

## PERCEIVED BARRIERS AND ENABLERS OF NURSING RESEARCH IN THE ITALIAN CONTEXT: FINDINGS FROM A SYSTEMATIC REVIEW

### ZAZNANI DEJAVNIKI, KI OVIRAJO IN OMOGOČAJO RAZISKAVE NA PODROČJU ZDRAVSTVENE NEGE V ITALIJI: UGOTOVITVE IZ SISTEMATIČNEGA PREGLEDA

Sara Scarsini<sup>1</sup>, Barbara Narduzzi<sup>1</sup>, Lucia Cadorin<sup>2</sup>, Alvisa Palese<sup>2</sup>

<sup>1</sup>Azienda Sanitaria Universitaria Friuli Centrale (Udine), Italia

<sup>2</sup>Dipartimento di Area Medica, Università degli Studi di Udine, Italia

Received: Feb 15, 2022

Accepted: May 4, 2022

Review

#### ABSTRACT

#### Keywords:

nursing research, clinical nursing research, barriers/obstacles, enablers/facilitators, systematic reviews

**Introduction:** The research capacity of nurses has been reported to be still constrained in several countries, and not fully implemented in its potentiality due to a large number of factors. Despite its relevance both for clinical and public health purposes, no summary has been compiled to date regarding factors influencing the research capacity in the Italian context. Therefore, the primary aim of this review was to identify the barriers and enablers of conducting research as perceived by Italian nurses.

**Methods:** We conducted a systematic review. The following databases have been searched: ILISI® (Indice della Letteratura Italiana di Scienze Infermieristiche) MEDLINE-via PubMed, CINAHL (Cumulative Index to Nursing and Allied Health Literature), Ovid, Open Grey, Google Scopus, and Web of Science. Eight studies met the inclusion criteria.

**Results:** The studies were mainly descriptive, with two quasi-experimental. A total of seven barriers and four facilitators of conducting research among Italian nurses were identified. The constraints were poor English knowledge, technology and library availability and accessibility, understaffing and lack of time, nursing culture characteristics, lack of nursing leadership support, scarce funding availability, and the bureaucratic ethical committee process. The facilitators were nursing journal reading, expert research team support, university and hospital partnerships, and international cooperation.

**Conclusions:** Given the small number and the high heterogeneity of the emerged studies, this systematic review provides an initial framework for the constraints that prevent, and the strategies that promote, Italian nurses' participation/conducting of research projects that could inform policies in this field.

#### IZVLEČEK

#### Ključne besede:

raziskave na področju zdravstvene nege, klinične raziskave na področju zdravstvene nege, ovire, omogočitveni dejavniki, sistematični pregledi

**Uvod:** Glede na poročila so možnosti raziskovanja medicinskih sester v več državah še vedno omejene in njihov potencial zaradi številnih dejavnikov ni izkoriščen v celoti. Kljub njihovi pomembnosti za klinične namene in namene javnega zdravja doslej ni bil opravljen noben povzetek dejavnikov, ki vplivajo na možnosti raziskovanja v Italiji. Zato je bil poglobljen cilj tega pregleda opredeliti dejavnike, ki ovirajo in omogočajo izvajanje raziskav, kot jih dojemajo italijanske medicinske sestre.

**Metode:** Opravili smo sistematični pregled. Preiskali smo naslednje podatkovne zbirke: ILISI® (Indice della Letteratura Italiana di Scienze Infermieristiche) MEDLINE-via PubMed, CINAHL (Cumulative Index to Nursing and Allied Health Literature), Ovid, Open Grey, Google Scopus in Web of Science. Osem študij je izpolnjevalo merila za vključitev.

**Rezultati:** Študije so bile večinoma deskriptivne, dve pa sta bili kvaziexperimentalni. Opredelili smo skupaj sedem ovir in štiri dejavnike, ki omogočajo izvajanje raziskav med italijanskimi medicinskimi sestrami. Ovire so bile slabo znanje angleškega jezika, razpoložljivost in dostopnost tehnologije in knjižnice, pomanjkanje osebjem in časa, značilnosti kulture zdravstvene nege, pomanjkanje podpore pri vodenju v zdravstveni negi, omejena razpoložljivost financiranja ter birokratski postopek odbora za etiko. Dejavniki, ki omogočajo izvajanje raziskav, pa so bili branje revij s področja zdravstvene nege, podpora ekip strokovnih raziskovalcev, partnerstva z univerzami in bolnišnicami ter mednarodno sodelovanje.

