0 %**	**1.03 [0.95, 1.11]**

Total events: 873 (Continuous support), 853 (Usual care)

Heterogeneity: not applicable

Test for overall effect: Z = 0.60 (P = 0.55)

Analysis 1.23. Comparison 1 Continuous support versus usual care - all trials, Outcome 23 Not breastfeeding at 1-2 months postpartum.

Review: Continuous support for women during childbirth

Comparison: 1 Continuous support versus usual care - all trials

Outcome: 23 Not breastfeeding at 1-2 months postpartum

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Fixed,95% CI	Weight	Risk Ratio M-H,Fixed,95% CI
Hodnett 2002	1116/3454	1054/3461		96.7 %	1.06 [0.99, 1.14]
Langer 1998	34/361	36/363		3.3 %	0.95 [0.61, 1.48]
Total (95% CI)	**3815**	**3824**		**100.0 %**	**1.06 [0.99, 1.13]**

Total events: 1150 (Continuous support), 1090 (Usual care)

Heterogeneity: Chi^2 = 0.23, df = 1 (P = 0.63); I^2 =0.0%

Test for overall effect: Z = 1.58 (P = 0.11)

Analysis 1.24. Comparison 1 Continuous support versus usual care - all trials, Outcome 24 Postpartum depression.

Review: Continuous support for women during childbirth

Comparison: 1 Continuous support versus usual care - all trials

Outcome: 24 Postpartum depression

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Fixed,95% CI	Weight	Risk Ratio M-H,Fixed,95% CI
Hodnett 2002	245/3454	277/3461		100.0 %	0.89 [0.75, 1.05]
Total (95% CI)	**3454**	**3461**		**100.0 %**	**0.89 [0.75, 1.05]**

Total events: 245 (Continuous support), 277 (Usual care)

Heterogeneity: not applicable

Test for overall effect: Z = 1.43 (P = 0.15)

Analysis 1.26. Comparison 1 Continuous support versus usual care - all trials, Outcome 26 Low postpartum self-esteem.

Review: Continuous support for women during childbirth

Comparison: 1 Continuous support versus usual care - all trials

Outcome: 26 Low postpartum self-esteem

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Fixed,95% CI	Weight	Risk Ratio M-H,Fixed,95% CI
Langer 1998	85/361	80/363		100.0 %	1.07 [0.82, 1.40]
Total (95% CI)	**361**	**363**		**100.0 %**	**1.07 [0.82, 1.40]**
Total events: 85 (Continuous support), 80 (Usual care)					
Heterogeneity: not applicable					
Test for overall effect: Z = 0.48 (P = 0.63)					

Analysis 1.27. Comparison 1 Continuous support versus usual care - all trials, Outcome 27 Poor relationship with partner postpartum.

Review: Continuous support for women during childbirth

Comparison: 1 Continuous support versus usual care - all trials

Outcome: 27 Poor relationship with partner postpartum

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Fixed,95% CI	Weight	Risk Ratio M-H,Fixed,95% CI
Hodnett 2002	158/3454	159/3461		100.0 %	1.00 [0.80, 1.23]
Total (95% CI)	**3454**	**3461**		**100.0 %**	**1.00 [0.80, 1.23]**
Total events: 158 (Continuous support), 159 (Usual care)					
Heterogeneity: not applicable					
Test for overall effect: Z = 0.04 (P = 0.97)					

Analysis 1.29. Comparison 1 Continuous support versus usual care - all trials, Outcome 29 Postpartum urinary incontinence.

Review: Continuous support for women during childbirth

Comparison: 1 Continuous support versus usual care - all trials

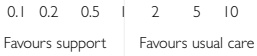
Outcome: 29 Postpartum urinary incontinence

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Fixed,95% CI	Weight	Risk Ratio M-H,Fixed,95% CI
Hodnett 2002	358/3454	387/3461		100.0 %	0.93 [0.81, 1.06]
Total (95% CI)	**3454**	**3461**		**100.0 %**	**0.93 [0.81, 1.06]**

Total events: 358 (Continuous support), 387 (Usual care)

Heterogeneity: not applicable

Test for overall effect: Z = 1.10 (P = 0.27)



Analysis 1.30. Comparison 1 Continuous support versus usual care - all trials, Outcome 30 Postpartum faecal incontinence.

Review: Continuous support for women during childbirth

Comparison: 1 Continuous support versus usual care - all trials

Outcome: 30 Postpartum faecal incontinence

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Fixed,95% CI	Weight	Risk Ratio M-H,Fixed,95% CI
Hodnett 2002	63/3454	71/3461		100.0 %	0.89 [0.64, 1.24]
Total (95% CI)	**3454**	**3461**		**100.0 %**	**0.89 [0.64, 1.24]**

Total events: 63 (Continuous support), 71 (Usual care)

Heterogeneity: not applicable

Test for overall effect: Z = 0.69 (P = 0.49)

Analysis 2.1. Comparison 2 Continuous support during labour versus usual care - variations in institutional policies and practices, Outcome 1 Use of analgesia/anaesthesia.

Review: Continuous support for women during childbirth

Comparison: 2 Continuous support during labour versus usual care - variations in institutional policies and practices

Outcome: 1 Use of analgesia/anaesthesia

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Random,95% CI	Weight	Risk Ratio M-H,Random,95% CI
1 Other support permitted					
Hodnett 2002	3077/3454	3159/3461		34.0 %	0.98 [0.96, 0.99]
Gagnon 1997	141/209	142/204		13.7 %	0.97 [0.85, 1.10]
Breart - Belgium	55/133	62/131		4.6 %	0.87 [0.67, 1.15]
Breart - France	281/656	319/664		15.3 %	0.89 [0.79, 1.00]
Hemminki 1990a	25/41	23/38		2.8 %	1.01 [0.71, 1.44]
Hemminki 1990b	45/81	52/80		5.2 %	0.85 [0.66, 1.10]
Campbell 2006	247/300	260/300		24.4 %	0.95 [0.89, 1.02]
Subtotal (95% CI)	**4874**	**4878**		**100.0 %**	**0.97 [0.96, 0.99]**
Total events: 3871 (Continuous support), 4017 (Usual care)					
Heterogeneity: $Tau^2 = 0.0$; $Chi^2 = 5.58$, df = 6 (P = 0.47); $I^2 = 0.0\%$					
Test for overall effect: Z = 3.66 (P = 0.00025)					
2 Other support not permitted					
Madi 1999	28/53	41/56		9.8 %	0.72 [0.53, 0.97]
Langer 1998	295/361	302/363		63.5 %	0.98 [0.92, 1.05]
Hofmeyr 1991	11/92	15/97		1.9 %	0.77 [0.37, 1.59]
Kennell 1991	93/212	150/200		24.4 %	0.58 [0.49, 0.69]
Klaus 1986	2/186	10/279		0.4 %	0.30 [0.07, 1.35]
Subtotal (95% CI)	**904**	**995**		**100.0 %**	**0.72 [0.49, 1.05]**
Total events: 429 (Continuous support), 518 (Usual care)					
Heterogeneity: $Tau^2 = 0.13$; $Chi^2 = 43.23$, df = 4 (P<0.00001); $I^2 = 91\%$					
Test for overall effect: Z = 1.73 (P = 0.084)					
3 Epidural analgesia routinely available					
Hodnett 2002	3077/3454	3159/3461		25.4 %	0.98 [0.96, 0.99]
Langer 1998	295/361	302/363		18.4 %	0.98 [0.92, 1.05]
Gagnon 1997	141/209	142/204		10.2 %	0.97 [0.85, 1.10]
Breart - Belgium	55/133	62/131		3.4 %	0.87 [0.67, 1.15]
Breart - France	281/656	319/664		11.4 %	0.89 [0.79, 1.00]

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Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Random,95% CI	Weight	Risk Ratio M-H,Random,95% CI
Kennell 1991	93/212	150/200		7.1 %	0.58 [0.49, 0.69]
Hemminki 1990a	25/41	23/38		2.1 %	1.01 [0.71, 1.44]
Hemminki 1990b	45/81	52/80		3.8 %	0.85 [0.66, 1.10]
Campbell 2006	247/300	260/300		18.2 %	0.95 [0.89, 1.02]
Subtotal (95% CI)	**5447**	**5441**		**100.0 %**	**0.90 [0.84, 0.97]**
Total events: 4259 (Continuous support), 4469 (Usual care)					
Heterogeneity: Tau^2 = 0.01; Chi^2 = 43.54, df = 8 (P<0.00001); I^2 =82%					
Test for overall effect: Z = 2.63 (P = 0.0085)					
4 Epidural analgesia not routinely available					
Madi 1999	28/53	41/56		81.1 %	0.72 [0.53, 0.97]
Hofmeyr 1991	11/92	15/97		15.3 %	0.77 [0.37, 1.59]
Klaus 1986	2/186	10/279		3.6 %	0.30 [0.07, 1.35]
Subtotal (95% CI)	**331**	**432**		**100.0 %**	**0.71 [0.54, 0.93]**
Total events: 41 (Continuous support), 66 (Usual care)					
Heterogeneity: Tau^2 = 0.0; Chi^2 = 1.41, df = 2 (P = 0.49); I^2 =0.0%					
Test for overall effect: Z = 2.48 (P = 0.013)					
5 Setting had routine EFM					
Hodnett 2002	3077/3454	3159/3461		38.0 %	0.98 [0.96, 0.99]
Gagnon 1997	141/209	142/204		15.3 %	0.97 [0.85, 1.10]
Kennell 1991	93/212	150/200		10.6 %	0.58 [0.49, 0.69]
Hemminki 1990a	25/41	23/38		3.1 %	1.01 [0.71, 1.44]
Hemminki 1990b	45/81	52/80		5.8 %	0.85 [0.66, 1.10]
Campbell 2006	247/300	260/300		27.2 %	0.95 [0.89, 1.02]
Subtotal (95% CI)	**4297**	**4283**		**100.0 %**	**0.88 [0.79, 0.99]**
Total events: 3628 (Continuous support), 3786 (Usual care)					
Heterogeneity: Tau^2 = 0.01; Chi^2 = 38.76, df = 5 (P<0.00001); I^2 =87%					
Test for overall effect: Z = 2.13 (P = 0.033)					
6 Setting did not have routine EFM					
Madi 1999	28/53	41/56		13.0 %	0.72 [0.53, 0.97]
Langer 1998	295/361	302/363		84.0 %	0.98 [0.92, 1.05]
Hofmeyr 1991	11/92	15/97		2.5 %	0.77 [0.37, 1.59]
Klaus 1986	2/186	10/279		0.6 %	0.30 [0.07, 1.35]
Subtotal (95% CI)	**692**	**795**		**100.0 %**	**0.82 [0.61, 1.11]**
Total events: 336 (Continuous support), 368 (Usual care)					
Heterogeneity: Tau^2 = 0.05; Chi^2 = 7.69, df = 3 (P = 0.05); I^2 =61%					
Test for overall effect: Z = 1.28 (P = 0.20)					

Analysis 2.2. Comparison 2 Continuous support during labour versus usual care - variations in institutional policies and practices, Outcome 2 Spontaneous vaginal birth.

