Perspectives of patients, relatives and nurses on rooming-in for adult patients: A scoping review of the literature

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ABSTRACT

Aim: To explore the perspectives of patients, their relatives and nurses on rooming-in for adult patients.

Background: The practice of having family stay overnight with an adult patient in hospital is quite new. To support rooming-in programs, the perspectives from all stakeholders should be taken into account.

Methods: All types of studies on rooming-in in adult healthcare settings were included in this scoping review. Rooming-in has been defined as the practice where ‘family members or trusted others are facilitated to continuously stay with the patient and are provided with facilities to sleep in the patient's room’.

Results: Seven studies were included: one randomized controlled trial, three qualitative studies, and three correspondence articles. Generally, patients felt safe in the presence of a family member, but could also feel restricted in their freedom and privacy. Family members saw a benefit for the patient, considered rooming-in a moral duty, and were happy to help. Nonetheless, family members reported rooming-in as physically and emotionally stressful. Nurses described that patients were less anxious and more easily adjusted to the hospital environment.

Conclusions: The reviewed studies suggest that patients, family members, and nurses have both positive and negative experiences with rooming-in. The concept of rooming-in varies from continuous presence and involvement of relatives to one overnight stay in the patient's room. Each interpretation has its own implications for policy, design, guidelines and feasibility of rooming-in. Nursing staff should be included in decision-making processes for this practice.

1. Introduction

Historically, hospital wards were large and offered shared patient accommodation in multi-bedded rooms. Nowadays, large open wards are considered too busy and noisy, offering little privacy and increasing the risk of nosocomial infections (Teltsch et al., 2011). Today, designers and planners of healthcare facilities face a challenge on how to create a healing environment, thus accommodating sophisticated clinical interventions and complex medical technology while providing a humane environment. Evidence based design literature on the built environment in hospitals has been advocating the allocation of space for families in adult patient rooms (Devlin, 2003) Therefore, around the world, hospitals are trying to redesign their buildings in order to provide single-room accommodation (Casack, Wiechula, Schulz, Dollard, & Maben, 2019). Single-room care and design practices offer a better opportunity for quality of care, patient safety and communication with healthcare professionals (Maben et al., 2016; Ulrich et al., 2008; van de Glind, van Dulmen, & Goosens, 2008). In addition, they fit in a personalized approach, also labeled person-centered care, with an emphasis on the patient's needs, values, experiences and preferences (Frampton & Guastello, 2014). Patients and their family members preferred being equal partners in planning, developing and monitoring care in the
entire care process (Task & Fater, 2013; Park et al., 2018; Tobiano, Marshall, Bucknall, & Chaboyer, 2015) (Barsteiner et al., 2014). Therefore, healthcare professionals should treat the patient as an integral component of a family unit and therefore include the relatives in their caring activities (Al-Mutair, Plummer, O’Brien, & Clearehan, 2013).

A single-room hospital design and the person-centered care approach offer the opportunity for family members to stay with a patient in the room 24/7. This practice is also known as rooming-in, in this article defined as ‘family members or trusted others are facilitated to continuously stay with the patient and are provided with facilities to sleep in the patient’s room’. In contrast to a multi-bed ward, a single-room is better tailored to an extra bed for family members.

Rooming-in was first implemented around 1947 in maternity wards, where the baby’s crib would be kept by the side of the mother’s bed (Seidemann & Eisenoff, 1956). Nowadays, rooming-in with a newborn baby or hospitalized child is widely accepted (Ungerer & Miranda, 1999). The practice of rooming-in with adult patients has only been recently introduced with the trend of hospitals moving towards single-occupancy patient rooms (Taylor, Card, & Piatkowski, 2018). Rooming-in could stimulate a caring hospital environment in which the family member can support the patient emotionally and raise his or her comfort (Choi & Bosch, 2013). However, family members might feel burdened with what is expected of them and lack of privacy might be an issue for the patient. Nurses reported feeling restrained in their interactions with the patient when family members watch, comment or intervene during the caring process (Gufo, Hader, & Holly, 2011; Giannini, Garrouste-Orgeas, & Latour, 2014). Communication might become more challenging in this interaction. To enlarge practices or programs for rooming-in in adult wards, it is essential to know the perspectives of nurses, patients and family members to have a clear understanding of what rooming-in entails and how it can be best practiced.

