

Postprint Version	1.0
Journal website	http://www.sciencedirect.com/science/article/pii/S0020748911004561
Pubmed link	http://www.ncbi.nlm.nih.gov/pubmed/22177568
DOI	10.1016/j.ijnurstu.2011.11.012

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The effects of group supervision of nurses: A systematic literature review

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ABSTRACT

Objectives:To gain insight into the existing scientific evidence on the effects of group supervision for nurses.

Design: A systematic literature study of original research publications.

Data sources: Searches were performed in February 2010 in PubMed, CINAHL, Cochrane Library, Embase, ERIC, the NIVEL catalogue, and PsycINFO. No limitations were applied regarding date of publication, language or country.

Review methods: Original research publications were eligible for review when they described group supervision programmes directed at nurses; used a control group or a pre-test post-test design; and gave information about the effects of group supervision on nurse or patient outcomes. The two review authors independently assessed studies for inclusion. The methodological quality of included studies was also independently assessed by the review authors, using a check list developed by Van Tulder et al. in collaboration with the Dutch Cochrane Centre. Data related to the original publications were extracted by one review author and checked by a second review author. No statistical pooling of outcomes was performed, because there was large heterogeneity of outcomes.

Results: A total of 1087 potentially relevant references were found. After screening of the references, eight studies with a control group and nine with a pre-test post-test design were included. Most of the 17 studies included have serious methodological limitations, but four Swedish publications in the field of dementia care had high methodological quality and all point to positive effects on nurses' attitudes and skills and/or nurse-patient interactions. However, in interpreting these positive results, it must be taken into account that these four high-quality publications concern sub-studies of one 'sliced' research project using the same study sample. Moreover, these four publications combined a group supervision intervention with the introduction of individual care planning, which also hampers conclusions about the effectiveness of group supervision alone.

Conclusions: Although there are rather a lot of indications that group supervision of nurses is effective, evidence on the effects is still scarce. Further methodologically sound research is needed.

What is already known about the topic?

- Clinical supervision is a popular strategy in nursing to identify solutions to problems, improve practice and increase understanding of professional issues.
- Some previous literature reviews have been conducted, but most of these reviews had a narrative rather than a systematic character and/or were restricted to a specific time frame, a specific target group or a limited number of countries.

What this paper adds

- This systematic review demonstrates that there is some evidence, albeit limited, that group supervision in combination with the introduction of individualised care planning positively affects nurses' attitudes and skills and nurse–patient interactions in dementia care.
- Evidence for the effectiveness of group supervision in other fields of nursing care is even more limited, despite two decades of extensive experience with clinical supervision for nurses.

1. INTRODUCTION

Since the early 1990s, clinical supervision has been on the nursing agenda in many developed countries (Faugier and Butterworth, 1994). Nursing professional bodies – such as the Nursing and Midwifery Council and the Royal College of Nursing – consider clinical supervision as a supportive way to facilitate learning from experience.

Clinical supervision in nursing is defined in this paper as an activity that brings skilled supervisors and nurses together in order to reflect upon their practice. This kind of supervision aims to identify solutions to problems, improve practice and increase understanding of professional issues (NMC/UKCC, 1996). Although other definitions of clinical supervision also exist in the nursing literature (Cummins, 2009), essential to almost all definitions is that the concept of clinical supervision encompasses support, development of practice and reflection. The overall goal of clinical supervision is to improve the way professional caregivers practice their profession and thus also to improve the care of the patients (Hansebo and Kihlgren, 2004).

There are two main modes of supervision: one-to-one modes in which a single supervisor provides individual supervision for another practitioner; and second, group modes either with identified supervisors or with colleague practitioners sharing the responsibility for providing each other's supervision (Bro Morgannwg NHS Trust, 2006). Clinical supervision has an established role in the support of professionals, and its supporters suggest that it has many positive effects. It is said, for instance, to prevent stress and burnout, and to contribute to job satisfaction (e.g. [Arvidsson et al., 2001] and [Bedward and Daniels, 2005]).

In Great Britain in the 'nineties, a national programme evaluating individual and group supervision initiatives was started ([Butterworth et al., 1998] and [Butterworth et al., 1999]). Likewise in Scandinavia several large supervision projects were conducted in the 'eighties and 'nineties. However, a literature review of Hyrkas and colleagues concluded that the research published between 1988 and 1997 failed to show the precise effects of group and individual supervision because of a lack of scientific rigour in most of the underlying studies (Hyrkas et al., 1999). Another literature review, by Williamson and Dodds (1999), focussed on the effects of group supervision, particularly on stress amongst nurses. On the basis of eight European studies, all published between 1994 and 1997, Williamson and Dodds likewise pointed to a lack of methodological rigour.

A more recent review was conducted by Brunero and Stein-Parbury (2008), and indicated that clinical supervision provides peer support and stress relief for nurses, and promotes professional accountability as well as skill and knowledge development. In addition, Butterworth et al. (2008) performed a literature

review to offer an analysis of themes and trends arising from the literature on clinical supervision for nurses. These authors concluded that individual and group supervision have become an established part of nursing, and also pointed to the potential benefits that clinical supervision may have for nurse and patient outcomes. Another recent literature review was performed by Buus and Gonge (2009). These reviewers focussed on research about the effects of clinical supervision in psychiatric nursing and were less positive in their conclusion than Brunero and Stein-Parbury (2008) and Butterworth et al. (2008). Buus and Gonge (2009) concluded that clinical supervision in psychiatric nursing was commonly perceived as a good thing, but that there was limited empirical evidence supporting this claim.

As shown above, several literature reviews have previously been conducted. However, some of these reviews date from many years ago ([Hyrkas et al., 1999] and [Williamson and Dodds, 1999]), and hence do not involve recent research. In addition, the majority of earlier reviews had a very specific scope, for instance, on a selection of countries (the Hyrkas-review and the Williamson and Dodds review), a specific health care setting (the Buus and Gonge review), or a specific time period (Brunero and Stein-Parbury, 2008). Moreover, the majority of the previous reviews were narrative in nature (the Buus and Gonge-review is a positive exception in this regard), rather than meeting established criteria for systematic reviews (e.g. [Moher et al., 2009] and [Moher et al., 2010]). This may have led to bias and to too positive conclusions about effects, since in narrative reviews conclusions of underlying studies are summarised without systematically looking whether these conclusions are based on solid research.