Review: Continuous support for women during childbirth

Comparison: 2 Continuous support during labour versus usual care - variations in institutional policies and practices

Outcome: 2 Spontaneous vaginal birth

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Random,95% CI	Weight	Risk Ratio M-H,Random,95% CI
1 Other support permitted					
Hodnett 2002	2481/3454	2463/3461		24.7 %	1.01 [0.98, 1.04]
Dickinson 2002	280/499	239/493		9.7 %	1.16 [1.03, 1.30]
Gagnon 1997	132/209	127/204		7.1 %	1.01 [0.87, 1.18]
Breart - Belgium	97/133	87/131		6.4 %	1.10 [0.94, 1.29]
Breart - France	453/656	424/664		15.6 %	1.08 [1.00, 1.17]
Hemminki 1990a	38/41	34/38		7.9 %	1.04 [0.90, 1.19]
Hemminki 1990b	76/81	72/80		13.1 %	1.04 [0.95, 1.14]
Hodnett 1989	47/72	42/73		2.8 %	1.13 [0.88, 1.47]
Campbell 2006	223/300	220/300		12.7 %	1.01 [0.92, 1.11]
Subtotal (95% CI)	**5445**	**5444**		**100.0 %**	**1.03 [1.00, 1.06]**
Total events: 3827 (Continuous support), 3708 (Usual care)					
Heterogeneity: Tau^2 = 0.00; Chi^2 = 8.43, df = 8 (P = 0.39); I^2 =5%					
Test for overall effect: Z = 2.31 (P = 0.021)					
2 Other support not permitted					
Madi 1999	48/53	40/56		7.7 %	1.27 [1.05, 1.53]
Langer 1998	264/361	254/363		20.4 %	1.05 [0.95, 1.15]
Breart - Greece	215/295	194/274		18.0 %	1.03 [0.93, 1.14]
Hofmeyr 1991	74/92	76/97		11.4 %	1.03 [0.89, 1.19]
Kennell 1991	179/212	137/200		16.6 %	1.23 [1.10, 1.38]
Klaus 1986	172/186	225/279		25.9 %	1.15 [1.07, 1.23]
Subtotal (95% CI)	**1199**	**1269**		**100.0 %**	**1.11 [1.04, 1.19]**
Total events: 952 (Continuous support), 926 (Usual care)					
Heterogeneity: Tau^2 = 0.00; Chi^2 = 11.28, df = 5 (P = 0.05); I^2 =56%					
Test for overall effect: Z = 3.12 (P = 0.0018)					
3 Epidural analgesia routinely available					
Hodnett 2002	2481/3454	2463/3461		19.9 %	1.01 [0.98, 1.04]
Dickinson 2002	280/499	239/493		7.8 %	1.16 [1.03, 1.30]

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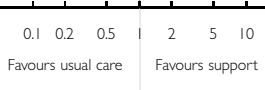
Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Random,95% CI	Weight	Risk Ratio M-H,Random,95% CI
Langer 1998	264/361	254/363		10.6 %	1.05 [0.95, 1.15]
Gagnon 1997	132/209	127/204		5.8 %	1.01 [0.87, 1.18]
Breart - Belgium	97/133	87/131		5.2 %	1.10 [0.94, 1.29]
Breart - France	453/656	424/664		12.6 %	1.08 [1.00, 1.17]
Kennell 1991	179/212	137/200		8.6 %	1.23 [1.10, 1.38]
Hemminki 1990a	38/41	34/38		6.4 %	1.04 [0.90, 1.19]
Hemminki 1990b	76/81	72/80		10.6 %	1.04 [0.95, 1.14]
Hodnett 1989	47/72	42/73		2.3 %	1.13 [0.88, 1.47]
Campbell 2006	223/300	220/300		10.2 %	1.01 [0.92, 1.11]
Subtotal (95% CI)	**6018**	**6007**		**100.0 %**	**1.06 [1.02, 1.11]**
Total events: 4270 (Continuous support), 4099 (Usual care)					
Heterogeneity: Tau^2 = 0.00; Chi^2 = 18.33, df = 10 (P = 0.05); I^2 =45%					
Test for overall effect: Z = 3.02 (P = 0.0025)					
4 Epidural analgesia not routinely available					
Madi 1999	48/53	40/56		12.3 %	1.27 [1.05, 1.53]
Breart - Greece	215/295	194/274		28.5 %	1.03 [0.93, 1.14]
Hofmeyr 1991	74/92	76/97		18.2 %	1.03 [0.89, 1.19]
Klaus 1986	172/186	225/279		41.1 %	1.15 [1.07, 1.23]
Subtotal (95% CI)	**626**	**706**		**100.0 %**	**1.10 [1.01, 1.20]**
Total events: 509 (Continuous support), 535 (Usual care)					
Heterogeneity: Tau^2 = 0.00; Chi^2 = 6.31, df = 3 (P = 0.10); I^2 =52%					
Test for overall effect: Z = 2.28 (P = 0.023)					
5 Setting had routine EFM					
Hodnett 2002	2481/3454	2463/3461		27.8 %	1.01 [0.98, 1.04]
Dickinson 2002	280/499	239/493		10.9 %	1.16 [1.03, 1.30]
Gagnon 1997	132/209	127/204		8.0 %	1.01 [0.87, 1.18]
Kennell 1991	179/212	137/200		12.1 %	1.23 [1.10, 1.38]
Hemminki 1990a	38/41	34/38		8.9 %	1.04 [0.90, 1.19]
Hemminki 1990b	76/81	72/80		14.8 %	1.04 [0.95, 1.14]
Hodnett 1989	47/72	42/73		3.2 %	1.13 [0.88, 1.47]
Campbell 2006	223/300	220/300		14.3 %	1.01 [0.92, 1.11]
Subtotal (95% CI)	**4868**	**4849**		**100.0 %**	**1.07 [1.01, 1.13]**
Total events: 3456 (Continuous support), 3334 (Usual care)					
Heterogeneity: Tau^2 = 0.00; Chi^2 = 16.39, df = 7 (P = 0.02); I^2 =57%					
Test for overall effect: Z = 2.26 (P = 0.024)					
6 Setting did not have routine EFM					



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Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Random,95% CI	Weight	Risk Ratio M-H,Random,95% CI
Madi 1999	48/53	40/56		11.8 %	1.27 [1.05, 1.53]
Langer 1998	264/361	254/363		31.1 %	1.05 [0.95, 1.15]
Hofmeyr 1991	74/92	76/97		17.5 %	1.03 [0.89, 1.19]
Klaus 1986	172/186	225/279		39.6 %	1.15 [1.07, 1.23]
Subtotal (95% CI)	**692**	**795**		**100.0 %**	**1.11 [1.02, 1.20]**
Total events: 558 (Continuous support), 595 (Usual care)					
Heterogeneity: Tau² = 0.00; Chi² = 5.86, df = 3 (P = 0.12); I² =49%					
Test for overall effect: Z = 2.52 (P = 0.012)					

Analysis 2.3. Comparison 2 Continuous support during labour versus usual care - variations in institutional policies and practices, Outcome 3 Instrumental vaginal birth.

Review: Continuous support for women during childbirth

Comparison: 2 Continuous support during labour versus usual care - variations in institutional policies and practices

Outcome: 3 Instrumental vaginal birth

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Random,95% CI	Weight	Risk Ratio M-H,Random,95% CI
1 Other support permitted					
Hodnett 2002	541/3454	561/3461		30.9 %	0.97 [0.87, 1.08]
Dickinson 2002	148/499	169/493		21.7 %	0.87 [0.72, 1.04]
Gagnon 1997	48/209	44/204		9.3 %	1.06 [0.74, 1.53]
Breart - Belgium	31/133	39/131		7.7 %	0.78 [0.52, 1.17]
Breart - France	163/656	204/664		22.5 %	0.81 [0.68, 0.96]
Hemminki 1990a	3/41	1/38		0.3 %	2.78 [0.30, 25.59]
Hemminki 1990b	3/81	5/80		0.8 %	0.59 [0.15, 2.40]
Hodnett 1989	13/72	18/73		3.6 %	0.73 [0.39, 1.38]
Campbell 2006	13/300	22/300		3.3 %	0.59 [0.30, 1.15]
Subtotal (95% CI)	**5445**	**5444**		**100.0 %**	**0.90 [0.84, 0.97]**
Total events: 963 (Continuous support), 1063 (Usual care)					

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Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Random,95% CI	Weight	Risk Ratio M-H,Random,95% CI
Heterogeneity: Tau² = 0.0; Chi² = 7.83, df = 8 (P = 0.45); I² =0.0%					
Test for overall effect: Z = 2.61 (P = 0.00911)					
2 Other support not permitted					
Madi 1999	2/53	9/56		3.7 %	0.23 [0.05, 1.04]
Langer 1998	12/361	12/363		12.7 %	1.01 [0.46, 2.21]
Breart - Greece	50/295	46/274		48.3 %	1.01 [0.70, 1.45]
Hofmeyr 1991	7/92	7/97		7.9 %	1.05 [0.38, 2.89]
Kennell 1991	16/212	37/200		24.1 %	0.41 [0.23, 0.71]
Klaus 1986	2/186	7/279		3.4 %	0.43 [0.09, 2.04]
Subtotal (95% CI)	**1199**	**1269**		**100.0 %**	**0.68 [0.42, 1.10]**
Total events: 89 (Continuous support), 118 (Usual care)					
Heterogeneity: Tau² = 0.17; Chi² = 11.08, df = 5 (P = 0.05); I² =55%					
Test for overall effect: Z = 1.56 (P = 0.12)					
3 Epidural analgesia routinely available					
Hodnett 2002	541/3454	561/3461		28.9 %	0.97 [0.87, 1.08]
Dickinson 2002	148/499	169/493		20.3 %	0.87 [0.72, 1.04]
Langer 1998	12/361	12/363		2.2 %	1.01 [0.46, 2.21]
Gagnon 1997	48/209	44/204		8.7 %	1.06 [0.74, 1.53]
Breart - Belgium	31/133	39/131		7.2 %	0.78 [0.52, 1.17]
Breart - France	163/656	204/664		21.0 %	0.81 [0.68, 0.96]
Kennell 1991	16/212	37/200		4.3 %	0.41 [0.23, 0.71]
Hemminki 1990a	3/41	1/38		0.3 %	2.78 [0.30, 25.59]
Hemminki 1990b	3/81	5/80		0.7 %	0.59 [0.15, 2.40]
Hodnett 1989	13/72	18/73		3.3 %	0.73 [0.39, 1.38]
Campbell 2006	13/300	22/300		3.0 %	0.59 [0.30, 1.15]
Subtotal (95% CI)	**6018**	**6007**		**100.0 %**	**0.85 [0.75, 0.96]**
Total events: 991 (Continuous support), 1112 (Usual care)					
Heterogeneity: Tau² = 0.01; Chi² = 15.65, df = 10 (P = 0.11); I² =36%					
Test for overall effect: Z = 2.55 (P = 0.011)					
4 Epidural analgesia not routinely available					
Madi 1999	2/53	9/56		5.9 %	0.23 [0.05, 1.04]
Breart - Greece	50/295	46/274		76.3 %	1.01 [0.70, 1.45]
Hofmeyr 1991	7/92	7/97		12.5 %	1.05 [0.38, 2.89]
Klaus 1986	2/186	7/279		5.3 %	0.43 [0.09, 2.04]
Subtotal (95% CI)	**626**	**706**		**100.0 %**	**0.77 [0.43, 1.38]**
Total events: 61 (Continuous support), 69 (Usual care)					