**Zaključki:** Glede na majhno število in visoko heterogenost izvedenih študij ta sistematični pregled zagotavlja začetni okvir za ovire, ki preprečujejo, in strategije, ki spodbujajo sodelovanje italijanskih medicinskih sester ali omogočajo izvajanje raziskovalnih projektov, ki bi jih lahko uporabili kot podlago za oblikovanje politik na tem področju.

\*Corresponding author: Tel. + 39 33 3827 6621; E-mail: [alvisa.palese@uniud.it](mailto:alvisa.palese@uniud.it)

## 1 INTRODUCTION

Two years ago, the whole world celebrated the bicentennial birthday of Florence Nightingale, who was born in Florence (Italy) on 12 May 1820. She developed an ever-widening commitment to redress unjust social policies imperilling human health, by stimulating collaborators, shaping public awareness, and championing the cause of those suffering as a result of unjust policies. Nightingale challenged nurses to promote and develop environments where the health of the population is a realistic expectation (1). Her contribution to research and public health has been acknowledged both inside and outside the nursing discipline, and it has continued to shape both practice and research also during the current pandemic (2).

In the Florence Nightingale heritage, tremendous changes over the years have been implemented at worldwide level with important outcomes achieved in the last two decades. Advancements in education with the establishment of both undergraduate and postgraduate education at university level in several countries have been well recognized (3). Moreover, with the transition of the nursing education from the vocational to academic level, nurses have been educated to place stronger emphasis on nursing research and on establishing consistent production of scientific publication (4, 5). Progress in the practice where nurses have been reported undertaking responsibility for the care influencing patients' outcomes, have also been underlined (6, 7). Moreover, several care interventions have been assessed on their evidence, increasing health care services equity and accessibility (8). Important achievements have been established at the hospital and community levels, where models of care have been redesigned and implemented, ensuring high organizational performances. Thus, the main message of Florence Nightingale as a creator of the modern nursing discipline (9), implying a continuing strong research foundation of the practice (10), has been implemented and fully followed in promoting research as a method of thinking, practicing and developing the discipline (11). However, despite the celebrations of her bicentenary birthday, the research capacity of nurses has been reported to be still constrained in several countries (12), and not fully implemented in its potentiality due to many factors. Staffing and funding constraints strictly bind nurses to the so-called 'productive nursing hours' at patients' bedside, rendering difficult their active participation in research projects (12). Moreover, limitations in the research budget, as well as the lack of staff, little tradition and culture and no common strategy (13) have been reported as preventing nurses from conducting significant research projects. Summarizing the factors that increase or hinder the research capacity among nurses can inform policies (14), and can trigger strategies aimed at supporting them in conducting or contributing to research advancements.

Moreover, given that the research capacity has been defined as 'the ability to conduct nursing research activities in a sustainable manner in a specific context, and it is normally used at a non-individual level' (15), the summary has been designed at the Italian level. Therefore, the primary aim of this review was to identify the barriers and enablers of conducting research, as perceived by Italian nurses.

## 2 METHODS

### 2.1 Study design

A systematic review of papers regarding nursing research barriers and facilitators in Italy have been performed, and reported here according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines (16).

### 2.2 Research strategy

A search strategy was designed and applied in ILISI® (Indice della Letteratura Italiana di Scienze Infermieristiche) MEDLINE-via PubMed, CINAHL (Cumulative Index to Nursing and Allied Health Literature), Ovid, Open Grey, Google Scopus and Web of Science databases up to 31 January 2021. The following keywords were entered: 'nursing research', 'nursing AND research' and 'clinical nursing research', slightly changed in accordance with each database (Supplementary Table 1). In order to eliminate duplications, the EndNote X6 (Thomson Reuters, New York) was used. Furthermore, the Italian grey literature repositories were also consulted.