2. Materials and methods

2.1. Aims

Experiences of all stakeholders in the care process should be taken into account when establishing a rooming-in program. Furthermore, an evidence-based practice guideline for rooming-in with hospitalized adults is lacking. To address these issues, a systematic scoping review was conducted to identify and map current knowledge. The following research questions was formulated: what are the experiences of patients, their family members and nurses with rooming-in on adult hospital wards?

2.2. Design

A scoping review was conducted in which quantitative and qualitative research on rooming-in in adult hospital wards were included. This approach permits gaining a broad overview of the literature on this topic (Munn et al., 2018). The method aimed to identify the types of available evidence on rooming-in, to clarify key concepts in the literature and to identify key characteristics related to rooming-in for adult patients. The Joanna Briggs Institute guidance document was used to systematically conduct a scoping review in five stages: 1) identifying the research question, 2) identifying the relevant studies, 3) study selection, 4) charting the data, 5) collating, summarizing and reporting the data (Peters et al., 2015; Peterson, Pearce, Ferguson, & Langford, 2017). Furthermore, the PRISMA guidelines were used to report the results of the scoping review (PRISMA-ScR) (See Fig. 1) (Tricco et al., 2018).

2.3. Search methods and data selection

A scoping search has been performed in six databases from their first available date until November 2019: Embase, Medline, OvidSP, Web-of-Science, CINAHL EBSCOhost, PsycINFO, Google Scholar (see Appendix 1 for the complete search strategy tailored to the thesaurus of each database). Neither a limitation on publication date nor on language restricted the search results. The reference lists of included articles were checked for other relevant articles not retrieved by the search strategies. Two authors (MvdH and MvM) selected the potentially eligible articles by independently screening the titles and abstracts of the retrieved records for relevance on the inclusion criteria. If there was doubt about the inclusion, the last author (MvD) was consulted. MvdH and MvM separately screened the potentially eligible full text articles.

A pre-defined research protocol was used and registered in Prospero (CRD42018082066). All articles considering the practice of rooming-in for adult patients were included. Excluded were articles including children or women who had just given birth. Articles referring to ‘family participation’, ‘open visiting hours’, ‘family and patient centered care’ and ‘person-centered care’ were excluded when they did not involve a family member actively staying overnight in the patient’s room.

2.4. Charting the data

MvdH and MvM developed a data-charting form in which they determined which data to extract and independently charted the data, discussed the results with two other reviewers (EI and MvD), and continuously uploaded the data-charting form in an iterative process.

2.5. Data items

The data-charting form consisted of descriptive variables (year of publication; study design; setting; participants and characteristics of the studies (outcome measurements; barriers and facilitators to rooming-in; and results of any assessments of rooming-in).

2.6. Critical appraisal of individual studies

In contrast to systematic reviews, the quality of evidence is not evaluated in a scoping review (Peterson et al., 2017). For qualitative studies the Consolidated Criteria for Reporting Qualitative Research-Checklist (COREQ-checklist) was used to systematically report the quality of the studies (Tong, Sainsbury, & Craig, 2007). The COREQ checklist consists of items specific to reporting qualitative studies: level of bias is reported by describing the research team and level of reflexivity; reliability is assessed by the description of the study design and analysis procedures. For quantitative studies the Cochrane Collaboration Guidelines for Systematic Reviews of Interventions was used (Higgins, 2011).

2.7. Collating, summarizing and reporting the results

The studies were grouped based on the perspectives of the three different stakeholders: patients, family members and nursing staff. Although hospital planners, facility managers and doctors also have a role in facilitating rooming-in and this form of social support associated with person-centered care, they were excluded because of limited influence on direct patient care. Especially the nurses deal with rooming-in and 24/7 presence of family members. Therefore, their perspectives were taken into account.

