A review of outcomes of individualised nursing interventions on adult patients

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CRD summary
The authors concluded there was limited evidence that individualised nurse-led interventions were more effective than usual or group-based care. The authors' cautious conclusion appeared to reflect the evidence presented, but lack of reporting of review methods and lack of discussion of results according to study quality make it difficult to confirm their reliability.

Authors' objectives
To evaluate the effects of individualised nursing interventions on adult patients.

Searching
MEDLINE, PsycINFO, CINAHL (from inception to April/June 2005) and the Cochrane Library (2005, Issue 2) were searched for studies published in English. Search terms were reported. Reference lists of retrieved studies were also screened and some additional unspecified sources were handsearched.

Study selection
Randomised controlled trials (RCTs), controlled clinical trials (CCTs) and pre/post-test studies that evaluated individualised nursing interventions delivered by nursing professionals, or nurses as part of a multi-professional team, to adult patients in a variety of clinical settings were eligible for inclusion. Studies could assess intermediate or end-point outcomes that related to individuals, a family, a cohort, or a community. In the review, 'individualised' and 'tailored' interventions were treated as being synonymous.

Most included interventions were based on education or counselling; other interventions included health visits, clinical nursing, and preventative care. Studies were conducted in preventative care settings including: health promotion and counselling; care of older people in the community; and patients with chronic medical conditions including diabetes, cancer and stroke. Most studies were set in the USA. Included studies reported a variety of different outcomes including adverse events.

The authors reported information on the selection process but did not state how many reviewers performed the selection.

Assessment of study quality
Validity was assessed using the following criteria (described by Moher) for the evaluation of RCTs: treatment allocation; study background and rationale; participant eligibility criteria; description of intervention; specified objective; clearly defined primary and secondary outcome measures; sample size calculation; randomisation method; blinding; statistical methods; and flow of participants.

The authors did not state how the validity assessment was performed.

Data extraction
Each outcome in each study was classified as positive if individualised nursing interventions were more effective than control, zero if there were no differences between treatment groups, and negative if the individualised intervention was less effective than the control.

The authors did not state how data were extracted for the review, or how many reviewers performed the data extraction.

Methods of synthesis
Studies were grouped by type of intervention and combined in a narrative synthesis.

**Results of the review**

Thirty-one studies were included in the review (n=9,801 participants). Sample size ranged from 22 to 1,884 participants. Most (78%) of studies were RCTs, 16% were CCTs and two studies were pre/post-test design.

**Study quality** Problems included lack of eligibility criteria for participants, lack of a priori sample size calculation and inadequate reporting of flow of participants. Just over half of the studies (58%) reported the reliability and validity of outcome measures. Results of the validity assessment were reported in full.

Most (81%) studies reported a positive outcome of individualised nursing interventions.

Approximately two-thirds (72%) of educational and counselling studies reported positive outcomes compared to ordinary, standardised or routine care.

Results for rehabilitation and exercise promoting interventions varied, with three of the five studies reporting positive effects in intervention groups. Two studies reported no difference between treatment groups.

Seven health promotion interventions reported positive intervention effects on health behaviours (six studies) and building confidence and reducing anxiety (one study). Four studies reported positive intervention effect on patients’ knowledge of medication (two studies) and smoking cessation (two studies). One study reported positive effects on nutritional intake. One study reported a positive effect on calcium intake in patients with an inadequate intake but an inappropriate increase in patients with an existing adequate intake.

Seven of eight studies reported positive intervention effects on clinical health status indicators, including activities of daily living and functional capacity (two studies), memory (one study), incontinence care without changes in skin health (one study), improved albumin levels in renal patients (one study), severe behavioural disturbances in nursing home residents (one study) and decreased urinary incontinence (one study). One study reported no intervention effect on agitation and psychotherapeutic medication administration.

Results for studies of falls prevention were mixed. Two of three studies reported no effect on falls in intervention groups. Two other studies reported positive intervention effects on speed of return to normal lifestyle (one study) and patient satisfaction (one study). One study reported no intervention effect on quality of life.

Three of four studies reported positive effects of interventions aimed at increasing screening mammography (two studies) and early detection of cancer (one study). One study reported no difference between intervention and control.

Four studies reported adverse events in intervention groups.

**Authors’ conclusions**

There was some limited evidence that individualised nurse-led interventions were more effective than usual or group-based care.

**CRD commentary**

The review question was clearly stated. Inclusion criteria for interventions and participants were stated; inclusion criteria for study design and outcomes were broad. Several relevant sources were searched but no attempts were made to minimise publication or language bias. Study validity was assessed using specified criteria and results were reported in full and summarised. Methods used to select studies, assess validity and extract data were not described, so it was not clear whether efforts were made to reduce reviewer errors and bias. The authors classified studies as positive, negative or no difference, but it was not clear if these categories were based on the statistical significance of results. In addition, results data for individual studies were not reported, so it was not possible to verify findings reported in the review. Most studies reported more than one outcome, so the possibility of selective reporting of positive outcomes existed. In view of the diversity among studies, a narrative synthesis with studies grouped by intervention and outcome was appropriate. However, results were not discussed in relation to study design or any other indicator of study quality. The authors’ cautious conclusion appeared to reflect the evidence presented but lack of reporting of review methods,
insufficient information about results data from individual studies, and lack of discussion of results according to study quality, make it difficult to confirm their reliability.

Implications of the review for practice and research

**Practice:** The authors stated that nursing interventions should be individualised to patients.

**Research:** The authors stated that there is a need for further higher-quality research to evaluate more distinct and well-described individualised nursing interventions in a variety of health care settings, to identify optimal nursing interventions for specified clinical problems, and to confirm the clinical significance of any statistically significant findings. There is also a need to examine the relationship between the terms ‘individualised’ and ‘individually tailored’.

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