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Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Random,95% CI	Weight	Risk Ratio M-H,Random,95% CI
Heterogeneity: Tau² = 0.13; Chi² = 4.56, df = 3 (P = 0.21); I² =34%					
Test for overall effect: Z = 0.88 (P = 0.38)					
5 Setting had routine EFM					
Hodnett 2002	541/3454	561/3461		41.5 %	0.97 [0.87, 1.08]
Dickinson 2002	148/499	169/493		29.2 %	0.87 [0.72, 1.04]
Gagnon 1997	48/209	44/204		12.5 %	1.06 [0.74, 1.53]
Kennell 1991	16/212	37/200		6.1 %	0.41 [0.23, 0.71]
Hemminki 1990a	3/41	1/38		0.4 %	2.78 [0.30, 25.59]
Hemminki 1990b	3/81	5/80		1.1 %	0.59 [0.15, 2.40]
Hodnett 1989	13/72	18/73		4.8 %	0.73 [0.39, 1.38]
Campbell 2006	13/300	22/300		4.4 %	0.59 [0.30, 1.15]
Subtotal (95% CI)	**4868**	**4849**		**100.0 %**	**0.84 [0.69, 1.01]**
Total events: 785 (Continuous support), 857 (Usual care)					
Heterogeneity: Tau² = 0.03; Chi² = 13.66, df = 7 (P = 0.06); I² =49%					
Test for overall effect: Z = 1.85 (P = 0.064)					
6 Setting did not have routine EFM					
Madi 1999	2/53	9/56		13.4 %	0.23 [0.05, 1.04]
Langer 1998	12/361	12/363		45.8 %	1.01 [0.46, 2.21]
Hofmeyr 1991	7/92	7/97		28.6 %	1.05 [0.38, 2.89]
Klaus 1986	2/186	7/279		12.2 %	0.43 [0.09, 2.04]
Subtotal (95% CI)	**692**	**795**		**100.0 %**	**0.72 [0.38, 1.36]**
Total events: 23 (Continuous support), 35 (Usual care)					
Heterogeneity: Tau² = 0.10; Chi² = 3.87, df = 3 (P = 0.28); I² =22%					
Test for overall effect: Z = 1.02 (P = 0.31)					

Analysis 2.4. Comparison 2 Continuous support during labour versus usual care - variations in institutional policies and practices, Outcome 4 Caesarean birth.

Review: Continuous support for women during childbirth

Comparison: 2 Continuous support during labour versus usual care - variations in institutional policies and practices

Outcome: 4 Caesarean birth

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Random,95% CI	Weight	Risk Ratio M-H,Random,95% CI
1 Other support permitted					
Hodnett 2002	432/3454	437/3461		52.1 %	0.99 [0.87, 1.12]
Dickinson 2002	71/499	85/493		16.1 %	0.83 [0.62, 1.10]
Gagnon 1997	29/209	33/204		7.0 %	0.86 [0.54, 1.36]
Breart - Belgium	5/133	5/131		1.1 %	0.98 [0.29, 3.32]
Breart - France	40/656	36/664		7.7 %	1.12 [0.73, 1.74]
Hemminki 1990a	0/41	3/38		0.2 %	0.13 [0.01, 2.49]
Hemminki 1990b	2/81	3/80		0.5 %	0.66 [0.11, 3.84]
Hodnett 1989	12/72	13/73		3.0 %	0.94 [0.46, 1.91]
Cogan 1988	2/20	1/14		0.3 %	1.40 [0.14, 13.98]
Campbell 2006	55/300	53/300		12.1 %	1.04 [0.74, 1.46]
Subtotal (95% CI)	**5465**	**5458**		**100.0 %**	**0.97 [0.88, 1.07]**
Total events: 648 (Continuous support), 669 (Usual care)					
Heterogeneity: Tau^2 = 0.0; Chi^2 = 4.23, df = 9 (P = 0.90); I^2 =0.0%					
Test for overall effect: Z = 0.62 (P = 0.53)					
2 Other support not permitted					
Madi 1999	3/53	7/56		2.4 %	0.45 [0.12, 1.66]
Langer 1998	85/361	97/363		51.0 %	0.88 [0.68, 1.13]
Breart - Greece	30/295	34/274		17.5 %	0.82 [0.52, 1.30]
Hofmeyr 1991	11/92	14/97		7.2 %	0.83 [0.40, 1.73]
Kennell 1991	17/212	26/200		11.4 %	0.62 [0.35, 1.10]
Klaus 1986	12/186	47/279		10.5 %	0.38 [0.21, 0.70]
Subtotal (95% CI)	**1199**	**1269**		**100.0 %**	**0.71 [0.54, 0.93]**
Total events: 158 (Continuous support), 225 (Usual care)					
Heterogeneity: Tau^2 = 0.04; Chi^2 = 7.63, df = 5 (P = 0.18); I^2 =34%					
Test for overall effect: Z = 2.52 (P = 0.012)					
3 Epidural analgesia routinely available					
Hodnett 2002	432/3454	437/3461		41.8 %	0.99 [0.87, 1.12]

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Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Random,95% CI	Weight	Risk Ratio M-H,Random,95% CI
Dickinson 2002	71/499	85/493		12.9 %	0.83 [0.62, 1.10]
Langer 1998	85/361	97/363		16.2 %	0.88 [0.68, 1.13]
Gagnon 1997	29/209	33/204		5.6 %	0.86 [0.54, 1.36]
Breart - Belgium	5/133	5/131		0.9 %	0.98 [0.29, 3.32]
Breart - France	40/656	36/664		6.2 %	1.12 [0.73, 1.74]
Kennell 1991	17/212	26/200		3.6 %	0.62 [0.35, 1.10]
Hemminki 1990a	0/41	3/38		0.1 %	0.13 [0.01, 2.49]
Hemminki 1990b	2/81	3/80		0.4 %	0.66 [0.11, 3.84]
Hodnett 1989	12/72	13/73		2.4 %	0.94 [0.46, 1.91]
Cogan 1988	2/20	1/14		0.2 %	1.40 [0.14, 13.98]
Campbell 2006	55/300	53/300		9.7 %	1.04 [0.74, 1.46]
Subtotal (95% CI)	**6038**	**6021**		**100.0 %**	**0.95 [0.86, 1.04]**
Total events: 750 (Continuous support), 792 (Usual care)					
Heterogeneity: Tau^2 = 0.0; Chi^2 = 6.84, df = 11 (P = 0.81); I^2 =0.0%					
Test for overall effect: Z = 1.19 (P = 0.23)					
4 Epidural analgesia not routinely available					
Madi 1999	3/53	7/56		6.3 %	0.45 [0.12, 1.66]
Breart - Greece	30/295	34/274		46.6 %	0.82 [0.52, 1.30]
Hofmeyr 1991	11/92	14/97		19.2 %	0.83 [0.40, 1.73]
Klaus 1986	12/186	47/279		27.9 %	0.38 [0.21, 0.70]
Subtotal (95% CI)	**626**	**706**		**100.0 %**	**0.62 [0.41, 0.95]**
Total events: 56 (Continuous support), 102 (Usual care)					
Heterogeneity: Tau^2 = 0.07; Chi^2 = 4.65, df = 3 (P = 0.20); I^2 =36%					
Test for overall effect: Z = 2.18 (P = 0.029)					
5 Setting had routine EFM					
Hodnett 2002	432/3454	437/3461		54.4 %	0.99 [0.87, 1.12]
Dickinson 2002	71/499	85/493		16.8 %	0.83 [0.62, 1.10]
Gagnon 1997	29/209	33/204		7.3 %	0.86 [0.54, 1.36]
Kennell 1991	17/212	26/200		4.7 %	0.62 [0.35, 1.10]
Hemminki 1990a	0/41	3/38		0.2 %	0.13 [0.01, 2.49]
Hemminki 1990b	2/81	3/80		0.5 %	0.66 [0.11, 3.84]
Hodnett 1989	12/72	13/73		3.2 %	0.94 [0.46, 1.91]
Cogan 1988	2/20	1/14		0.3 %	1.40 [0.14, 13.98]
Campbell 2006	55/300	53/300		12.6 %	1.04 [0.74, 1.46]

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Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Random,95% CI	Weight	Risk Ratio M-H,Random,95% CI
Subtotal (95% CI)	**4888**	**4863**		**100.0 %**	**0.95 [0.85, 1.05]**
Total events: 620 (Continuous support), 654 (Usual care)					
Heterogeneity: Tau^2 = 0.0; Chi^2 = 5.93, df = 8 (P = 0.66); I^2 =0.0%					
Test for overall effect: Z = 1.04 (P = 0.30)					
6 Setting did not have routine EFM					
Madi 1999	3/53	7/56		3.3 %	0.45 [0.12, 1.66]
Langer 1998	85/361	97/363		71.8 %	0.88 [0.68, 1.13]
Hofmeyr 1991	11/92	14/97		10.1 %	0.83 [0.40, 1.73]
Klaus 1986	12/186	47/279		14.8 %	0.38 [0.21, 0.70]
Subtotal (95% CI)	**692**	**795**		**100.0 %**	**0.65 [0.41, 1.04]**
Total events: 111 (Continuous support), 165 (Usual care)					
Heterogeneity: Tau^2 = 0.12; Chi^2 = 7.05, df = 3 (P = 0.07); I^2 =57%					
Test for overall effect: Z = 1.78 (P = 0.075)					

Analysis 2.5. Comparison 2 Continuous support during labour versus usual care - variations in institutional policies and practices, Outcome 5 Low 5-minute Apgar score.