Hence the main objective of our literature review is to provide a systematic and contemporary review of research on the effects of clinical group supervision of nurses, taking account of the methodological quality of the studies reviewed, and without imposing restrictions regarding countries, health care settings, languages or time periods.

The systematic review presented here only focusses on group modes of supervision, since the authors of this article had been involved in a Dutch project on group supervision (De Graaff and Francke, 2005), and were therefore eager to know the effects measured in other studies on group supervision of nurses. Another reason for the exclusive focus on group supervision concerns the substantial differences between the two modes of supervision. In contrast to individual supervision, group supervision provides the opportunity for peer support, to interact with colleagues and to offer support to one another in professional growth.

The main review question was:

1. What are the effects of group supervision of nurses on nurse and patient outcomes? In order to interpret and value the effects measured in the relevant studies, we addressed additional questions, namely:
2. What are the characteristics of the group supervision programmes in relevant studies?
3. What are the methodological quality and characteristics of relevant studies?

2. METHOD

2.1. Inclusion criteria

The following inclusion criteria were used for the selection of studies for this review.

1. The study has to relate to specific group supervision programmes only directed at nurses, including registered nurses, licensed practice nurses, enrolled nurses and nurse assistants. In this regard, we defined group supervision as an activity in which one or more supervisors and more than two nurses were brought together in order to reflect upon their practice.
2. The study has to concern empirical research with a comparative design in which group supervision is compared with the usual situation or another intervention. Randomised or non-randomised control group designs and one-group pre-test post-test designs are considered comparative designs, irrespective of whether they use quantitative or qualitative measurement methods.
3. The study has to give information about the effects of group supervision on nurse or patient outcomes.

Excluded were non-original publications such as letters to the editor, abstracts only, and editorials.

2.2. Searches in databases

To identify all relevant studies a sensitive search was performed in the following literature databases: PubMed, CINAHL, Cochrane Library, Embase, ERIC, the NIVEL catalogue, and PsycINFO. The searches were carried out in February 2010.

The search strategy for PubMed was shown in Table 1.

[TABLE 1].

Comparable search strategies were used in the other literature databases mentioned (the specific search strategies are available on request).

Combining the output of the searches in the various databases, a total of 1324 references were found. After duplicates were removed, 1087 potentially relevant references remained from the database searches. Seven additional references (often 'grey literature') were found by reference checking and/or were provided by experts.

2.3. Selection

All references found were initially studied by title and (when available) abstract by both review authors separately. References were included for the next selection phase, when at least one of the two reviewers was of the opinion that the publication might possibly meet the above-mentioned inclusion criteria. This initial selection phase resulted in 56 references eligible for further screening by full-text analysis.

The full texts of these 56 publications were studied independently by the two authors. In 40 publications there was initial full agreement between the two authors about inclusion or exclusion. Regarding four publications there was initial disagreement, and in the case of 12 publications there was initially some doubt by at least one of the authors about inclusion or exclusion. All differences or doubts were discussed until both authors agreed on inclusion or exclusion. In this last selection phase, 38 publications were excluded. Main reasons for exclusion in this stage were:

- the supervision focussed on nursing students or other professionals rather than on nurses ([Arvidsson et al., 2008] , [Chimango et al., 2009] , [Danielsson et al., 2009] , [Saarikoski and Leino-Kilpi, 2002] , [Saarikoski et al., 2005] and [Saarikoski et al., 2006]) and/or
- the publication did not concern group supervision ([Bradshaw et al., 2007] , [Edberg et al., 1999] , [Heaven et al., 2006] and [Milne and James, 2002]) and/or
- focussed on supervision experiences in general rather than on a specific programme (Edwards et al., 2006) and/or
- did not concern an empirical study with a comparative design ([Arvidsson et al., 2001] , [Bedward and Daniels, 2005] , [Bégat et al., 2005] , [Bégat and Severinsson, 2006] , [Bowles and Young, 1999] , [Brunero and Stein-Parbury, 2008] , [Butterworth et al., 2008] , [Burnard et al., 2003] , [Buus and Gonge, 2009] , [Carney, 2005] , [Cummins, 2009] , [Everitt et al., 2000] , [Hyrkas et al., 1999] , [Hyrkas et al., 2001] , [Hyrkas et al., 2005] , [Hyrkas et al., 2006] , [Hyrkas and Paunonen-Ilmonen, 2001] , [Kolade, 2005] , [Kwai, 2002] , [Magnusson et al., 2002] , [Mahood et al., 1998] , [Malin, 2000] , [Olsson et al., 1998] , [Pålsson et al., 1994] , [Severinsson and Kamaker, 1999] and [Teasdale et al., 2001]) or
- was not the original research publication (Hallberg, 1995).

A final set of 18 publications based on a total of 17 studies did meet the inclusion criteria. These concerned eight controlled studies with a non-randomised control group design, and nine studies with a one-group pre-test post-test design (see Table 3 and Table 4). No randomised controlled studies meeting our inclusion criteria were tracked down.

The process and results of all the selection stages are displayed in Fig. 1.

[FIGURE 1]

The characteristics of the 17 included studies are presented in Table 3 and Table 4.

Although no restrictions were applied regarding language, almost all the publications meeting the inclusion criteria were written in English. The only exceptions in this regard were two Dutch language publications ([Butterworth et al., 1998] and [De Graaff and Francke, 2005]).

Five of the included publications ([Berg et al., 1994] , [Edberg et al., 1996] , [Edberg and Hallberg, 2001] , [Hallberg and Norberg, 1993] and [Hallberg et al., 1994]) were based on the same programme for nursing staff at a psycho-geriatric clinic in Sweden. The reason that we treated them as separate publications is that each publication addressed a sub-study with new research questions and new instruments.

2.3.1. Assessment of methodological quality

Subsequently, the two review authors independently assessed the methodological quality of the studies with a control group, using a checklist developed by Van Tulder et al. (1997) in collaboration with the Dutch Cochrane Centre. This list consists of 11 criteria for internal validity, 6 descriptive criteria and 2 statistical criteria (Table 2). All criteria were scored as yes, no, or unclear. Equal weight was applied to all items. We judged studies to be of 'high quality' if at least four criteria for internal validity, three descriptive criteria and two statistical criteria were scored positively. These judgments were in accordance with the guidelines of Van Tulder et al. (1997), except that two criteria were not applied in our review (this concerned the criteria 'Was the care provider blinded for the intervention?' and 'Was the patient blinded to the intervention?'). These two criteria appeared not to be appropriate for studies focussing on group supervision directed at nurses.