3. Results

3.1. Characteristics of included studies

The search strategy yielded 454 citations; after removal of the duplicates 347 citations were left for screening. Based on the title and abstract, 329 articles were excluded, with 18 full text articles to be
retrieved and assessed for eligibility. Of these, 11 were excluded because no full text or translation was available. The remaining seven studies were considered eligible for this review (see Fig. 2 PRISMA Flowchart).

The publications dated from 1987 to 2016 and originated from Germany (Werner & Gadomski, 1987), Australia (O’Brien, 1998; Richardson, 1996), India (Rajagopalan & Verghese, 1997), USA (Kolakowski & Horwitz, 2016; Wells & Baggs, 1997) and the Netherlands (van der Zwaag, 2016). One described a quantitative study; three described a qualitative study; and three were correspondence articles providing background information. Table 1 presents the characteristics of the included studies.

| SECTION       | ITEM | PRISMA-ScR CHECKLIST ITEM                                                                 | REPORTED ON PAGE # |
|---------------|------|------------------------------------------------------------------------------------------|--------------------|
| TITLE         |      |                                                                                         |                    |
| Title         | 1    | Identify the report as a scoping review.                                                  | 1                  |
| ABSTRACT      |      |                                                                                         |                    |
| Structured summary | 2    | Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives. | 1,2                |
| INTRODUCTION  |      |                                                                                         |                    |
| Rationale     | 3    | Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach. | 3                  |
| Objectives    | 4    | Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives. | 4                  |
| METHODS       |      |                                                                                         |                    |
| Protocol and registration | 5    | Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number. | 5                  |
| Eligibility criteria | 6    | Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale. | 5                  |
| Information sources* | 7    | Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed. | 4                  |
| Search        | 8    | Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated. | 4                  |
| Selection of sources of evidence† | 9    | State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review. | 4                  |
| Data charting process‡ | 10   | Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators. | 5                  |
| Data items    | 11   | List and define all variables for which data were sought and any assumptions and simplifications made. | 5                  |
| Critical appraisal of individual sources of evidence§ | 12   | If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate). | 5                  |

Fig. 1. PRISMA-ScR checklist.
3.2. Quality assessment

The one quantitative study included was an RCT with 24 patients randomly distributed over an intervention group (n = 13) and a control group (n = 11) (Wells & Baggs, 1997). The risk of bias was assessed as high as allocation concealment, performance bias, detection bias, attribution bias and reporting bias had not been reported. The three qualitative studies addressed respectively focus group discussions (van der Zwaag, 2016), in-depth interviews (O’Brien, 1998) and retrospective questionnaires (Richardson, 1996). The qualitative and quantitative publications were assessed as being of low quality because important information was not reported, such as data analysis and data reporting (see Appendix 2).

3.3. Experiences with rooming-in

3.3.1. Experiences of patients

Three studies reported patient outcomes and patient perspectives on...
Characteristics of included studies (n=7)

Table 1

| Author, year, country, type of study | Research question / topic | Participants / setting | Data collection |
|------------------------------------|---------------------------|------------------------|-----------------|
| **Quantitative research**          |                           |                        |                 |
| Wells, 1997, USA, RCT               | Feasibility and effects of 4 nights of rooming-in | Elderly patients (N=24 n=13 intervention, n=11 control group) | Patient: Acute confusion during hospitalization, complication rate, length of stay, baseline mental and functional status |
|                                    |                           | Family (n=13)           | Family: non-validated satisfaction questionnaire |
|                                    |                           | Staff (n= NK)           | Staff: night nurse evaluation |
|                                    |                           | Orthopedic surgical ward |                 |
| **Qualitative research**           |                           |                        |                 |
| Van der Zwaag, 2016, The Netherlands, short explorative study | Experience of rooming-in with hospitalized elderly with delirium | Family (n=6) | Family: Not reported |
|                                    |                           | Staff (n=7)             | Family: themes arising from focus group |
|                                    |                           | Thoracic surgery and internal wards | Staff: themes arising from focus group |
|                                    |                           | Patient (n=6)           | Staff: in-depth interviews |
| **Expert opinion letters**         |                           |                        |                 |
| Kolakowski, 2016, USA, correspondence | Rooming-in guidelines for hospital setting | Older patients with impaired cognitive functioning | Considerations for developing a protocol |
| Rajagopalan, 1997, India, correspondence | Three decades of experience with family participation and rooming-in | Psychiatric inpatients | Considerations for rooming-in with psychiatric patients |
| Werner, 1987, Germany, correspondence | Experience with family rooming-in | Patients with brain injuries | Reflecting on 5 years of family rooming-in with patients with brain injuries |