Review: Continuous support for women during childbirth

Comparison: 2 Continuous support during labour versus usual care - variations in institutional policies and practices

Outcome: 5 Low 5-minute Apgar score

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Random,95% CI	Weight	Risk Ratio M-H,Random,95% CI
1 Other support permitted					
Hodnett 2002	30/3476	25/3473		51.2 %	1.20 [0.71, 2.03]
Breart - Belgium	3/133	4/131		10.7 %	0.74 [0.17, 3.24]
Dickinson 2002	4/499	8/493		15.6 %	0.49 [0.15, 1.63]
Breart - France	4/656	11/664		16.9 %	0.37 [0.12, 1.15]
Campbell 2006	1/300	9/300		5.7 %	0.11 [0.01, 0.87]
Subtotal (95% CI)	**5064**	**5061**		**100.0 %**	**0.58 [0.28, 1.21]**
Total events: 42 (Continuous support), 57 (Usual care)					

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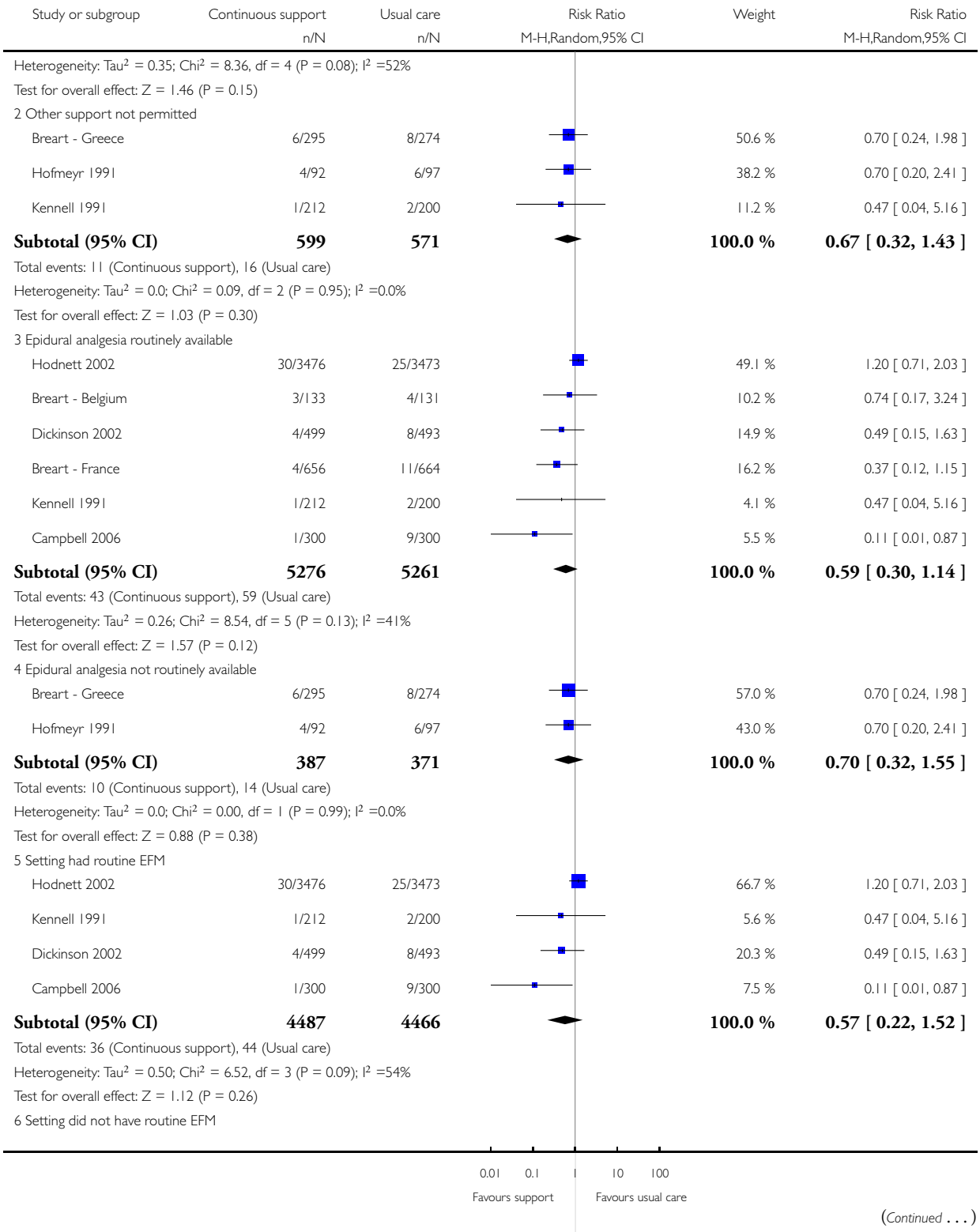

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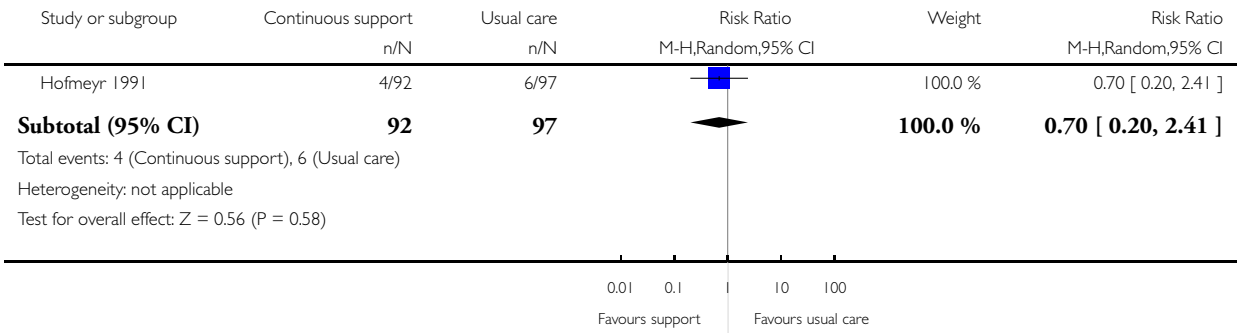
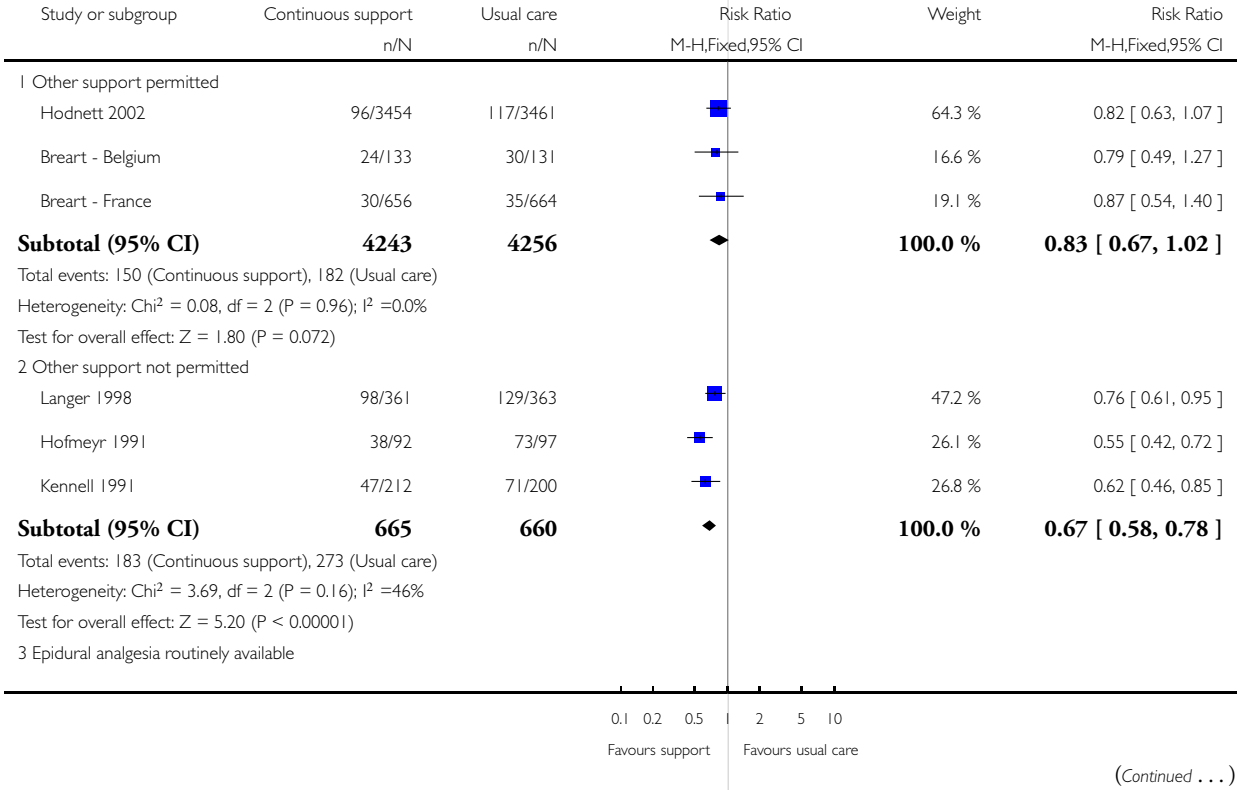


Analysis 2.6. Comparison 2 Continuous support during labour versus usual care - variations in institutional policies and practices, Outcome 6 Dissatisfaction with/negative views of childbirth experience.

Review: Continuous support for women during childbirth

Comparison: 2 Continuous support during labour versus usual care - variations in institutional policies and practices

Outcome: 6 Dissatisfaction with/negative views of childbirth experience



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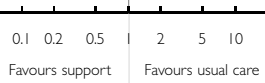
Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Fixed,95% CI	Weight	Risk Ratio M-H,Fixed,95% CI
Hodnett 2002	96/3454	117/3461		30.5 %	0.82 [0.63, 1.07]
Langer 1998	98/361	129/363		33.5 %	0.76 [0.61, 0.95]
Breart - Belgium	24/133	30/131		7.9 %	0.79 [0.49, 1.27]
Breart - France	30/656	35/664		9.1 %	0.87 [0.54, 1.40]
Kennell 1991	47/212	71/200		19.0 %	0.62 [0.46, 0.85]
Subtotal (95% CI)	**4816**	**4819**		**100.0 %**	**0.77 [0.67, 0.88]**
Total events: 295 (Continuous support), 382 (Usual care)					
Heterogeneity: Chi^2 = 2.18, df = 4 (P = 0.70); I^2 =0.0%					
Test for overall effect: Z = 3.80 (P = 0.00015)					
4 Epidural analgesia not routinely available					
Hofmeyr 1991	38/92	73/97		100.0 %	0.55 [0.42, 0.72]
Subtotal (95% CI)	**92**	**97**		**100.0 %**	**0.55 [0.42, 0.72]**
Total events: 38 (Continuous support), 73 (Usual care)					
Heterogeneity: not applicable					
Test for overall effect: Z = 4.37 (P = 0.000012)					
5 Setting had routine EFM					
Hodnett 2002	96/3454	117/3461		61.5 %	0.82 [0.63, 1.07]
Kennell 1991	47/212	71/200		38.5 %	0.62 [0.46, 0.85]
Subtotal (95% CI)	**3666**	**3661**		**100.0 %**	**0.75 [0.61, 0.92]**
Total events: 143 (Continuous support), 188 (Usual care)					
Heterogeneity: Chi^2 = 1.75, df = 1 (P = 0.19); I^2 =43%					
Test for overall effect: Z = 2.81 (P = 0.0049)					
6 Setting did not have routine EFM					
Langer 1998	98/361	129/363		64.4 %	0.76 [0.61, 0.95]
Hofmeyr 1991	38/92	73/97		35.6 %	0.55 [0.42, 0.72]
Subtotal (95% CI)	**453**	**460**		**100.0 %**	**0.69 [0.58, 0.82]**
Total events: 136 (Continuous support), 202 (Usual care)					
Heterogeneity: Chi^2 = 3.59, df = 1 (P = 0.06); I^2 =72%					
Test for overall effect: Z = 4.29 (P = 0.000018)					



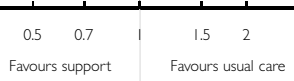
Analysis 2.7. Comparison 2 Continuous support during labour versus usual care - variations in institutional policies and practices, Outcome 7 Postpartum depression.