[TABLE 2.]

The quality of the included studies with a one-group design was not assessed with the Van Tulder checklist, since we gave such studies already in advance the score 'low methodological quality'. We made this choice, since having no control group is considered a serious limitation when the aim is to assess the effects of an intervention (although one-group designs may be appropriate when the research aim is process-oriented rather than effect-oriented).

2.3.2. Data extraction and synthesis

Next, one review author extracted and descriptively analysed the characteristics of the group supervision programmes of the included studies (see Table 3), as well as the research methods and outcomes (see Table 4). The data extraction was checked by the other review author by critical reading of the studies reviewed and comparison with the data extracted.

[TABLE 3. TABLE 4.]

No statistical pooling of outcomes was performed, because there was considerable heterogeneity regarding outcomes variables used.

3. RESULTS

The main focus of this systematic literature review is on the effects of group supervision on nurse and patient outcomes (research question 1). However, to optimise the interpretation of these effects, we will first clarify the methodological quality and characteristics of the studies (research question 3), as well as the characteristics of the group supervision programmes under review (research question 2).

3.1. Characteristics of the group supervision programmes

3.1.1. Topics

The topics discussed in the group supervision sessions varied (see Table 3). In publications by a group of Swedish researchers the group supervision was combined with the implementation of individualised care planning. The group sessions focussed on the needs and characteristics of psycho-geriatric or psychiatric patients, as well as nurses' feelings and emotional responses towards these patients ([Berg et al., 1994] , [Berg and Hallberg, 1999] , [Edberg et al., 1996] , [Edberg and Hallberg, 2001] , [Hallberg and Norberg, 1993] , [Hallberg, 1994] and [Hallberg et al., 1994]). In particular, patients' need for rest and activity, mobility, personal hygiene, nutrition, social involvement, as well as individual adaptive resources and temperament were discussed.

In the Australian study of Hart et al. (2000), in which group supervision was combined with the introduction of 'Accelerated Professional Development', a relevant practice incident was discussed. In a Dutch study the group supervision was directed towards reflecting on nurses' personal norms and values in caring for immigrants (De Graaff and Francke, 2005). In the studies of Häggström et al. (2009) and Segesten (1993) Swedish nurses' roles were discussed, e.g. regarding cooperation with other professionals. The group supervision described by [Butterworth et al., 1998] and [Butterworth et al., 1999] in the UK focussed on organisational and management issues, e.g. how to react on changes in the work and team building.

3.1.2. Process

Some studies were not clear about the supervision process (see Table 3), but in all studies that gave a description of the supervision process, group discussions and reflections appeared to be the main process elements. For instance, in the study of Bégat et al. (1997) each nurse got a notebook for documentation and reflection, and in each session nurses discussed and reflected on the notes in their personal notebook and in the care plan. The sessions in the mentioned Swedish studies combining group supervision with the implementation of individualised care planning, started with a nurse participant briefly describing a situation or case and the difficulties (s)he wanted to get feedback on. Next, the nurses together reflected on the situation or case and the perceived difficulties. Then, possible solutions and alternative approaches were discussed. Finally the sessions were rounded off with some decisions about the provision of future care for patients or about the personal strategies of the nurse participant (see Table 3).

3.1.3. Period and duration

The number of supervision sessions varied rather strongly, ranging from six (De Graaff and Francke, 2005) to about 52 (Bégat et al., 1997). Also the supervision period varied, ranging from 3 months (De Graaff and Francke, 2005) to 3 years (Hyrkas et al., 2001), but in most cases the supervision was provided and evaluated within a period of about 1 year (see Table 3). The sessions often lasted about 1.5–2 h, and were generally held every week, every other week or every third week (see Table 3).

3.2. Methodological quality assessment

By assessing the methodological quality with the criteria list (see Table 2), it appeared that only four of the included publications were of 'high quality'. These four publications all concerned sub-studies of the large Swedish research project on group supervision combined with the implementation of individualised dementia care planning ([Berg et al., 1994], [Edberg et al., 1996], [Edberg and Hallberg, 2001] and [Hallberg and Norberg, 1993]). In the subsequent part of this paper, we gave these four publications a 'high quality mark' HQ, which gives readers the opportunity to take into account whether a study is well performed.

All other studies were judged as having 'low quality' (see Table 4). As stated earlier, the nine studies with a one-group pre-test post-test design all were given a 'low quality' score beforehand. However, the fact that four of the eight studies with a control group also received a low quality score (see Table 4), was often related to low scores for the criteria 'Were co-interventions avoided or comparable?', 'Was the outcome assessor blinded to the interventions?' and 'Was the withdrawal/drop-out rate described, and acceptable?'.

3.3. Methods used in the studies

3.3.1. Design

In the eight studies using a control group design, outcomes of nurses participating in group supervision (sometimes combined with another intervention like the implementation of individualised care planning) were compared with outcomes of control nurses who did not receive any intervention or received a different intervention (see Table 4). None of these controlled studies used random allocation.

In the nine studies with a one-group pre-test post-test design, baseline measurements were compared with scores measured during and/or after the group supervision.

In most studies three moments of measurement were held: just before the supervision sessions, 2 or 3 months after the start, and after a prolonged period (e.g. after a year from the start of the supervision sessions; see Table 4).

3.3.2. Samples

The samples of the studies included were often very small (less than 40, see Table 4). Exceptions are the study of Hart et al. (2000) including 95 nurses, and the study of [Butterworth et al., 1998] and [Butterworth et al., 1999] with a large sample of 586 nurses.

3.3.3. Outcome variables, instruments and data analysis

The outcome variables of the studies reviewed varied considerably, although most outcomes concerned effects on nurses rather than effects on patients (see Table 4 as well as Section 3.4). There was also variation in the measurement instruments used. Most studies used structured questionnaires or scales, often self-developed. The validity and reliability of the self-developed instruments was not always described. In a minority of the studies validated existent measurement instruments were used, such as the Maslach Burnout Inventory, the General Health Questionnaire or the Multi Dimensional Dementia Assessment Scale. On account of the frequent use of structured questionnaires or scales, data analyses were mainly quantitative in nature, using descriptive or inferential statistics. No statistical adjustments for possible confounding variables were made.