### 2.3 Inclusion and exclusion criteria

Inclusion criteria were publications: (a) implying all study designs; (b) concerning barriers and enablers of conducting research among Italian nurses or in general, in which data specifically regarding Italian nurses were disaggregated; (c) published from 2009 (when the first cycle of the doctorate education of nurses was completed in Italy) up to 31 January 2021; (d) available as a full text and reporting in the title or in the abstract the terms 'nursing research', 'Italy', 'Italian', 'barrier/s', 'obstacle/s', 'enabler/s', 'facilitator/s'. Therefore, excluded were those studies: (a) not referring to the Italian context; (b) written in languages other than English or Italian; (c) not available in full-text version; and (d) those identifying barriers and enablers of the implementation of evidence-based practice by Italian nurses.

### 2.4 Data extraction and synthesis

Two researchers performed the content screening independently in a data extraction form that included: author(s); year of publication; language; manuscript type (editorials or empirical research); aims; methods; sample; settings; and main findings. Then, a third researcher

evaluated the accuracy and completeness of the data extracted. An inter-rater agreement on the inclusion of studies was performed with Kappa statistic=0.85 ( $k > 0.81$  was considered a perfect agreement) (17). Any disagreement was discussed by the research team. Due to the heterogeneity of the studies, in order to aggregate and synthesize available evidence, a meta-analysis was not feasible and a narrative approach was conducted using Popay's model (18). Specifically, from a preliminary textual synthesis of the findings, researchers explored the relationship among the data extracted. The key themes that emerged from publications have been subjected to rigorous evaluation to identify and categorize the main barriers and enablers in conducting nursing research. The continuous assessment of the synthesis's robustness, given the completeness of the data available in each article and identifying similarities, allowed a complete categorization to be achieved (18).

### 3 RESULTS

#### 3.1 Description of studies

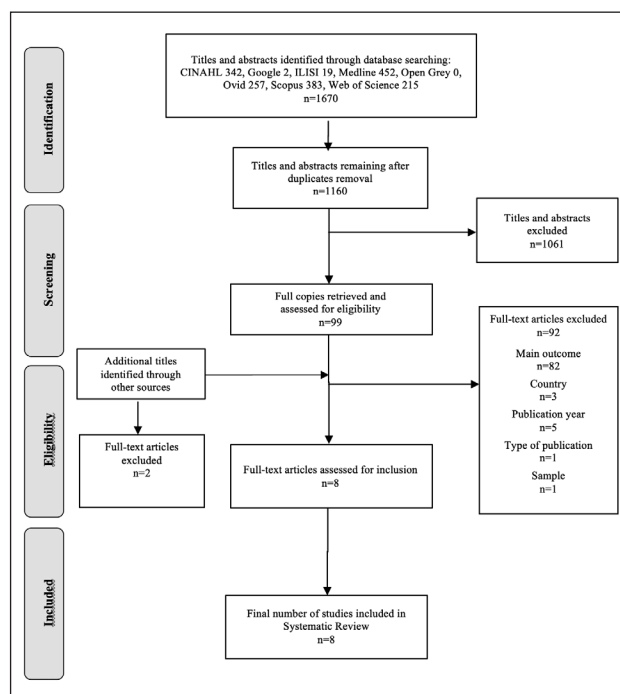
The search in the electronic databases delivered a total of 1670 references. After removing duplicates ( $n=510$ ), 1160 articles were considered, and the relevance evaluated by analyzing titles and abstracts. Only 99 of them appear to be relevant, and their full texts have been obtained and assessed for eligibility according to the established criteria (Figure 1).

Of the eight studies included, five were observational (14, 19-22) and three were editorials or issue papers (13, 23, 24). Their main aims were to discuss the development of nursing research in Italy (13, 24), identify its barriers and facilitators or the strategies to improve research outputs as publications (14, 19, 20), and to describe nurses' beliefs and knowledge about nursing research (21, 22).

The target population included in observational studies were Italian nurses working in hospitals with a limitation of the population to those not hired by an outsourcing company (20), reaching a total of 1445 nurses. With respect to those studies not based upon data, the articles included have been written within an international collaboration between an Italian University and Ireland (13, 23) or England (24) (Supplementary Table 2).