Review: Continuous support for women during childbirth

Comparison: 2 Continuous support during labour versus usual care - variations in institutional policies and practices

Outcome: 7 Postpartum depression

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Fixed,95% CI	Weight	Risk Ratio M-H,Fixed,95% CI
1 Other support permitted					
Hodnett 2002	245/3454	277/3461		100.0 %	0.89 [0.75, 1.05]
Subtotal (95% CI)	**3454**	**3461**		**100.0 %**	**0.89 [0.75, 1.05]**
Total events: 245 (Continuous support), 277 (Usual care)					
Heterogeneity: not applicable					
Test for overall effect: Z = 1.43 (P = 0.15)					
2 Other support not permitted					
Subtotal (95% CI)	**0**	**0**		**0.0 %**	**0.0 [0.0, 0.0]**
Total events: 0 (Continuous support), 0 (Usual care)					
Heterogeneity: not applicable					
Test for overall effect: not applicable					
3 Epidural analgesia routinely available					
Hodnett 2002	245/3454	277/3461		100.0 %	0.89 [0.75, 1.05]
Subtotal (95% CI)	**3454**	**3461**		**100.0 %**	**0.89 [0.75, 1.05]**
Total events: 245 (Continuous support), 277 (Usual care)					
Heterogeneity: not applicable					
Test for overall effect: Z = 1.43 (P = 0.15)					
4 Epidural analgesia not routinely available					
Subtotal (95% CI)	**0**	**0**		**0.0 %**	**0.0 [0.0, 0.0]**
Total events: 0 (Continuous support), 0 (Usual care)					
Heterogeneity: not applicable					
Test for overall effect: not applicable					
5 Setting had routine EFM					
Hodnett 2002	245/3454	277/3461		100.0 %	0.89 [0.75, 1.05]
Subtotal (95% CI)	**3454**	**3461**		**100.0 %**	**0.89 [0.75, 1.05]**
Total events: 245 (Continuous support), 277 (Usual care)					
Heterogeneity: not applicable					
Test for overall effect: Z = 1.43 (P = 0.15)					
6 Setting did not have routine EFM					
Subtotal (95% CI)	**0**	**0**		**0.0 %**	**0.0 [0.0, 0.0]**
Total events: 0 (Continuous support), 0 (Usual care)					
Heterogeneity: not applicable					
Test for overall effect: not applicable					



Analysis 3.1. Comparison 3 Continuous support during labour versus usual care - variations in type of provider, Outcome 1 Use of analgesia/anaesthesia.

Review: Continuous support for women during childbirth

Comparison: 3 Continuous support during labour versus usual care - variations in type of provider

Outcome: 1 Use of analgesia/anaesthesia

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Random,95% CI	Weight	Risk Ratio M-H,Random,95% CI
1 Support people were hospital staff					
Hodnett 2002	3077/3454	3159/3461		30.4 %	0.98 [0.96, 0.99]
Gagnon 1997	141/209	142/204		20.5 %	0.97 [0.85, 1.10]
Breart - Belgium	55/133	62/131		9.8 %	0.87 [0.67, 1.15]
Breart - France	281/656	319/664		21.8 %	0.89 [0.79, 1.00]
Hemminki 1990a	25/41	23/38		6.6 %	1.01 [0.71, 1.44]
Hemminki 1990b	45/81	52/80		10.8 %	0.85 [0.66, 1.10]
Subtotal (95% CI)	**4574**	**4578**		**100.0 %**	**0.97 [0.95, 0.99]**
Total events: 3624 (Continuous support), 3757 (Usual care)					
Heterogeneity: $Tau^2 = 0.00$; $Chi^2 = 5.08$, df = 5 (P = 0.41); $I^2 = 2\%$					
Test for overall effect: Z = 2.65 (P = 0.0081)					
2 Support people were not hospital staff					
Madi 1999	28/53	41/56		10.5 %	0.72 [0.53, 0.97]
Langer 1998	295/361	302/363		33.3 %	0.98 [0.92, 1.05]
Hofmeyr 1991	11/92	15/97		2.3 %	0.77 [0.37, 1.59]
Kennell 1991	93/212	150/200		20.3 %	0.58 [0.49, 0.69]
Klaus 1986	2/186	10/279		0.6 %	0.30 [0.07, 1.35]
Campbell 2006	247/300	260/300		33.1 %	0.95 [0.89, 1.02]
Subtotal (95% CI)	**1204**	**1295**		**100.0 %**	**0.80 [0.66, 0.97]**
Total events: 676 (Continuous support), 778 (Usual care)					
Heterogeneity: $Tau^2 = 0.04$; $Chi^2 = 43.24$, df = 5 (P<0.00001); $I^2 = 88\%$					
Test for overall effect: Z = 2.31 (P = 0.021)					

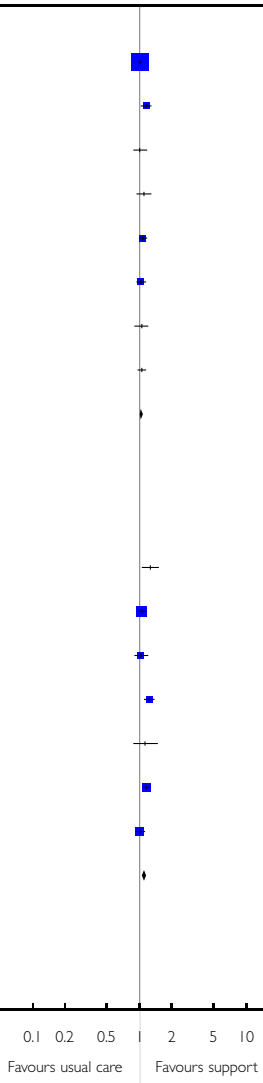
Analysis 3.2. Comparison 3 Continuous support during labour versus usual care - variations in type of provider, Outcome 2 Spontaneous vaginal birth.

Review: Continuous support for women during childbirth

Comparison: 3 Continuous support during labour versus usual care - variations in type of provider

Outcome: 2 Spontaneous vaginal birth

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Fixed,95% CI	Weight	Risk Ratio M-H,Fixed,95% CI
1 Support people were hospital staff					
Hodnett 2002	2481/3454	2463/3461		67.5 %	1.01 [0.98, 1.04]
Dickinson 2002	280/499	239/493		6.6 %	1.16 [1.03, 1.30]
Gagnon 1997	132/209	127/204		3.5 %	1.01 [0.87, 1.18]
Breart - Belgium	97/133	87/131		2.4 %	1.10 [0.94, 1.29]
Breart - France	453/656	424/664		11.6 %	1.08 [1.00, 1.17]
Breart - Greece	215/295	194/274		5.5 %	1.03 [0.93, 1.14]
Hemminki 1990a	38/41	34/38		1.0 %	1.04 [0.90, 1.19]
Hemminki 1990b	76/81	72/80		2.0 %	1.04 [0.95, 1.14]
Subtotal (95% CI)	**5368**	**5345**		**100.0 %**	**1.03 [1.01, 1.06]**
Total events: 3772 (Continuous support), 3640 (Usual care)					
Heterogeneity: Chi^2 = 7.77, df = 7 (P = 0.35); I^2 =10%					
Test for overall effect: Z = 2.45 (P = 0.014)					
2 Support people were not hospital staff					
Madi 1999	48/53	40/56		4.1 %	1.27 [1.05, 1.53]
Langer 1998	264/361	254/363		26.7 %	1.05 [0.95, 1.15]
Hofmeyr 1991	74/92	76/97		7.8 %	1.03 [0.89, 1.19]
Kennell 1991	179/212	137/200		14.9 %	1.23 [1.10, 1.38]
Hodnett 1989	47/72	42/73		4.4 %	1.13 [0.88, 1.47]
Klaus 1986	172/186	225/279		19.0 %	1.15 [1.07, 1.23]
Campbell 2006	223/300	220/300		23.2 %	1.01 [0.92, 1.11]
Subtotal (95% CI)	**1276**	**1368**		**100.0 %**	**1.10 [1.05, 1.14]**
Total events: 1007 (Continuous support), 994 (Usual care)					
Heterogeneity: Chi^2 = 12.69, df = 6 (P = 0.05); I^2 =53%					
Test for overall effect: Z = 4.22 (P = 0.000025)					



Analysis 3.3. Comparison 3 Continuous support during labour versus usual care - variations in type of provider, Outcome 3 Instrumental vaginal birth.

Review: Continuous support for women during childbirth

Comparison: 3 Continuous support during labour versus usual care - variations in type of provider

Outcome: 3 Instrumental vaginal birth

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Fixed,95% CI	Weight	Risk Ratio M-H,Fixed,95% CI
1 Support people were hospital staff					
Hodnett 2002	541/3454	561/3461		52.3 %	0.97 [0.87, 1.08]
Dickinson 2002	148/499	169/493		15.9 %	0.87 [0.72, 1.04]
Gagnon 1997	48/209	44/204		4.2 %	1.06 [0.74, 1.53]
Breart - Belgium	31/133	39/131		3.7 %	0.78 [0.52, 1.17]
Breart - France	163/656	204/664		18.9 %	0.81 [0.68, 0.96]
Breart - Greece	50/295	46/274		4.5 %	1.01 [0.70, 1.45]
Hemminki 1990a	3/41	1/38		0.1 %	2.78 [0.30, 25.59]
Hemminki 1990b	3/81	5/80		0.5 %	0.59 [0.15, 2.40]
Subtotal (95% CI)	**5368**	**5345**		**100.0 %**	**0.92 [0.85, 0.99]**
Total events: 987 (Continuous support), 1069 (Usual care)					
Heterogeneity: Chi^2 = 6.12, df = 7 (P = 0.53); I^2 =0.0%					
Test for overall effect: Z = 2.13 (P = 0.033)					
2 Support people were not hospital staff					
Madi 1999	2/53	9/56		7.9 %	0.23 [0.05, 1.04]
Langer 1998	12/361	12/363		10.8 %	1.01 [0.46, 2.21]
Hofmeyr 1991	7/92	7/97		6.1 %	1.05 [0.38, 2.89]
Kennell 1991	16/212	37/200		34.3 %	0.41 [0.23, 0.71]
Hodnett 1989	13/72	18/73		16.1 %	0.73 [0.39, 1.38]
Klaus 1986	2/186	7/279		5.0 %	0.43 [0.09, 2.04]
Campbell 2006	13/300	22/300		19.8 %	0.59 [0.30, 1.15]
Subtotal (95% CI)	**1276**	**1368**		**100.0 %**	**0.59 [0.44, 0.79]**
Total events: 65 (Continuous support), 112 (Usual care)					
Heterogeneity: Chi^2 = 6.83, df = 6 (P = 0.34); I^2 =12%					
Test for overall effect: Z = 3.58 (P = 0.00034)					

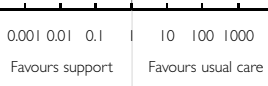
Analysis 3.4. Comparison 3 Continuous support during labour versus usual care - variations in type of provider, Outcome 4 Caesarean birth.