A minority of studies (also) used qualitative methods, such as analysis of administrative data, qualitative interviews, analysis of patients' stories or observations (see Table 4).

3.4. Effects

Although the studies presented a large number of findings, we will focus below only on those effects of group supervision which concern our own primary review question regarding nurse or patient outcomes. For instance, economic effects are not reported.

3.4.1. Effects on nurses or on interactions with colleagues

All studies indicated that group supervision produced to a greater or lesser extent certain positive effects. However, the outcome variables varied and not all studies pointed in the same direction. For example, Berg et al. (1994)HQ concluded that group supervision combined with individualised care planning significantly improved some aspects of nurses' creativity and contributed towards an innovative climate in dementia care. Positive effects were established regarding idea support, trust, risk-taking and dealing with conflicts, whilst no effects were found regarding other aspects of creativity or innovative climate (viz. challenges and debates). In addition, Berg and Hallberg (1999) performed a study in the field of general psychiatric care, and assessed a significant increase of nurses' professional creativity in the dimensions trust, idea-time and conflict. These authors did not find significant effects on nurses' sense of coherence, their satisfaction with work or on work-related strain (Berg and Hallberg, 1999). Hallberg et al. (1994), however, found that group supervision combined with the implementation of individualised care planning for persons with dementia, positively affected nurses' job satisfaction, experience of praise, autonomy, quality of care and personal growth. [Butterworth et al., 1998] and [Butterworth et al., 1999] established that emotional exhaustion and depersonalisation decreased in supervised nurses working in 23 different health organisations. In addition, Hallberg (1994) found positive effects on, for instance, some aspects of job satisfaction, responsibility, organisation, and perceived quality of care nurses working with psychiatric patients. However, for some other variables (e.g. burn-out) no significant effects were established.

In addition, Berg et al. (1994)HQ concluded that group supervision combined with the introduction of individualised care planning did not significantly affect emotional exhaustion or depersonalisation of nurses working in dementia care. Pålsson et al. (1996) also found no significant effects on supervised nurses' feelings of burnout or feelings of empathy towards their patients. Furthermore, De Graaff and Francke (2005) even found a reduction in supervised nurses' understanding of immigrant clients receiving home care, although regarding the willingness to use professional interpreters and to consult experts, positive effects were assessed. Häggström et al. (2009) detected an improvement in nurses' professional roles which involved, for instance, a shift from complaining about to understanding their nursing home patients. In addition, Hallberg (1994) assessed an increase in nurses' insight and understanding of their psychiatric patients after nurses had received group supervision in combination with the introduction of individualised care planning.

Nurse performance was not often measured, but Hyrkas et al. (2001) indicated that group supervision in a university hospital contributed to a decline in the number of sick days taken by nurses. In addition, Hart et al. (2000) found after group supervision of hospital nurses an improvement in the self-reported quality of performance on all subscales: leadership, critical care, teaching/collaboration, planning/evaluation, interpersonal communication, professional development. However, supervisors' ratings reflected only a part of these positive changes.

Group supervision may also have a positive influence on nurses' interactions with colleagues, and some studies also paid attention to this issue (see Table 4). Hallberg found that the supervised nurses working in dementia care experienced greater cooperation and comfort in the team ([Hallberg, 1994] and [Hallberg et al., 1994]). Bégat found that supervised hospital nurses experienced increased confirmation of their work, and that they were more satisfied with the information they got from superiors (Bégat et al., 1997). However, Bégat did not find any significant changes regarding other aspects of communication with colleagues or superiors.

3.4.2. Effects on patients and on nurse–patient interactions

A minority of the studies (also) measured effects of group supervision on interactions with patients and/or on patient outcomes. Hansebo and Kihlgren (2000) found that the personalities and specific life conditions of patients in nursing homes were better recognised by the nurses.

Hallberg and Norberg (1993)HQ found that after nurses had participated in group supervision and individualised care planning was introduced, demented residents became more responsive to them. Edberg et al. (1996)HQ and Edberg and Hallberg (2001)HQ revealed that elderly with dementia cooperated more with nurses after the introduction of group supervision combined with individualised care planning. Edberg and Hallberg (2001)HQ also found that these elderly were less secluded and sought less attention. These authors moreover assessed the effects on psychological outcomes and found that elderly with dementia were less sad and less aggressive after nurses had participated in group supervision and individualised care planning was introduced. They explained these outcomes by stating that supervised nurses were probably better able to interpret the behaviour of demented elderly and to find solutions. However, these researchers did not establish differences regarding other types of demanding behaviours, which may be due to the small sample size (11 patients in each condition).

4. DISCUSSION

This review showed that rather a lot of research has been done on group supervision in nursing. Most of the studies address the effects on nurse outcomes (like satisfaction with work or stress-related outcomes), whilst a smaller number of studies also measured effects on patient outcomes. Almost all studies indicated that group supervision produced to a greater or lesser extent certain positive effects. However, specific outcome variables and instrument varied, and not all studies exactly point in the same direction. For instance, some publications indicated that emotional exhaustion decreased in supervised nurses (e.g. [Butterworth et al., 1998] and [Butterworth et al., 1999]), whilst others did not find significant effects on burnout or emotional exhaustion at all (Berg et al., 1994HQ; [Hallberg, 1994] and [Pålsson et al., 1996]).

A reason for these inconsistent results may be the use of different measurement instruments. In addition, inconsistency of results may be related to differences in the 'dose–response' of the interventions. Our review showed that the 'dose' varied rather strongly: number of sessions ranged from 6 to more than 50, and the duration of the supervision period ranged from 3 months to 3 years. Future research has to shed more light on the needed 'dose' of group supervision.

Differences in study findings may also be explained by differences in content of the intervention. In some studies group supervision was introduced as a more or less 'isolated' intervention, whilst in some studies group supervision was combined with another intervention, such as the introduction of the Resident Assessment Instrument, the introduction of Accelerated Professional Development, or the implementation of individually planned care.