3.3.2. Experiences of family members

Four studies addressed family members’ experiences with rooming-in (see Table 3). Two of these studies addressed rooming-in with a mentally ill patient (O’Brien, 1998; Richardson, 1996); the other two rooming-in with elderly patients (van der Zwaag, 2016; Wells & Baggs, 1997). All four studies reported a willingness and understanding of family members to participate in rooming-in. Despite the different characters of the patient groups, the themes that arose from focus groups, interviews and questionnaires were similar for these groups (see Table 3). Family members saw an added value for the patient, considered rooming-in a moral duty, and were happy to help. Nonetheless, rooming-in was also seen as physically and emotionally stressful. Practical instructions on how to provide rooming-in were often inadequate and it was not clear what the patient and nursing staff expected from them (see Table 3).

3.3.3. Experiences of nurses

The above-mentioned four studies also addressed nursing staff’s experiences (see Table 4). Furthermore, three correspondence articles contained suggestions from nursing staff (Kolakowski & Horwitz, 2016; Rajagopalan & Verghese, 1997; Werner & Gadomski, 1987). Rooming-in and the involvement of family members in daily care changed the nurse-patient interaction. Nurses considered the increased family participation as beneficial as the patients showed less anxiety, better adjusted to the hospital environment and felt generally comfortable. Rooming-in was seen as helpful in tailoring care to the patient’s values and in reducing the staff’s workload. From the perspective of night nurses, rooming-in was undisruptive to their work (Wells & Baggs, 1997). Insufficient guidelines and protocols, lack of training of staff, and family members and communication issues between all participants were seen as the biggest barriers to successfully implement rooming-in.

The concept of rooming-in has been defined unambiguously in the included studies as a voluntary overnight stay of a close relative during hospitalization of the patient. However, different interpretations have been applied: the continuous 24/7 stay of one key relative (O’Brien, 1998; Richardson, 1996; van der Zwaag, 2016), which is also labeled as ‘open visiting hours’, a designated family member remaining with the patient during the overnight hours (Kolakowski & Horwitz, 2016), which is equal to the concept of ‘family stay-over’, a minimum stay of 4 nights in the first week (Wells & Baggs, 1997), or 2–4 weeks in total (Werner & Gadomski, 1987). Each interpretation has its own implications for policy and feasibility of rooming-in.
Family members, nurses and the researchers who conducted the reviewed studies were under the impression that rooming-in had a positive effect on patients' anxiety and comfort and that mentally ill patients adhered better to treatment. Patients reported feeling safe and secure in the presence of a family member, but also feeling restricted in freedom and privacy – with the risk of the family taking over and speaking on their behalf. For family members, incentives to participate in the patient's care included a sense of moral duty, a desire to be useful, provide reassurance and support for the patient. Nonetheless, they also experienced social isolation and made clear that rooming-in could be a physical and emotional burden.

4. Conclusions

This scoping review aimed to explore the experiences of patients, family members and nurses on rooming-in for adult patients. Little has been published on this topic and in addition, solid evidence, guidelines or implementation studies to inform rooming-in practices are lacking.

4.1. Emotional, social and communication aspects of rooming-in

The practice of rooming-in implies a shift in the communication and interaction between nurses, patients and family members. Nurses acknowledge that the patient's values are better represented and that the family members are no longer 'just visitors'. However, clear protocols or an International Consensus statement on the practical sides of rooming-in are missing; the roles of family members and nurses need to be clearly defined (Coyne, 2015).