#### 3.2 Barriers

A total of seven barriers emerged: (a) English language; (b) availability and accessibility of online libraries and technology; (c) understaffing and time constraints; (d) advanced education opportunities; (e) organization support; (f) scarce funding availability; and (g) the complexity of the ethical committee process.



Legend: CINAHL=Cumulative Index to Nursing and Allied Health Literature; ILISI=Indice della Letteratura Italiana di Scienze Infermieristiche.

Figure 1. Flow diagram according to preferred reporting items for systematic reviews and meta-analyses (PRISMA) (16).

#### 3.2.1 English language

There is a broad agreement among authors in recognizing English as one of the most relevant barriers in conducting research by Italian nurses (13, 20-24). These difficulties become more evident for nurses with a medium-high work experience as compared to the new generation of nurses (13, 20-22).

#### 3.2.2 Availability and accessibility of libraries and technology

Access to libraries has been reported as limited by some authors (13, 22, 23), specifically in specific clinical areas and facilities. Hospitals exposed to financial constraints have been reported as limiting the scientific journals or databases available (e.g. CINAHL or equivalent). Without access to scientific resources, both research production and utilization might be threatened (13). Moreover, computer accessibility has also been reported as critical in some healthcare facilities where Internet access is discouraged to avoid risks of social media use during work (13).

### 3.2.3 Understaffing and time constraints

A poor nurse-to-patient ratio resulting in excessive workloads and time constraints has been reported as preventing nurses from conducting research (13, 14, 21-23).

### 3.2.4 Advanced education opportunities

Doing research requires an advanced education: the establishment of PhD programmes in just a few universities as well as the lack of places allowed for potential doctorate students, have been underlined as threatening the increase in the number of nurses educated to PhD levels (13, 22, 23). Moreover, when these competences are achieved, healthcare institutions have some difficulties in recognizing and valuing them by offering career opportunities or allowing nurses time to work on research projects (13, 23). As a consequence, the nursing profession advancement in Italy in terms of nursing research has been documented as proceeding slowly (13).

### 3.2.5 Organization support

It has been reported that nurses work in a clinical setting where little emphasis is placed on the importance of nursing research, and this represents a clear barrier to research development (13, 23). The historical (and still present) dominance of positivist paradigms has been documented to introduce a sort of resistance, misunderstanding and skepticism, especially regarding qualitative research (24). The limited managerial support and the lack of clear leadership and authority within the discipline have also been reported as barriers for nursing research (13, 14, 21-23).

### 3.2.6 Scarce funding availability

The limited resource availability has been documented as a barrier responsible for the paucity of research projects and the scant number of scholarly and nursing researchers at hospitals and universities (13). Moreover, the lack of funds and the higher competition across disciplines (13, 23) have been reported as further threatening the research capacity.

### 3.2.7 Complexity of the ethical committee process

The ethics committees providing ethical approval for healthcare intervention studies have been defined in two articles as 'burdensome and bureaucratic', discouraging Italian nursing research activity (13, 23). Surveys and patient/nurse interviews represent tools frequently used in nursing research: in most cases, authors have documented that Italian ethics committees refuse these kinds of submissions, considering them not pertinent and questioning the scientific merit of the study (13, 23, 24). Much work is still needed to make the research ethics committee members understand nursing research's

value and potential, especially qualitative research (24). As a result, Italian nurses have difficulties in proceeding with their research and in publishing their works in peer-reviewed international journals (13, 23).

## 3.3 Facilitators

As the value of research in nursing is strongly recognized, there is a growing interest in identifying strategies useful to increase it (19). However, few studies to date have assessed the effectiveness of specific strategies to develop research capacity (14, 19), while some facilitators have been identified as (a) reading nursing journals, (b) establishing hospital support units and that of the researcher's team, (c) enhancing university support, and (d) promoting international cooperation.