According to our review, the most evidence – albeit still limited – can be derived from the four research publications in the field of dementia care with high methodological quality and which all point to positive effects on nurses' attitudes and skills and/or nurse–patient interactions (Berg et al., 1994HQ; Edberg et al., 1996HQ; Edberg and Hallberg, 2001HQ; Hallberg and Norberg, 1993HQ). However, it must be taken into

account that these four publications with high methodological scores all concern sub-studies of one 'sliced' research project in Sweden based on one study sample. Hence these publications provide only limited evidence for the effects of group supervision for nurses. In addition, it must be taken into account that in these publications with a high methodological score a variety of outcome variables was used and that group supervision was combined with the implementation of individual care planning. It is uncertain whether group supervision alone would have had comparable positive effects.

The fact that other primary studies were of low quality is a serious drawback as well. About half of the reviewed studies were one-group pre-test post-test studies. In such designs without a control group, it is impossible to establish whether changes over time are the result of group supervision. Other factors, such as changes in the organisation, nurses' life events, may have caused the measured differences.

For future effect-oriented studies in this field we would recommend the use of a randomised control group design. Random allocation of individual nurses to the experimental or control conditions will not always be possible or practical, since nurses within a team would influence each other. However, cluster randomisation at the level of teams or wards is often appropriate and possible. It is also recommended to use the same outcomes and validated measurement instruments where possible, since this would improve the comparability of effect-oriented studies on group supervision, thus facilitating generalisation. In addition, we recommend the use of independent researchers. Most publications remained unclear about which persons had the role of the clinical supervisor. Based on the affiliations and job titles, we got the impression that roles of supervisor and researcher sometimes coincided, which enhances the risk of biased findings.

5. CONCLUSION

At the moment the nursing profession has more than two decades profound experiences with clinical group supervision for nurses. However, this systematic review provides the same overall conclusion as two reviews performed at the end of the previous century ([Hyrkas et al., 1999] and [Williamson and Dodds, 1999]), namely that the empirical evidence is still limited.

In this age in which 'evidence-based nursing' is pursued for interventions in patients, it is also necessary that scholars critically examine in well-designed studies the effectiveness of supervision interventions directed at nurses. Strong scientific evidence can only be established when appropriate designs and comparable variables and methods are used and when future research overcomes the limitations of previous studies.

Acknowledgment

We would like to thank Ms Rinske van den Berg (NIVEL) for conducting the searches in the literature databases.

Contributions. Anneke Francke and Fuusje de Graaff were the principal investigators and were responsible for study concept and design, analysis, interpretation of data and preparation of the manuscript.

Conflict of interest. All authors disclose no conflict of interest.

Funding. This research was financed by NIVEL. This research institute has no interest in whatever directions the results are pointing to.

Ethical approval. The authors declare that no ethical approval was required for this systematic literature study.

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TABLES AND FIGURES

Table 1
Search strategy in PubMed.

Search	Most recent queries
#1	Search nurs*
#2	Search 'clinical supervision' OR 'group supervision' OR 'peer counseling' OR 'peer counseling'
#3	Search effect OR effects OR study OR research OR review OR meta-analysis
#4	Search #1 AND #2 AND #3

Fig. 1. Flow diagram of the searches and the selection process.

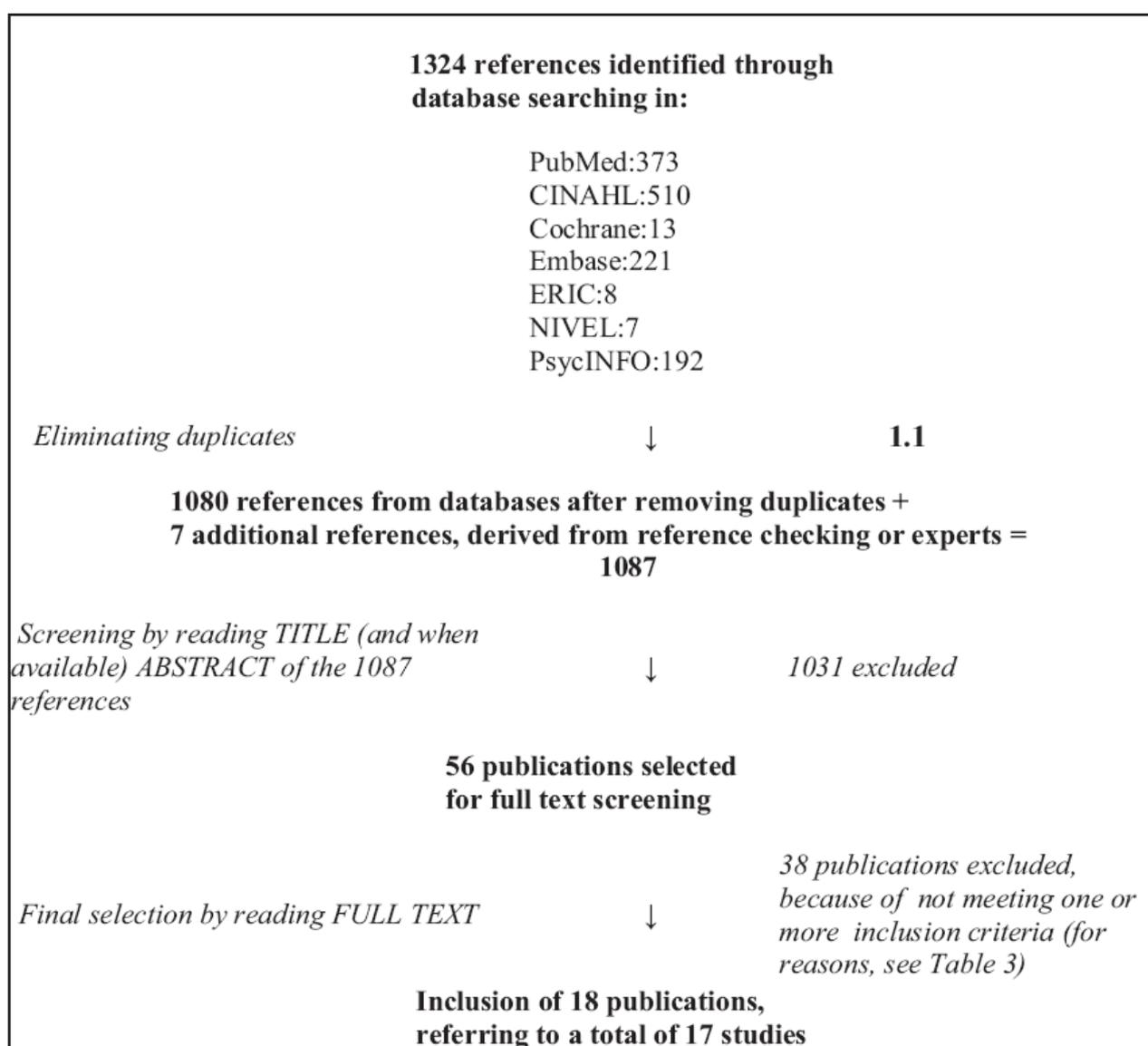


Table 2
Criteria list for the methodological quality assessment of (quasi) experimental studies (Van Tulder et al., 1997).