4.2. Rooming-in in the wider context of person-centered care

The recognition of potential benefits of including family members during a patient's hospitalization is changing the healthcare landscape. Various concepts and definitions express these changes. Person-centered care ‘shifts the focus away from the patient passively being the goal of interventions and disease-oriented medicine to the patient constituting an active part of the care process and patient-oriented medicine’ (Lusk & Fater, 2013; Park et al., 2018; Tobiano et al., 2015). Patient participation encourages patients to actively engage in their healthcare decision-making processes such as medical rounds, hand-over, nursing care planning and in managing their own care (Eskes, Schreuder, Vermeulen, Nieveen van Dijkum, & Chaboyer, 2019; Schreuder, Eskes, van Langen, van Dieren, & Nieveen van Dijkum, 2019; Tobiano et al., 2015). Similarly, ‘elder friendly care’ (EFC), which is defined as an age-related initiative to improve the care, experiences, and outcomes of frail older adults, supports what “matters most” to patients and families. This might include hospital stay for 24/7 for family members of adult patients, however, it does not exceed the boundaries of rooming-in (Arain, Graham, Ahmad, & Cole, 2020; Khadaroo et al., 2020). Family participation or involvement can range from being present during communication with the healthcare staff to assisting nurses in care activities (Mackie, Mitchell, & Marshall, 2018; Park et al., 2018).

Rooming-in is quite different than executing more open or flexible visiting hours or than having an unrelated person sit with you for a couple of hours (Carr, 2013; Ciufo et al., 2011). It requires facilitating relatives to stay the night in the patient's room and to be present continually. Naturally, a safe relationship between the patient and the person rooming-in is needed, as well as good communication with the healthcare staff. Both this review and literature from the wider context on person-centered care show a lack of guidelines, generalization of practices, definition of interventions and ways to practically implement the idea of family participation on different levels (Li, Melnyk, & McCann, 2004; Mackie et al., 2018; Tzeng & Yin, 2008). A recent

### Table 2

Results: experiences of patients with rooming-in.

| Author, year, country | Reported by | Results |
|-----------------------|-------------|---------|
| Wells & Baggs, 1997, USA | Researcher | No significant effect on acute confusion or rate of adverse events. Length of stay was shorter for patients with unplanned surgery and rooming-in but also for patients with planned surgeries without rooming-in. |
| | Nurses | Nurses rated quality of patient's sleep as moderately well to very well. There were no significant differences in reported quality of sleep. Comfoting for the patient |
| O'Brien, 1998, New Zealand | Patient | Concerned for the impact of rooming-in on the family members who stay in hospital and those who take care of family at home. |
| Richardson, 1996, Australia | Researcher | Less restrictive interventions with rooming-in Positive experiences: Reduced disorientation, relief being near home, feeling safe and secure, appreciated by care and understanding of staff and confidants Negative experiences: Insufficient discussion of illness, isolated in single room, staff ill-informed about psychiatric illness, family taking over and talking on their behalf, unduly restricted freedoms, inadequate facilities, need for greater confidentiality, insufficient literature about program |

### Table 3

Results: experiences of family members with rooming-in.

| Author, year, country | Results |
|-----------------------|---------|
| Wells & Baggs, 1997, USA | Overall experience good (38,5%) or excellent (61,5%) |
| Van der Zwaag, 2016, the Netherlands | Family members expressed themes such as: physical and emotional burden, moral duty, reassurance, personal satisfaction, appreciation of nursing staff, added value for patient, awareness of changes in personal relationship with the patient. |
| O'Brien, 1998, New Zealand | Concern about surviving hospitalization while being far from home and isolated, withdrawn from own social network, long hours and commitment |
| Richardson, 1996, Australia | Concern about caring responsibilities that require knowledge and a level of education Positive experiences: Retaining family contact, ease of visiting, ability to help, able to keep working, no financial stress, good relationship and support from staff, duty of care, learning to care for mentally ill, feeling empowered. Negative experiences: Inadequate facilities, limited understanding of their role, taking on too much, not having a choice as a parent, insufficient follow-up, not enough information, need for relief. |
Table 4
Results: experiences of nursing staff with rooming-in.