Review: Continuous support for women during childbirth

Comparison: 3 Continuous support during labour versus usual care - variations in type of provider

Outcome: 4 Caesarean birth

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Fixed,95% CI	Weight	Risk Ratio M-H,Fixed,95% CI
1 Support people were hospital staff					
Hodnett 2002	432/3454	437/3461		68.4 %	0.99 [0.87, 1.12]
Dickinson 2002	71/499	85/493		13.4 %	0.83 [0.62, 1.10]
Gagnon 1997	29/209	33/204		5.2 %	0.86 [0.54, 1.36]
Breart - Belgium	5/133	5/131		0.8 %	0.98 [0.29, 3.32]
Breart - France	40/656	36/664		5.6 %	1.12 [0.73, 1.74]
Breart - Greece	30/295	34/274		5.5 %	0.82 [0.52, 1.30]
Hemminki 1990a	0/41	3/38		0.6 %	0.13 [0.01, 2.49]
Hemminki 1990b	2/81	3/80		0.5 %	0.66 [0.11, 3.84]
Subtotal (95% CI)	**5368**	**5345**		**100.0 %**	**0.95 [0.86, 1.06]**
Total events: 609 (Continuous support), 636 (Usual care)					
Heterogeneity: Chi^2 = 4.39, df = 7 (P = 0.73); I^2 =0.0%					
Test for overall effect: Z = 0.91 (P = 0.36)					
2 Support people were not hospital staff					
Madi 1999	3/53	7/56		2.7 %	0.45 [0.12, 1.66]
Langer 1998	85/361	97/363		38.9 %	0.88 [0.68, 1.13]
Hofmeyr 1991	11/92	14/97		5.5 %	0.83 [0.40, 1.73]
Kennell 1991	17/212	26/200		10.8 %	0.62 [0.35, 1.10]
Hodnett 1989	12/72	13/73		5.2 %	0.94 [0.46, 1.91]
Cogan 1988	2/20	1/14		0.5 %	1.40 [0.14, 13.98]
Klaus 1986	12/186	47/279		15.1 %	0.38 [0.21, 0.70]
Campbell 2006	55/300	53/300		21.3 %	1.04 [0.74, 1.46]
Subtotal (95% CI)	**1296**	**1382**		**100.0 %**	**0.80 [0.68, 0.95]**
Total events: 197 (Continuous support), 258 (Usual care)					
Heterogeneity: Chi^2 = 10.38, df = 7 (P = 0.17); I^2 =33%					
Test for overall effect: Z = 2.56 (P = 0.010)					

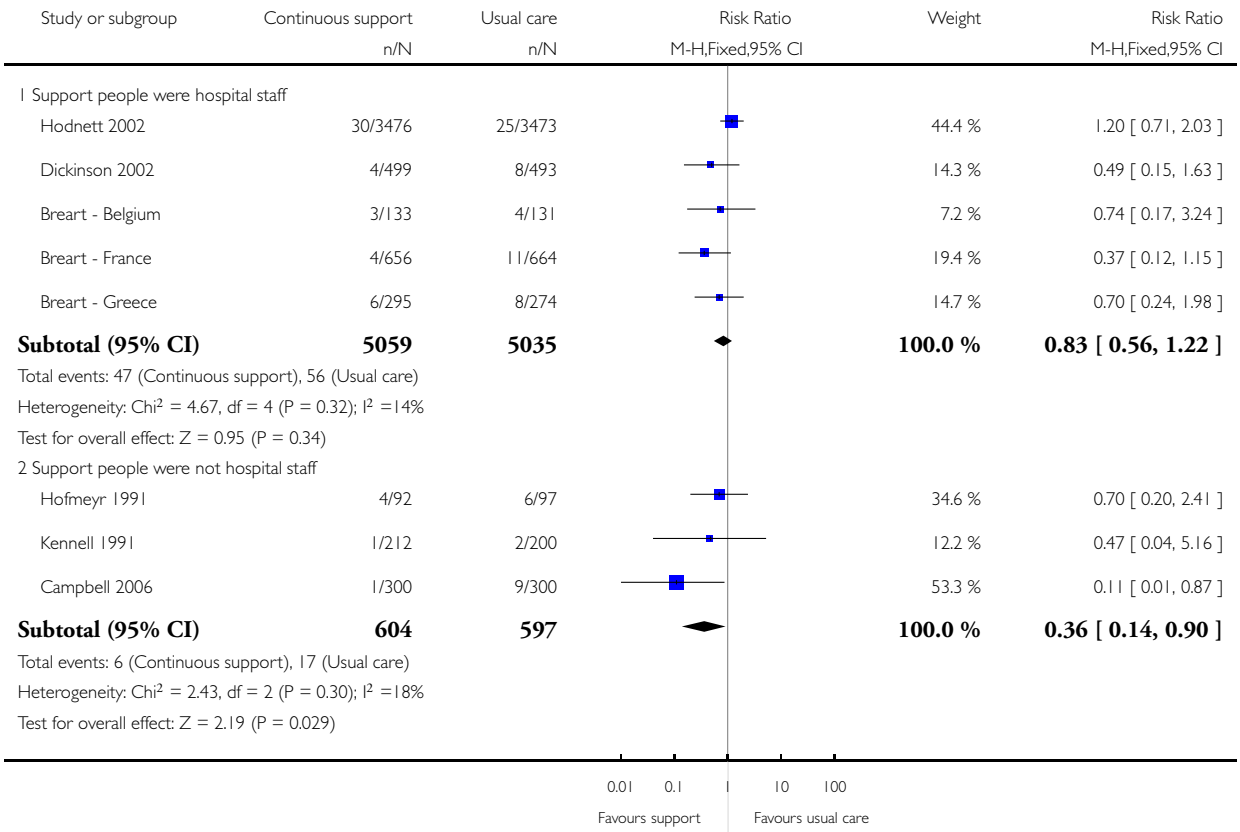


Analysis 3.5. Comparison 3 Continuous support during labour versus usual care - variations in type of provider, Outcome 5 Low 5-minute Apgar score.

Review: Continuous support for women during childbirth

Comparison: 3 Continuous support during labour versus usual care - variations in type of provider

Outcome: 5 Low 5-minute Apgar score



Analysis 3.6. Comparison 3 Continuous support during labour versus usual care - variations in type of provider, Outcome 6 Dissatisfaction with/negative views of childbirth experience.

Review: Continuous support for women during childbirth

Comparison: 3 Continuous support during labour versus usual care - variations in type of provider

Outcome: 6 Dissatisfaction with/negative views of childbirth experience

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Fixed,95% CI	Weight	Risk Ratio M-H,Fixed,95% CI
1 Support people were hospital staff					
Hodnett 2002	96/3454	117/3461		64.3 %	0.82 [0.63, 1.07]
Breart - Belgium	24/133	30/131		16.6 %	0.79 [0.49, 1.27]
Breart - France	30/656	35/664		19.1 %	0.87 [0.54, 1.40]
Subtotal (95% CI)	**4243**	**4256**		**100.0 %**	**0.83 [0.67, 1.02]**
Total events: 150 (Continuous support), 182 (Usual care)					
Heterogeneity: Chi^2 = 0.08, df = 2 (P = 0.96); I^2 =0.0%					
Test for overall effect: Z = 1.80 (P = 0.072)					
2 Support people were not hospital staff					
Langer 1998	98/361	129/363		47.2 %	0.76 [0.61, 0.95]
Hofmeyr 1991	38/92	73/97		26.1 %	0.55 [0.42, 0.72]
Kennell 1991	47/212	71/200		26.8 %	0.62 [0.46, 0.85]
Subtotal (95% CI)	**665**	**660**		**100.0 %**	**0.67 [0.58, 0.78]**
Total events: 183 (Continuous support), 273 (Usual care)					
Heterogeneity: Chi^2 = 3.69, df = 2 (P = 0.16); I^2 =46%					
Test for overall effect: Z = 5.20 (P < 0.00001)					

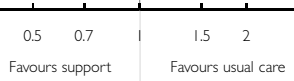
Analysis 3.7. Comparison 3 Continuous support during labour versus usual care - variations in type of provider, Outcome 7 Postpartum depression.

Review: Continuous support for women during childbirth

Comparison: 3 Continuous support during labour versus usual care - variations in type of provider

Outcome: 7 Postpartum depression

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Fixed,95% CI	Weight	Risk Ratio M-H,Fixed,95% CI
1 Support people were hospital staff					
Hodnett 2002	245/3454	277/3461		100.0 %	0.89 [0.75, 1.05]
Subtotal (95% CI)	**3454**	**3461**		**100.0 %**	**0.89 [0.75, 1.05]**
Total events: 245 (Continuous support), 277 (Usual care)					
Heterogeneity: not applicable					
Test for overall effect: Z = 1.43 (P = 0.15)					
2 Support people were not hospital staff					
Subtotal (95% CI)	**0**	**0**		**0.0 %**	**0.0 [0.0, 0.0]**
Total events: 0 (Continuous support), 0 (Usual care)					
Heterogeneity: not applicable					
Test for overall effect: not applicable					



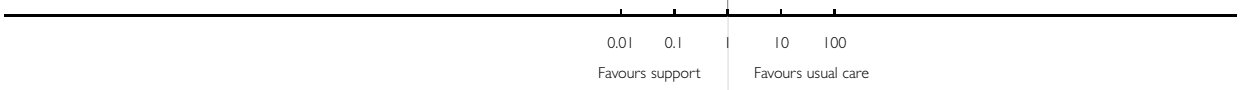
Analysis 4.1. Comparison 4 Continuous support during labour versus usual care - variations in timing of onset of support, Outcome 1 Use of analgesia/anaesthesia.