Patient selection	
(a) Were the eligibility criteria specified?	Yes/No/Don't know
(b) Treatment allocation:	
(1) Was a method for randomisation performed?	Yes/No/Don't know
(2) Was the treatment allocation concealed?	Yes/No/Don't know
(c) Were the groups similar at baseline regarding the most important diagnostic indicators	Yes/No/Don't know
Interventions	
(d) Were the index and control interventions explicitly described?	Yes/No/Don't know
(e) Was the care provider blinded for the intervention? ^a	Yes/No/Don't know
(f) Were co-interventions avoided or comparable?	Yes/No/Don't know
(g) Was the compliance acceptable in all groups?	Yes/No/Don't know
(h) Was the patient blinded to the intervention? ^a	Yes/No/Don't know
Outcome measurement	
(i) Was the outcome assessor blinded to the intervention?	Yes/No/Don't know
(j) Were the outcome measures relevant?	Yes/No/Don't know
(k) Were adverse effects described?	Yes/No/Don't know
(l) Was the withdrawal/drop out rate described and acceptable?	Yes/No/Don't know
(m) Timing follow-up measurements:	
(1) Was a short-term follow-up measurement performed?	Yes/No/Don't know
(2) Was a long-term follow-up measurement performed?	Yes/No/Don't know
(n) Was the timing of the outcome assessment in both groups comparable?	Yes/No/Don't know
Statistics	
(o) Was the sample size for each group described?	Yes/No/Don't know
(p) Did the analysis include an intention-to-treat analysis?	Yes/No/Don't know
(q) Were point estimates and measures of variability presented for the primary outcome measures?	Yes/No/Don't know

Internal validity criteria: b, e, f, g, h, i, j, l, n, p. Descriptive criteria: a, c, d, k, m. Statistical criteria: o, q.

^a Criteria e and h were not used in our review since these criteria are not applicable with regard to studies on group supervision of nurses.



Table 3
Characteristics of the group supervision programmes.

Source/country	Topics discussed	Process of the supervision	Period and duration
Bégat et al. (1997)/Sweden	Group supervision was combined with education in nursing science inspired by a holistic nursing 'model'	Nurses got a notebook for documentation and reflections In each sessions nurses discussed and reflected on notes in the notebook and care plan	Group supervision during about 1 year, 1.5 h a week
Berg et al. (1994) ^{HQ} /Sweden	Each supervision session focussed on: Nurses' feelings and reactions to a patient A patient's point of view seen by the nurses Group supervision was combined with implementation of individually planned care, which covered the patients' rest and activity; mobility; hygiene and dressing; toilet routines; nutrition; contact and social needs; personality and special problems	A nurse describes the situation and history of a patient and her difficulties with it All nurses give their feelings evoked by the patient and their ideas about the patient's experience The supervisor notes keywords All nurses reflect and interpret A decision is made how to provide further care	Group supervision during 12 months, provided every third week in first 6 months, every fortnight in next 6 months. Every session lasted 2 h
Berg and Hallberg (1999)/Sweden	Same topics as described in Berg et al. (1994) Group supervision was combined with implementation of individually planned care	In the first sessions the same process and structure as described in Berg et al. (1994) was used. In the second part each session was dedicated to the nursing diagnosis of the individualized care of a patient, with information about the patient's background, needs, abilities and personal views obtained by a contact person	The group supervision lasted about 1 year and consisted of 22 sessions 3 h every fortnight, in total 66 h, followed by sessions of 2 h every week
Butterworth et al. (1998, 1999)/England and Scotland	Group supervision and individual supervision were combined. Elements in both types of supervision were: organisational and management problems (how to react on changes in the work), cases in clinical practice, professional development, creating confidence, relational issues of the professionals and teambuilding, personal problems	Not specified	Several moments during 9 months
De Graaff and Francke (2005)/Netherlands	Group discussions on: personal norms and values in the care for immigrants; fit between care supply and care needs of immigrant patients	In each meeting a nurse introduced a critical event which has happened in the care for an immigrant patient. It was discussed how to deal with such an event, according to a 'three-step method'	6 or 7 sessions of about 2 h (every 2 weeks) during 3 months
Edberg et al. (1996) ^{HQ} /Sweden	See Berg et al. (1994) (concerns the same supervision intervention)	See Berg et al. (1994)	See Berg et al. (1994)
Edberg and Hallberg (2001) ^{HQ} /Sweden	See Berg et al. (1994) (concerns the same supervision intervention)	See Berg et al. (1994)	See Berg et al. (1994)
Häggström et al. (2009)/Sweden	Lectures (e.g. about the use of e-mail) and group supervision were combined. Main focus was on self-image and professional roles	The main part consisted of group discussions, in which the participants were encouraged to talk about themselves in relation to their work	Eight 1.5 h sessions during a 9-month period
Hallberg and Norberg (1993) ^{HQ} /Sweden	See Berg et al. (1994) (concerns the same supervision intervention)	See Berg et al. (1994)	See Berg et al. (1994)

Table 3 (Continued)