| Author, year, country | Results |
|-----------------------|---------|
| Wells & Baggs, 1997, USA | Good feasibility: night-nurses could work undisturbed. No significant difference in number of times the nurse would check the patient during the night |
| Van der Zwaag, 2016, the Netherlands | Nurses expressed themes such as: importance of communication between nurses and family members, changes in work behaviour of nurses, family members' burden, patient values |
| O'Brien, 1998, New Zealand | Rooming-in assists nursing care, however it also changes the nature of nursing interaction with the patient and the family |
| Richardson, 1996, Australia | Positive experiences: Reduced workload, reduced anxiety, support by family's understanding of behaviour of patient, improved community understanding of mental illness |
| Kolakowski & Horwitz, 2016, USA | Addressing access, decision making, respect and dignity, information sharing, participation and collaboration |
| Rajagopalan & Verghese, 1997, India | Family participation increases the patient's adjustment to the hospital surroundings and leads to better compliance with treatment. |
| Werner & Gadomski, 1987, Germany | Relatives need continuous guidance and advice during rooming-in. Some cannot endure the physical and psychological stress involved. |

review of systematic reviews on family participation for adult patients showed that physical support, empowerment and providing information to the patient and family were the most applied interventions (Park et al., 2018). Interestingly, rooming-in was not mentioned in this review. Other studies addressing family participation for adult patients focus on specific patient groups such as those receiving intensive care (Al-Mutaiir et al., 2013; Azoulay et al., 2003; Ciufò et al., 2011; Davidson et al., 2017; van Mol et al., 2017), hospitalized elderly (Li et al., 2004), patients with delirium (Carr, 2013), or mental health patients (Chapman, 2011). Across these patient groups, family participation is generally considered a valuable addition to increase patients' mobility and fall prevention.

Nevertheless, rooming-in in all its current perspectives, might overlook cultural common practices. ‘Accompanying the sick (pei ban)’ is daily practice in Chinese hospitals, where visitors stay in the hospital until the patient has been discharged (Lee, 2001). The practice of ‘pei ban’ is influenced by cultural norms and long travelling distances but evokes issues of overcrowding, noise pollution in the hospital, and reduction of privacy. Furthermore, some bedside nursing care, such as feeding and personal hygiene is left to the patients 'relatives rather than being provided by health care professionals. In western countries, including relatives in care models such as person-centered care is a luxury to meet patients' individual needs and preferences (Al-Motlaq & Shields, 2017).

4.3. Strengths and limitations of this study

The main strength of this review was the structured approach of the literature on rooming-in for hospitalized adult patient. However, a few limitations of the review process and the content of the studies need to be addressed. Given the explorative and iterative nature of a scoping review, it is possible that sources have been missed. In addition, the studies showed some biases on their own merit. First, information on family members not willing to participate in rooming-in has not been explored in the studies, which might result in a too positive summary of experiences. Second, the publications included are outdated. Third, the studies analyzed only small sample sizes.

Rooming-in, primarily intended to provide high-quality care and to enlarge family participation, is increasingly becoming part of hospital policies around the world. Despite this trend, rooming-in on adult wards has been hardly addressed scientifically. For both family members and the nursing staff rooming-in seems advantageous. Family members are willing to participate in rooming-in programs which also may relieve the nurses' workload. In contrast, the nursing staff is not yet comfortable with the idea of rooming-in. Therefore, implementing a program of rooming-in needs thoroughly consideration and preparation.

4.4. Relevance to clinical practice

As hospital boards are moving towards the implementation of person-centered care programs, going from multi-bedded to single bedded rooms, they need to know how to best make use of the hospital space and how to shape the interactions between the different participants in the healthcare process. The Institute of Medicine recognizes six person-centeredness aspects in defining qualitatively good healthcare, among which the involvement of family and friends (Tzelepis, Sanson-Fisher, Zucca, & Fradgley, 2015). Therefore, rooming-in is an essential aspect of quality care to include in hospital policies.