Review: Continuous support for women during childbirth

Comparison: 4 Continuous support during labour versus usual care - variations in timing of onset of support

Outcome: 1 Use of analgesia/anaesthesia

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Random,95% CI	Weight	Risk Ratio M-H,Random,95% CI
1 Support began before active labour					
Madi 1999	28/53	41/56		94.9 %	0.72 [0.53, 0.97]
Klaus 1986	2/186	10/279		5.1 %	0.30 [0.07, 1.35]
Subtotal (95% CI)	**239**	**335**		**100.0 %**	**0.61 [0.30, 1.26]**
Total events: 30 (Continuous support), 51 (Usual care)					
Heterogeneity: $Tau^2 = 0.14$; $Chi^2 = 1.47$, df = 1 (P = 0.23); $I^2 = 32\%$					
Test for overall effect: Z = 1.33 (P = 0.19)					
2 Support began at any time in first stage labour					
Hodnett 2002	3077/3454	3159/3461		34.2 %	0.98 [0.96, 0.99]
Breart - Belgium	55/133	62/131		11.0 %	0.87 [0.67, 1.15]
Breart - France	281/656	319/664		24.5 %	0.89 [0.79, 1.00]
Campbell 2006	247/300	260/300		30.3 %	0.95 [0.89, 1.02]
Subtotal (95% CI)	**4543**	**4556**		**100.0 %**	**0.96 [0.92, 1.00]**
Total events: 3660 (Continuous support), 3800 (Usual care)					
Heterogeneity: $Tau^2 = 0.00$; $Chi^2 = 4.32$, df = 3 (P = 0.23); $I^2 = 31\%$					
Test for overall effect: Z = 2.03 (P = 0.043)					
3 Support began in active labour					
Langer 1998	295/361	302/363		32.5 %	0.98 [0.92, 1.05]
Gagnon 1997	141/209	142/204		24.6 %	0.97 [0.85, 1.10]
Hofmeyr 1991	11/92	15/97		2.3 %	0.77 [0.37, 1.59]
Kennell 1991	93/212	150/200		19.8 %	0.58 [0.49, 0.69]
Hemminki 1990a	25/41	23/38		7.9 %	1.01 [0.71, 1.44]
Hemminki 1990b	45/81	52/80		12.9 %	0.85 [0.66, 1.10]
Subtotal (95% CI)	**996**	**982**		**100.0 %**	**0.85 [0.70, 1.04]**
Total events: 610 (Continuous support), 684 (Usual care)					
Heterogeneity: $Tau^2 = 0.04$; $Chi^2 = 35.15$, df = 5 (P<0.00001); $I^2 = 86\%$					
Test for overall effect: Z = 1.56 (P = 0.12)					



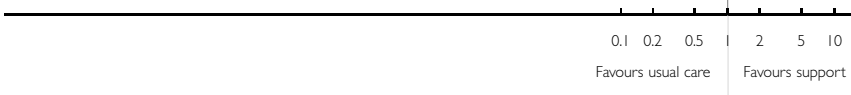
Analysis 4.2. Comparison 4 Continuous support during labour versus usual care - variations in timing of onset of support, Outcome 2 Spontaneous vaginal birth.

Review: Continuous support for women during childbirth

Comparison: 4 Continuous support during labour versus usual care - variations in timing of onset of support

Outcome: 2 Spontaneous vaginal birth

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Fixed,95% CI	Weight	Risk Ratio M-H,Fixed,95% CI
1 Support began before active labour					
Dickinson 2002	280/499	239/493		48.0 %	1.16 [1.03, 1.30]
Hodnett 1989	47/72	42/73		8.3 %	1.13 [0.88, 1.47]
Klaus 1986	172/186	225/279		35.9 %	1.15 [1.07, 1.23]
Madi 1999	48/53	40/56		7.8 %	1.27 [1.05, 1.53]
Subtotal (95% CI)	**810**	**901**		**100.0 %**	**1.16 [1.08, 1.24]**
Total events: 547 (Continuous support), 546 (Usual care)					
Heterogeneity: Chi^2 = 1.00, df = 3 (P = 0.80); I^2 =0.0%					
Test for overall effect: Z = 4.29 (P = 0.000018)					
2 Support began at any time in first stage labour					
Hodnett 2002	2481/3454	2463/3461		72.6 %	1.01 [0.98, 1.04]
Breart - Belgium	97/133	87/131		2.6 %	1.10 [0.94, 1.29]
Breart - France	453/656	424/664		12.4 %	1.08 [1.00, 1.17]
Breart - Greece	215/295	194/274		5.9 %	1.03 [0.93, 1.14]
Campbell 2006	223/300	220/300		6.5 %	1.01 [0.92, 1.11]
Subtotal (95% CI)	**4838**	**4830**		**100.0 %**	**1.02 [1.00, 1.05]**
Total events: 3469 (Continuous support), 3388 (Usual care)					
Heterogeneity: Chi^2 = 3.58, df = 4 (P = 0.47); I^2 =0.0%					
Test for overall effect: Z = 1.68 (P = 0.094)					
3 Support began in active labour					
Langer 1998	264/361	254/363		36.0 %	1.05 [0.95, 1.15]
Gagnon 1997	132/209	127/204		18.2 %	1.01 [0.87, 1.18]
Hofmeyr 1991	74/92	76/97		10.5 %	1.03 [0.89, 1.19]
Kennell 1991	179/212	137/200		20.0 %	1.23 [1.10, 1.38]
Hemminki 1990a	38/41	34/38		5.0 %	1.04 [0.90, 1.19]
Hemminki 1990b	76/81	72/80		10.3 %	1.04 [0.95, 1.14]
Subtotal (95% CI)	**996**	**982**		**100.0 %**	**1.07 [1.02, 1.13]**
Total events: 763 (Continuous support), 700 (Usual care)					
Heterogeneity: Chi^2 = 7.93, df = 5 (P = 0.16); I^2 =37%					
Test for overall effect: Z = 2.72 (P = 0.0065)					



Analysis 4.3. Comparison 4 Continuous support during labour versus usual care - variations in timing of onset of support, Outcome 3 Instrumental vaginal birth.

Review: Continuous support for women during childbirth

Comparison: 4 Continuous support during labour versus usual care - variations in timing of onset of support

Outcome: 3 Instrumental vaginal birth

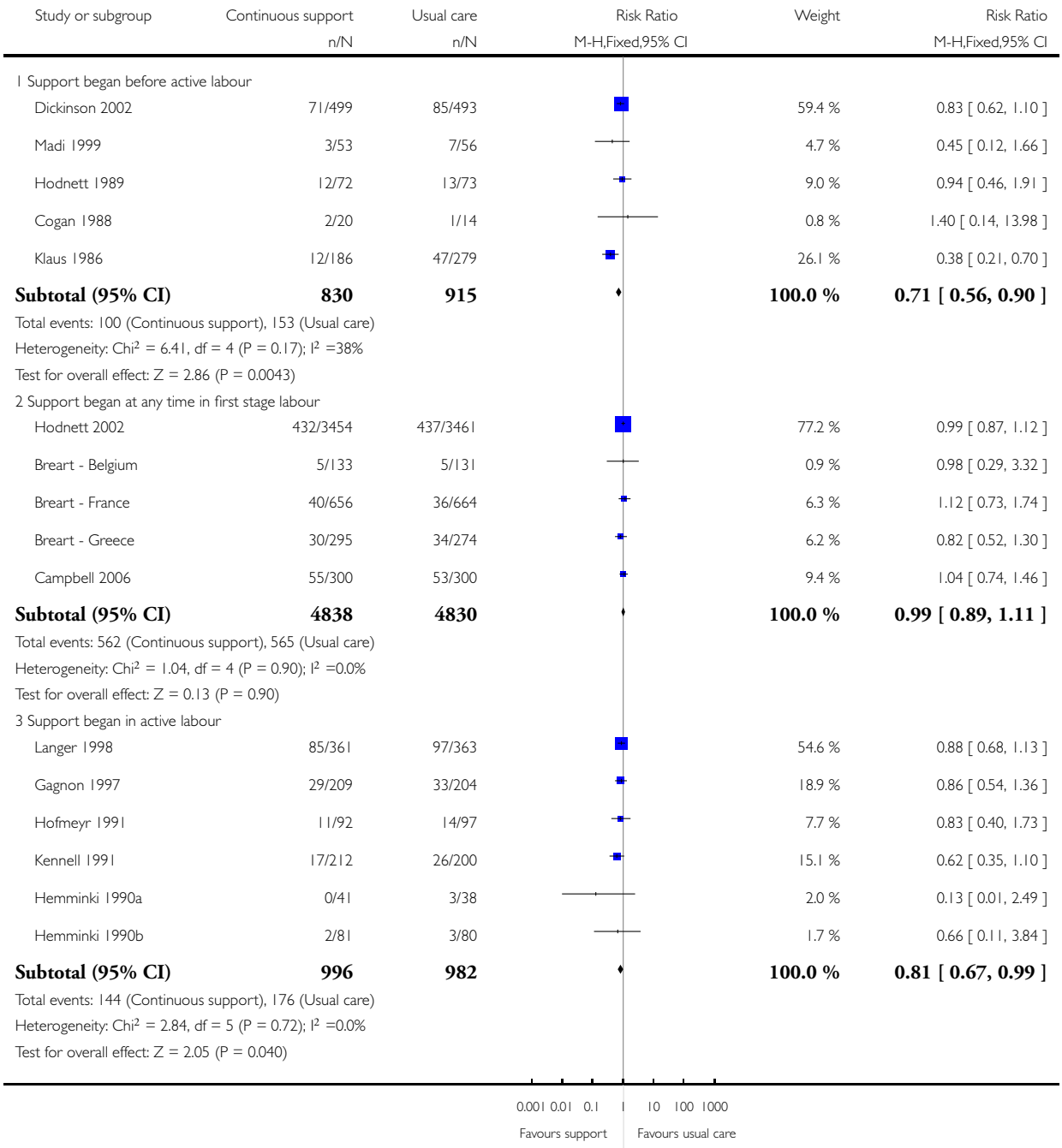
Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Random,95% CI	Weight	Risk Ratio M-H,Random,95% CI
1 Support began before active labour					
Dickinson 2002	148/499	169/493		80.2 %	0.87 [0.72, 1.04]
Madi 1999	2/53	9/56		2.9 %	0.23 [0.05, 1.04]
Hodnett 1989	13/72	18/73		14.4 %	0.73 [0.39, 1.38]
Klaus 1986	2/186	7/279		2.6 %	0.43 [0.09, 2.04]
Subtotal (95% CI)	**810**	**901**		**100.0 %**	**0.76 [0.53, 1.07]**
Total events: 165 (Continuous support), 203 (Usual care)					
Heterogeneity: Tau² = 0.04; Chi² = 3.88, df = 3 (P = 0.28); I² =23%					
Test for overall effect: Z = 1.59 (P = 0.11)					
2 Support began at any time in first stage labour					
Hodnett 2002	541/3454	561/3461		40.2 %	0.97 [0.87, 1.08]
Breart - Belgium	31/133	39/131		11.3 %	0.78 [0.52, 1.17]
Breart - France	163/656	204/664		30.5 %	0.81 [0.68, 0.96]
Breart - Greece	50/295	46/274		13.2 %	1.01 [0.70, 1.45]
Campbell 2006	13/300	22/300		4.8 %	0.59 [0.30, 1.15]
Subtotal (95% CI)	**4838**	**4830**		**100.0 %**	**0.89 [0.79, 1.01]**
Total events: 798 (Continuous support), 872 (Usual care)					
Heterogeneity: Tau² = 0.01; Chi² = 5.37, df = 4 (P = 0.25); I² =26%					
Test for overall effect: Z = 1.86 (P = 0.062)					
3 Support began in active labour					
Langer 1998	12/361	12/363		12.9 %	1.01 [0.46, 2.21]
Gagnon 1997	48/209	44/204		48.5 %	1.06 [0.74, 1.53]
Hofmeyr 1991	7/92	7/97		8.1 %	1.05 [0.38, 2.89]
Kennell 1991	16/212	37/200		24.4 %	0.41 [0.23, 0.71]
Hemminki 1990a	3/41	1/38		1.7 %	2.78 [0.30, 25.59]
Hemminki 1990b	3/81	5/80		4.3 %	0.59 [0.15, 2.40]
Subtotal (95% CI)	**996**	**982**		**100.0 %**	**0.82 [0.52, 1.30]**
Total events: 89 (Continuous support), 106 (Usual care)					
Heterogeneity: Tau² = 0.14; Chi² = 9.99, df = 5 (P = 0.08); I² =50%					
Test for overall effect: Z = 0.85 (P = 0.40)					

Analysis 4.4. Comparison 4 Continuous support during labour versus usual care - variations in timing of onset of support, Outcome 4 Caesarean birth.