### 3.3.1 Reading nursing journals

Dall'Oglio and colleagues in their cross-sectional study have documented a significant association between reading nursing journals and (a) participating in a scientific meeting as a speaker (56.82% versus 43.18%,  $p=0.001$ ), (b) offering an active contribution to nursing research projects (55.33% versus 44.67%,  $p=0.001$ ) and (c) publishing a paper (59.32% versus 40.68%,  $p=0.020$ ) (20). Moreover, nurses engaged in reading international journals have been reported as publishing significantly more than their colleagues who reported reading only Italian journals (31% versus 8.7%,  $p=0.003$ ) (20).

### 3.3.2 Establishing hospital support units and expert researchers' teams

Experience within research teams has been recognized as a useful tool to promote research awareness (14, 19, 21-23). Formal mentorship while participating in healthcare research teams could also be effective in developing inter-professional research skills (14, 19, 22, 23).

Two Italian studies have documented that establishing support units for nursing research (e.g. nursing research centres) within hospitals is useful in increasing nursing research production and dissemination approximately two or three years after their implementation. Both Chiari (19) and Forni (14) and colleagues analysed the establishment of a research centre based on three main variables: number of research protocols approved by the ethics committees; number of nurse co-authors of published papers; and number of publications where the first author is a nurse. In all cases, authors have reported a significant increase after the foundation of a research centre. The enrolment of an expert/leader working alongside the other members of staff is recognized as promoting nurses' research development. Gaps of knowledge that emerge from practice are needed to guide effective research, to assist clinical nurses in the production and conducting

of research projects, as well as to ensure quality and methodological rigor in the scientific production (14, 19).

### 3.3.3 Enhancing university support

According to Gallagher and colleagues (24), professors of nursing are required to provide effective leadership regarding local research development (13, 22, 24) capable of promoting confidence and creativity and engaging the local setting with the international scientific community, thus creating a bridge between the national and worldwide context (24). The employment of tenured professors at both university and clinical levels has been recognized as an effective strategy to increase nurses' research competences and confidence (13). The support ensured by experts has been documented to improve research methodology capacity and to enhance the quality of nursing research productivity and dissemination (19, 23).

### 3.3.4 Promoting international cooperation

Cross-cultural conversations and orientation to learn from each other have been reported as key factors of research development (24). In this light, participating in international scientific meetings could represent an effective opportunity (22). Moreover, in addition to being a source of creativity, sharing research questions and designs has also been reported as being the required attitude to promote research growth at the national and international levels (24). Receiving support and encouragement from international colleagues, especially via universities, has been suggested as an impetus to cultural changes needed to bridge the gap still existing in Italy with respect to nursing research confidence among nurses (13, 23).

## 4 DISCUSSION

To the best of the authors' knowledge, this is the first review of literature within the Italian borders on the constraints that prevent and factors that promote Italian nurses' participation in and conducting of research projects. Two main profiles of studies have emerged: studies based on data collection (14, 19-22), thus supporting the findings with evidence; and papers based on reflections and/or experiences, as commentaries, experts' opinions or editorials (13, 23, 24). The majority of them have been published from 2010 to 2017, with more research-based studies in the first five years (14, 20-22) and more occurrence of editorials in recent years (13, 23). Publications as a concrete output of the efforts conducted in a given discipline such as nursing (19, 20), have been documented as having evident consistent improvement (4) in recent years, suggesting that some barriers have been overcome and a continuing assessment of barriers and facilitators is needed.

The arising barriers and facilitators seem to be two faces of the same coin, and they can be set at the (a) individual, (b) organizational and (c) the system levels, triggering different strategies and policies. As categorized, only some of them have fully considered the concept of research capacity that relies on elements other than individual elements - such as the degree of competences (15) - suggesting that more analysis should be undertaken at the context levels, where factors might promote or hinder research capacity that go beyond an individual competence or ability.

At the individual levels, English language use has been reported as the main research barrier. Research papers are published in English and nurses living in non-speaking English countries have been documented as having increased difficulty in publishing their research outcomes. These difficulties have been reported mainly among senior nurses as compared with their younger colleagues, in terms of the increased attention to English proficiency in the last decades (13, 20, 22, 23). Moreover, low proficiency in English might prevent contacts with international colleagues as mentors and/or research methodology teachers. Reading international papers has been documented as increasing research capacity (20) and publishing significantly more as compared to their colleagues who do not read such journals; moreover, being informed about what is happening abroad seems to improve nurses' ability to participate in general scientific activities (20, 24). In the same light, participating in international meetings/networks, in order to share ideas (25), to develop international studies and to cooperate, might increase the number and the quality of scientific publications.