Source/country	Topics discussed	Process of the supervision	Period and duration
Hallberg (1994)/Sweden	A case of a particular patient and family, selected by the staff was discussed	The same approach as in Berg et al. (1994)	14 sessions of 2 h, each 3 weeks
Hallberg et al. (1994)/Sweden	See Berg et al. (1994) (concerns the same supervision intervention)	See Berg et al. (1994)	See Berg et al. (1994)
Hansebo and Kihlgren (2000)/Sweden	Group supervision was combined with the introduction of the Resident Assessment Instrument	The assessment of patients was the starting point for discussions about needs and problems and optional resources for care planning. Focus was on patients' remaining abilities and resources	Sessions of 2 h a month, during 1 year
Hart et al. (2000)/Australia	A relevant practice incident was discussed Group supervision was combined with introduction of Accelerated Professional Development	Nurses identified a practice incident, including interactions, behavioural responses and feelings Nurses reflected and analysed the event Nurses indicated how care can be improved	14 weeks, each week 1.5 h peer consultation and 1.5 h individual reflective practice
Hyrkas et al. (2001)/Finland	Not specified	Not specified	3 years. Further not specified
Pålsson et al. (1996)/Sweden	In two groups the focus was on patients' problems, in the other two groups analysis of nurses' feelings	A nurse presented a situation with a patient, how she had handled the situation, what feelings the situation had evoked and how she experienced herself in her contact with the patient Other nurses responded, questioning the situation or talking about comparable patients Reflections and interpretations Possible solutions and alternative ways of handling Summary of what was learned	Sessions of 1.5–2 h during 1 year, each 2–4 weeks
Paunonen-Ilmonen (1991)/Finland	Not specified Group supervision was combined with lectures of nursing theory and extensive reading assignments	Not specified	Group supervision during 1 year. Not specified
Segesten (1993)/Sweden	Topics discussed: professional role of RNs versus practical nurses; division of work load; moral and legal responsibility; rules of delegation; improving quality of care (plans); cooperation with physicians; issues of working with terminally ill patients and of death and dying	Not specified	Sessions during 4 months, every second week 2.5 h each

Table 4
Methodological characteristics and effects measured.*

Source/country	Quality	Design	Sample	Variables/instruments	Procedures of analysis	A. Effects on nurses and on interactions with colleagues B. Effects on patients and on interactions with patients
Bégar et al. (1997) Sweden	Low	One group pre-test post-test design. Measurements just before and 9 months after start of group supervision. Group supervision was combined with education in individual care	34 hospital nurses caring for patients with pulmonary, haematological or renal diseases or stroke and heart diseases	Several nurse outcomes, measured by 29-item questionnaire developed by the Swedish State Health Foundation and the Swedish Working Life Foundation	Descriptive statistics and Mann-Whitney U-test	A. Increase of confirmation in work and of satisfaction with information on the whole B. No effects regarding other aspects of communication with superiors or colleagues or of other aspects of their working milieu B. Not taken into account
Berg et al. (1994) ⁴⁰ Sweden	High	Control group pre-test post-test design. Measurements just before, 6 months after and 1 year after start of supervision Experimental condition: group supervision combined with the implementation of individualized care. Control condition: no intervention	39 nurses (19 at exp. and 20 at control ward) of 22 people with dementia (11 at exp. and 11 at control ward)	Creativity, measured by Creative Climate Questionnaire Tedium and burnout, measured by Burnout Measure and Maslach Burnout Inventory	Friedman two way ANOVA for differences over time and Mann-Whitney U-test for differences between wards	A. Positive effects on some aspects of creativity and innovative climate: idea support, trust, risk-taking, conflicts. No effects regarding other relevant aspects of creativity and innovative climate also positive effects on tedious and burnout On the dimension emotional exhaustion and depersonalisation effects were not significant B. Not taken into account
Berg and Hallberg (1999) Sweden	Low	One group pre-test post-test design. Measurements just before, 6 months after and 1 year after start of supervision. Group supervision was combined with planned individual care	22 nurses in general psychiatric care	Professional creativity was measured by Creative Climate Questionnaire Work-related Strain Inventory was also used as well as a Satisfaction with Nursing Care and Work Questionnaire, Sense of Coherence Scale and form with 14 statements on nurses' views on effects	Descriptive statistics, Friedman's 2-way ANOVA, Wilcoxon's Matched Pair Signed Ranks test and Factor analysis	A. Increase of nurses' professional creativity in dimensions trust, idea, time and conflicts. No effects on organisational climate Nurses' views on effects of group supervision also increased. No effects on sense of coherence, work satisfaction or work-strain B. Not taken into account
Butterworth et al. (1998, 1999) England and Scotland	Low	Control group pretest-posttest design. Measurements just before and 18 month after start of group supervision Experimental condition: group supervision. Control condition no intervention	586 nurses working in 23 different health organisations	Health-related outcomes, measured by General Health Questionnaire Coping skills, measured by Cooper Coping Skills questionnaire Stress, measured by Harris Nurse Stress Index	Not specified	A. Decrease of emotional exhaustion and depersonalisation (significance unclear) B. Not taken into account

De Graaff and Francke (2005) ¹⁰ /Netherlands	Low	One group pre-test post-test design. Measurements just before and 3 months after start of group supervision	59 nursing staff members (most CNAs) spread over 6 home care teams	A questionnaire based on the Maastricht work satisfaction scale and a self-developed instrument on attitudes, communication and understanding in caring for immigrant patients	Turnour, measured by Maslach burnout scale Job Satisfaction, measured by Minnesota Job Satisfaction Scale	T tests and descriptive statistics	A. Nurses were less concerned about specific characteristics of immigrant patients, but were more aware of shortages in their own skills and had become more open for use of professional interpreters and consultation B. Not taken into account
Edberg et al. (1996) ¹⁰ /Sweden	High	See Berg et al. (1994)	39 nurses (19 at exp. and 20 at control ward) of 22 persons with dementia (11 at exp. and 11 at control ward)	Nurse-patient cooperation, assessed during participating observations with field notes		Qualitative coding and Mann-Whitney U-test	A. Not taken into account B. Improved cooperation between nurses and patients
Edberg and Hallberg (2001) ¹⁰ /Sweden	High	See Berg et al. (1994)	39 nurses (19 at exp. and 20 at control ward) of persons with dementia. Final data analysis was based on the 2 x 7 surviving patients	Nurses' view on occurrence of actions of demanding patients, assessed in interviews based on items of the Demanding Behaviour Assessment Scale, and the Multi Dimensional Dementia Assessment Scale		Friedman test	A. Not taken into account B. Supervised nurses interpreted demanding behaviour in a less negative way. Also positive effects on number of patients being sad and patients' ability to cooperate. No effects on other types of demanding physical or vocal behaviours (may be due to small sample size)
Hägström et al. (2009) ¹⁰ /Sweden	Low	One group design, with 2 measurement moments: at start of supervision and 9 months later	Enrolled nurses and nurses aides (n = 14) from public nursing homes	Also medical data were analysed		Latent content analysis	A. Improvement of professional role, i.e. moves from passivity to activity, from complaining to understanding, from expectations to frustration and from being silent to speaking aloud B. Not measured
Hallberg and Norberg (1993) ¹⁰ /Sweden	High	See Berg et al. (1994)	38 nurses (19 at exp. and 19 at control ward) of 22 persons with dementia (11 at exp. and 11 at control ward)	Nurses' views of persons with dementia of the difficulties of their work and their emotions in the caring process, measured by open interviews based on items of Strain in Nursing Care scale and Emotional Reactions in Nursing Care scale		Friedman 2 way for variances over time and within wards	A. Nurses viewed patients increasingly responsive and to a lesser degree as victims They also considered willfulness and experiences of emptiness in patients' life easier to handle Also improved feelings of devotion and beneficence in nurses. No effects on nurses' feelings of control