Review: Continuous support for women during childbirth

Comparison: 4 Continuous support during labour versus usual care - variations in timing of onset of support

Outcome: 4 Caesarean birth

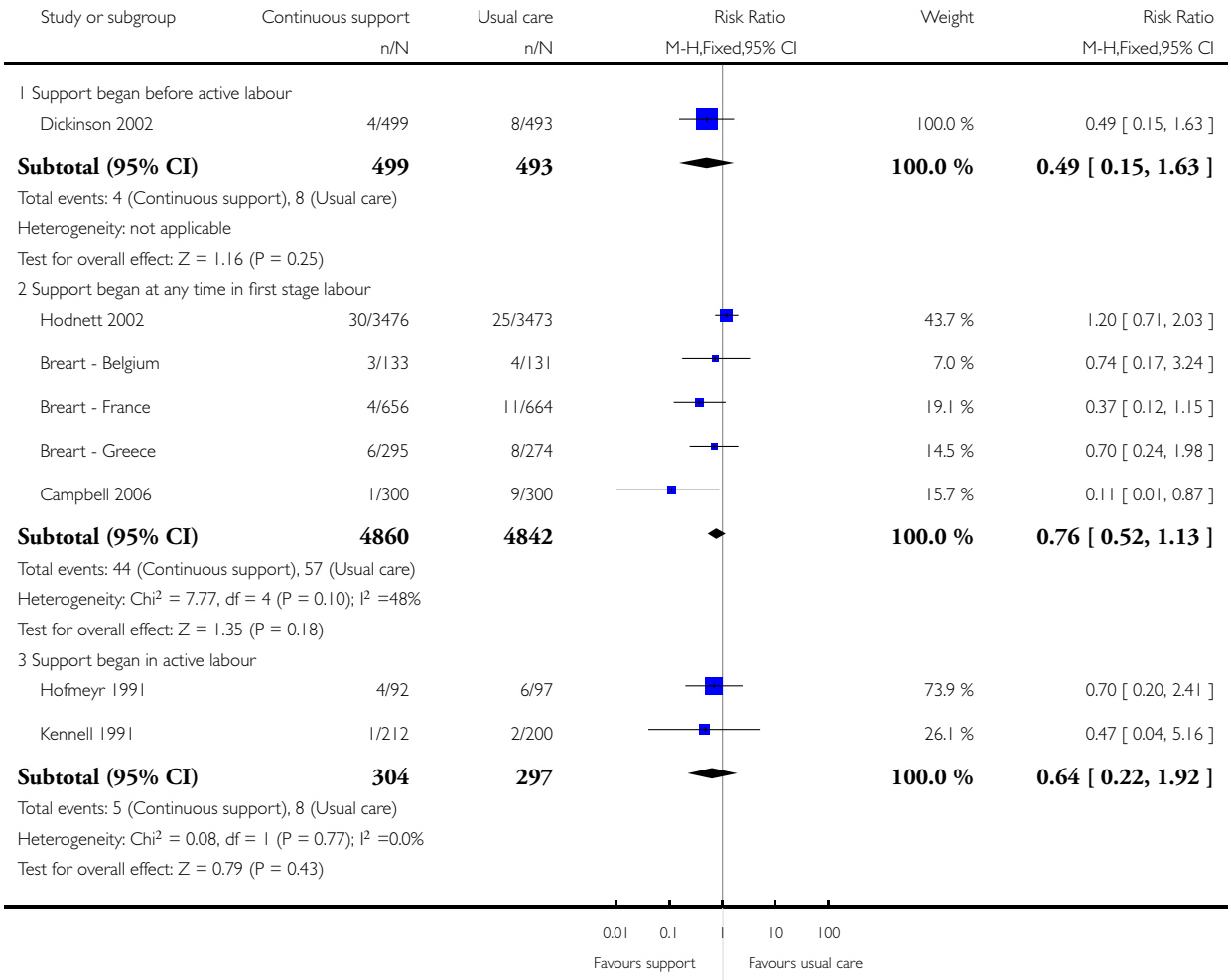


Analysis 4.5. Comparison 4 Continuous support during labour versus usual care - variations in timing of onset of support, Outcome 5 Low 5-minute Apgar score.

Review: Continuous support for women during childbirth

Comparison: 4 Continuous support during labour versus usual care - variations in timing of onset of support

Outcome: 5 Low 5-minute Apgar score



Analysis 4.6. Comparison 4 Continuous support during labour versus usual care - variations in timing of onset of support, Outcome 6 Dissatisfaction with/negative views of childbirth experience.

Review: Continuous support for women during childbirth

Comparison: 4 Continuous support during labour versus usual care - variations in timing of onset of support

Outcome: 6 Dissatisfaction with/negative views of childbirth experience

Study or subgroup	Continuous supportr n/N	Usual care n/N	Risk Ratio M-H,Fixed,95% CI	Weight	Risk Ratio M-H,Fixed,95% CI
1 Support began before active labour					
Subtotal (95% CI)	**0**	**0**		**0.0 %**	**0.0 [0.0, 0.0]**
Total events: 0 (Continuous supportr), 0 (Usual care)					
Heterogeneity: not applicable					
Test for overall effect: not applicable					
2 Support began at any time in first stage labour					
Hodnett 2002	96/3454	117/3461		64.3 %	0.82 [0.63, 1.07]
Breart - Belgium	24/133	30/131		16.6 %	0.79 [0.49, 1.27]
Breart - France	30/656	35/664		19.1 %	0.87 [0.54, 1.40]
Subtotal (95% CI)	**4243**	**4256**		**100.0 %**	**0.83 [0.67, 1.02]**
Total events: 150 (Continuous supportr), 182 (Usual care)					
Heterogeneity: Chi^2 = 0.08, df = 2 (P = 0.96); I^2 =0.0%					
Test for overall effect: Z = 1.80 (P = 0.072)					
3 Support began in active labour					
Langer 1998	98/361	129/363		47.2 %	0.76 [0.61, 0.95]
Hofmeyr 1991	38/92	73/97		26.1 %	0.55 [0.42, 0.72]
Kennell 1991	47/212	71/200		26.8 %	0.62 [0.46, 0.85]
Subtotal (95% CI)	**665**	**660**		**100.0 %**	**0.67 [0.58, 0.78]**
Total events: 183 (Continuous supportr), 273 (Usual care)					
Heterogeneity: Chi^2 = 3.69, df = 2 (P = 0.16); I^2 =46%					
Test for overall effect: Z = 5.20 (P < 0.00001)					

Analysis 4.7. Comparison 4 Continuous support during labour versus usual care - variations in timing of onset of support, Outcome 7 Postpartum depression.

Review: Continuous support for women during childbirth

Comparison: 4 Continuous support during labour versus usual care - variations in timing of onset of support

Outcome: 7 Postpartum depression

Study or subgroup	Continuous support n/N	Usual care n/N	Risk Ratio M-H,Fixed,95% CI	Weight	Risk Ratio M-H,Fixed,95% CI
1 Support began before active labour					
Subtotal (95% CI)	**0**	**0**		**0.0 %**	**0.0 [0.0, 0.0]**
Total events: 0 (Continuous support), 0 (Usual care)					
Heterogeneity: not applicable					
Test for overall effect: not applicable					
2 Support began at any time in first stage labour					
Hodnett 2002	245/3454	277/3461		100.0 %	0.89 [0.75, 1.05]
Subtotal (95% CI)	**3454**	**3461**		**100.0 %**	**0.89 [0.75, 1.05]**
Total events: 245 (Continuous support), 277 (Usual care)					
Heterogeneity: not applicable					
Test for overall effect: Z = 1.43 (P = 0.15)					
3 Support began in active labour					
Subtotal (95% CI)	**0**	**0**		**0.0 %**	**0.0 [0.0, 0.0]**
Total events: 0 (Continuous support), 0 (Usual care)					
Heterogeneity: not applicable					
Test for overall effect: not applicable					

WHAT'S NEW

Last assessed as up-to-date: 17 April 2007.

12 May 2008	Amended	Converted to new review format.

HISTORY

Protocol first published: Issue 3, 2002

Review first published: Issue 3, 2003

18 April 2007	New search has been performed	Search updated in February 2007. Two new trials identified. We excluded one (Dalal 2006) and included the other (Campbell 2006). The Results section was updated accordingly. With the exception of the outcome of labour length, there were no substantive changes in results or conclusions of the Review. Minor edits were made throughout. Additional text was added to the Discussion.
30 October 2006	New search has been performed	Search updated. One 'awaiting assessment' trial was assessed and included (Thomassen 2003).

CONTRIBUTIONS OF AUTHORS

Ellen Hodnett wrote the initial draft of the protocol and entered the data. Carol Sakala wrote the initial draft of the Discussion. Simon Gates wrote the initial draft of the statistical methods and provided statistical advice for the Protocol and Review. All review authors participated in all aspects of the preparation of the protocol and in writing the text of the Review. All authors participated in the update of the Review.

DECLARATIONS OF INTEREST

Ellen Hodnett was the principal investigator for two labour support trials. Justus Hofmeyr was the principal investigator for one labour support trial. Carol Sakala is Director of Programs for Childbirth Connection, a maternity care quality organization which promotes continuous labour support.

SOURCES OF SUPPORT

Internal sources

- University of Toronto, Canada.
- University of the Witwatersrand, South Africa.
- Fort Hare University, South Africa.
- East London Hospital Complex, South Africa.
- National Perinatal Epidemiology Unit, Oxford, UK.
- Childbirth Connection (formerly Maternity Center Association), USA.
- Warwick Clinical Trials Unit, University of Warwick, UK.

External sources

- No sources of support supplied

INDEX TERMS

Medical Subject Headings (MeSH)

*Delivery, Obstetric [methods; nursing]; *Labor, Obstetric; Midwifery; Obstetrical Nursing; Perinatal Care [*methods; standards]; Randomized Controlled Trials as Topic

MeSH check words

Female; Humans; Pregnancy