At the organizational levels, library and technology accessibility has been documented as a barrier (13, 23), especially at the unit level, which is consistent with international data (26), and encountering such barriers might discourage nurses from their active participation in research activities. However, the recent progress in technologies developed in response to the COVID-19 pandemic, which has increased skills in the use of computer tools, or continuing education through video-conferencing and open online courses, have reduced this constraint. Moreover, there is a sort of agreement that understaffing, time constraints and the lack of organizational culture are three major barriers in preventing nurses from participating in research activities (13, 14, 21-23). Similar barriers have also been reported in other countries, such as Slovenia (27).

In addition to processes at the organizational level, consideration should also be given to the fact that the lack of managerial support as well as the lack of leadership and authority to negotiate and overcome constraints of nursing research development in Italy (13, 14, 21-23) have been reported. Nurse managers should be supported

and educated in changing value systems regarding nursing research by promoting collaboration and creating structural conditions to allow research opportunities and resources. On the other hand, conducting multidisciplinary journal clubs, allowing time for nurses to participate both passively and actively, might also promote research capacity. Furthermore, establishing a unit for research within the hospital (22, 23) has been reported to promote research capacity in line with international literature. Consequently, sensitizing leaders at various levels to create supportive environments for nursing research seems to be strategic.

At the system level, designing and promoting PhD education has been widely recognized as fundamental (28). The first Italian PhD programme was established in 2006 and the number of nurses with PhDs has increased over the years, although numbers remain limited (13, 22, 23). However, universities capable of supporting clinical nurses by involving them in defining research priorities or research protocols has been proved to increase research capacity. Academics' and clinicians' collaboration, as encouraged by studies included in this review (13, 19, 22-24), has the power to improve the quality of research, as well as helping to detect problems that emerge in everyday clinical practice. Therefore, strong partnerships are recommended between clinicians and academics.

At the system level, the lack of available economic resources has been underlined as an important factor hindering research capacity. Although the nursing discipline should access grants available to all researchers, in other countries, too, the lack of specific funding or high competition has been underlined as a critical factor in the nursing field. When research studies are supported financially, an increase in nurses' participation, a growing cooperation with international projects as well as increased effectiveness have been documented.

The access of resources seems to be strictly associated with another barrier documented at the system level: the regional ethics committees have been documented as often refusing nursing studies because the study design is not pertinent to interventional research (13). Nursing representatives are required to be part of the ethical committees' boards also to value the peculiarities of nursing research, when, for example, qualitative studies are submitted. Overcoming ethical committee issues might increase the access to national and international resources and international publications (13). Therefore, the relationship between the ethical committee and researchers should be based on an intensive dialogue, as 'provocative allies' (29), to ensure the appropriate support for the nursing discipline and good clinical practice, and not presented as an insuperable bureaucratic structure.

#### 4.1 Limitations

Despite a systematic approach being used, based also on several databases and the grey literature, some papers may have been missed. Secondly, we mapped the main facilitators and barriers without performing any quality assessment of the papers included. Third, given the heterogeneity of the publications included (e.g., editorials, empirical research), a meta-analysis was not performed. The facilitators and barriers were identified through a qualitative process of categorization using a narrative approach (18), where the perspectives of the researchers involved, as well as their professional and scientific background, might have influenced the findings.

## 5 CONCLUSIONS

This systematic review provides an initial framework of the constraints that prevent, and the factors that promote, Italian nurses' active participation in research projects. Factors preventing effective nursing research might have long-term public health consequences, in two directions: on the one hand, the perception of being limited in research might trigger a brain drain, by increasing the intention to leave the profession and/or the country; on the other hand, limiting the research capacity might prevent patients from receiving the best care. Therefore, the identification of factors hindering or promoting research might support the defining of policies; moreover, detecting these factors at the country level by also comparing the findings, might also harmonize strategies promoting international cooperation in the nursing research field.