Table 4 (Continued)

Source/country	Quality	Design	Sample	Variables/instruments	Procedures of analysis	A. Effects on nurses and on interactions with colleagues B. Effects on patients and on interactions with patients
Hallberg (1994)/Sweden	Low	One group pre-test post-test design. Measurements just before, 6 months and 1 year after start of supervision	11 nurses at a ward for child psychiatric care	Nurses' insight and understanding and team cooperation, measured by open-ended interview forms	Open coding of verbatim data	A. Increases of insight and understanding, cooperation with the team, self-confidence, knowledge, and job satisfaction regarding responsibility, organisation, quality of care, cooperation and comfort in the team. No effects on other aspects of job satisfaction or on burnout and tedium total scores (tedium: significant for mental exhaustion) B. Not taken into account
Hallberg et al. (1994)/Sweden	Low	See Berg et al. (1994)	39 nurses (19 at exp. and 20 at control ward) of 22 persons with dementia (11 at exp. and 11 at control ward)	Tedium, burnout and satisfaction, measured by Tedium Measure of Pines et al. and Maslach Burnout Inventory Job satisfaction and other work characteristics, measured by questionnaire developed for this study	Friedman two ways Wilcoxon rank sum test	A. Increase of job satisfaction, experience of praise, professional growth, autonomy, quality of care (documentation, communication, etc.), knowledge, cooperation and comfort B. Not taken into account
Hansebo and Kihlgren (2000)/Sweden	Low	One group pre-test post-test design. Measurements just before and 1 year after start of group supervision	7 nurses and 23 assistant nurses working in nursing homes	Patients' life stories and current situation, as told by nurses before and after 1 year of supervision	Friedman two way ANOVA Qualitative analyses of the texts of the stories	A. Positive effects on nurses' knowledge about family situations, functional situation, and patient's personality, patient's psychosocial well being. Also positive effect on nurses' awareness of own professional approach B. Not taken into account
Hart et al. (2000)/Australia	Low	Group supervision was combined with introduction of Resident Assessment Instrument/MDS Control group pretest-posttest design	95 nurses from 6 general hospitals (31 in condition 1, and 64 in condition 2)	Nurses' critical thinking, empathy and performance as perceived by peers supervisor and nurses themselves, measured by a set of instruments, viz. Watson-Glasser Critical Thinking Appraisal, Staff-Patient Interaction Response Scale, Herb Hope Scale, Scwinan's Six Dimension Scale of Nursing Performance Appraisal, Moos' Work Environment Scale and Ward Atmosphere Scale	Paired t-tests	A. In both conditions nurses' empathy and their sense of hope increased
		Measurements before and just after group supervision				Positive effects on leadership in condition 1, and on professional developmental in both conditions on the total score

	Conditions: (1) group supervision, (2) group supervision in combination with structured professional development programme				Self-reported quality of performance: improvement on all subscales for both conditions. Adequacy of preparation of discharge: only improvements in condition 2 Increase in peer cohesion in condition. No increases in most subscales of the Ward Environment Scale or the Ward Atmosphere Scale or in overall critical thinking score Supervisors' reported only significant improvement for planning/evaluation for condition 1. No effects on other subscales. B. Not taken into account
Hyrkas et al. (2007) /Finland	One group design with pre-test and post-test comparisons on the basis of existing statistical data in the period 1995-1999. The year 1995 concerns data before the start of group supervision	19 nurses of 1 ward in a university hospital	Benefits and costs of group supervision, taking into account existent statistical data on e.g. sick days, education costs, indemnities claimed and paid to patients	Quantitative calculation of benefits and costs	A. Decrease of number of sick days and intensification of education B. Not taken into account
Pålsson et al. (1996) /Sweden	Control group pre-post-test design. Measurements: at the start and a year after the supervision Experimental condition: group supervision	33 district nurses (21 in experimental group and 12 in control group)	Burnout Scale of Schaufeli and Ensmann, Empathy Construct Rating Scale, and Sense of Coherence Scale Also a questionnaire including items of the Karolinska Scales of personality, measuring anxiety proneness, extroversion and aggression-hostility was used	Spearman's rank correlation Wilcoxon signed rank test	B. Effects on indemnities paid to patients remained unclear, which is due to the fact that in the year of reference (1995) no indemnities had been paid A. No effects on burnout, empathy and sense of coherence
Paunonen-Ilmonen (1991) /Finland	Control condition: no intervention One group pre-test-post test design. Measurements just before, just after the group supervisions (after two years) and 1 year later The group supervision was combined with lectures on nursing theory and extensive reading assignments	26 nurses in a hospital or community health centre	Nurses' satisfaction of the patient's basic needs, measured by a self-developed questionnaire	Mann-Whitney U-test Descriptive statistics, cross tabulations and log-linear models	A. Better nursing performance. Increases in freedom of action of nurses and in willingness to take affirmative action B. Not taken into account
Segesten (1993) /Sweden	One group pre-test-post test design. Measurements before and just after group supervision (during 4 months)	21 nurses working in orthopaedic care	Nurses' professional characteristics, measured by Nurses Self Description Form (NSDF)	Descriptive statistics and t-tests	A. Improvement of persistence of nurses All other 20 professional characteristics of nurses measured by the NSDF were not significantly affected B. Not taken into account

^a Only methods and effects meeting our review questions are reported.