The current lack of literature on rooming-in in adult hospital rooms stands in the way of developing effective usage in daily care. Properly conducted qualitative studies that make use of participant observation, semi-structured interviews and focus groups, could raise insight in the barriers and best-practices as experienced by patients, their family members and nurses. Quantitative efficacy studies should further strengthen the foundation of rooming-in policies. Policies might be more feasible if the following considerations are addressed beforehand (Kolakowski & Horwitz, 2016):

1. Access and decision making: decide who is eligible for rooming-in considering infection control, space, the patient's medication and which team member is responsible for that decision.
2. Respect and dignity: provide protocols how privacy and confidentiality will be secured for both the patient and the person rooming-in.
3. Participation and information sharing: stimulate family members to share information about the patient’s needs or changes in condition.
4. Collaboration: establish how an interdisciplinary team can contribute to the patient’s wellbeing and what education patients and their family need about rooming-in.

Declaration of competing interest

None.

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Authors' contribution

All authors (MvdH, MvM, EW, RJO, EL, MVdD) made substantial contributions to the following: 1) the conception and design of the study, the acquisition, analysis, and interpretation of data for the work 2) drafting the article and revising it critically for important intellectual content and 3) final approval of the version to be published.

Author statement

All persons who meet authorship criteria are listed as authors, and all authors certify that they have participated sufficiently in the work to take public responsibility for the content, including participation in the concept, design, analysis, writing, or revision of the manuscript. Furthermore, each author certifies that this material or similar material has not been and will not be submitted to or published in any other publication before its appearance in Applied Nursing Research.

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Analysis and/or interpretation of data:
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Appendix 1. Search strategy

Embase.com

('rooming in'/de OR ('rooming in':ab,ti) NOT (child/exp. NOT adult/exp) NOT ('newborn'/exp. OR (neonat* OR newborn* OR maternal* OR mother* OR baby):ab,ti))

Medline Ovid

(Rooming-in Care/ OR (rooming in).ab,ti.) NOT ((exp child/ OR exp infant/) NOT (exp adult/)) NOT (exp Infant, Newborn/ OR (neonat* OR newborn* OR maternal* OR mother* OR baby):ab,ti.)

PsycINFO Ovid

('rooming in').ab,ti.) NOT ((100.ag.) NOT (300.ag.) NOT (110.ag. OR (neonat* OR newborn* OR maternal* OR mother* OR baby):ab,ti.))

CINAHL EBSCOHost

(MH Rooming In+ OR TI (“rooming in”) OR AB (“rooming in”)) NOT ((MH child+ OR MH infant+) NOT (MH adult+)) NOT (MH Infant, Newborn+ OR TI (neonat* OR newborn* OR maternal* OR mother* OR baby) OR AB (neonat* OR newborn* OR maternal* OR mother* OR baby))

Web of science

TS = (((“rooming in”)) NOT ((child* OR infant*) NOT (adult* OR elder*)) NOT ((neonat* OR newborn* OR maternal* OR mother* OR baby))).

Google scholar

“rooming in” adult|adults|elderly -neonate ‑neonatal -newborn -newborns -maternal -mother -baby -babies.

Appendix 2. Quality assessment of qualitative studies with the COREQ-checklist

| van der Zwaag, 2016 | O’Brien, 1998 | Richardson, 1996 |
|---------------------|--------------|-----------------|
| Research Team and reflexivity | Personal characteristics of researcher | – | – | + |
| Study design | Theoretical framework | – | – | – |
| Data collection | Participant selection | + | + | + |
| Analysis and findings | Data analysis | – | – | – |
| Reporting** | – | – | – |

Legend Table 2. - = not reported, + = briefly mentioned, + + = properly reported.
* number of data coders, derivation of themes, software used, participant checking.
** Quotations presented, data and findings consistent, clarity of major and minor themes.

References

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