A large number of obstacles that limit Italian nursing research have emerged at the individual, organizational and system-wide levels. Most are broadly consistent with the findings available in the international literature, such as poor knowledge of English, lack of managerial support and limited access to libraries and information technologies. Some of them might have paradoxically benefited from the pandemic crisis (such as the development and accessibility of digital solutions), whereas others might have been further threatened, such as the lack of organizational support. In this context, universities creating research units within hospitals and promoting international collaboration, which have been already recognized as facilitators, might increase in importance in the post-pandemic era. To promote the development of nursing research in the Italian context, the following are recommended: to enhance the influence of institutional leaders both within healthcare facilities and in universities aimed at nursing research development; to foster strong partnerships between academics and clinicians; to develop researchers' managerial skills to identify effective national and/or international funding and collaborations; and to

build good relationships with ethics committees, and ask for specialist support when necessary.

## CONFLICTS OF INTEREST

The authors declare that no conflicts of interest exist.

## FUNDING

None.

## ETHICAL APPROVAL

This is a review article. No ethical approval is needed.

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**Supplementary table 1.** Research strategy (database and strings).

Database	String	Filters
Medline	((nursing research[MeSH Terms] OR nursing research[AllFields]) OR (nursing[All Fields] AND research"[All Fields]) OR (clinical nursing research"[All Fields])) AND (research[Title/Abstract] AND Ital*[Title/Abstract]))	Publication dates: 10 years, Updated 31 January 2021 Languages: English and Italian
CINAHL	(MH(nursing research) OR TX(nursing research)) OR TX(nursing AND research) OR TX(clinical nursing research)	Publication year: Updated 31 January 2021 Subject: main title (nursing, research) Languages: English and Italian Geography: continental Europe
Scopus	ALL(nursing research OR (nursing AND research) OR clinical nursing research)	Year: 2009-2019, Updated 31 January 2021 Subject/area: nursing Country/territory: Italy Language: English
Web of Science	ALL FIELDS: (nursing research OR (nursing AND research) OR clinical nursing research)	Publication year: 2009-2019, Updated 31 January 2021 Categories: Nursing Country/regions: Italy
Ovid	(nursing research or (nursing and research) or clinical nursing research)	Publication year (2009-2019), Updated 31 January 2021 Subject: nursing Language: English - Italian
ILISI	'ricerca infermieristica', 'barriere', 'ostacoli', and 'facilitatori'	Publication year: 2009-2019, Updated 31 January 2021
Open Grey	('nursing research' OR 'nursing AND research' OR 'clinical nursing research') AND (Italy OR Italian)	/
Google	ricerca infermieristica OR (ricerca infermieristica AND tesi)	/

Legend: CINAHL=Cumulative Index to Nursing and Allied Health Literature; ILISI=Indice della Letteratura Italiana di Scienze Infermieristiche.

**Supplementary table 2.** Data extraction of included studies.

Author(s), Year Language	Objectives	Study design Type of document	Data collection	Sample Setting	Findings
Bressan et al., 2016 (13) English	To discuss the development of modern nursing in Italy	NA Issue paper	NA	NA	<b>Barriers:</b> limited number of PhD nurses; many nurses have no academic education; low English level (to read and use research findings); lacking access to information technologies; burdensome bureaucratic process of the ethics committees <b>Facilitators:</b> increasing the number of publications; networking internationally; increase the number of nursing professor/PhD in Italian universities and clinical environments; attention to research culture and development; networking at international conferences to learn ideas and gain support; negotiations at national level about nurse's role



Author(s), Year Language	Objectives	Study design Type of document	Data collection	Sample Setting	Findings
Bressan et al., 2017 (23) English	Identifying barriers and facilitators of research awareness among Italian nurses	NA Editorial	NA	NA	<b>Barriers:</b> culture; understaffing; lack of funding; lack of strategic leadership; lack of support of organization, managers and university; limited access to libraries and information technology; low English knowledge; bureaucratic ethics committees <b>Facilitators:</b> having experience in research teams (formal mentorship); increasing PhDs position (limited number available in Italy); promoting support of faculty and nursing professors at university and clinical levels; involvement of international colleagues in order to receive support and encouragement (via international conferences)
Chiari et al., 2016 (19) English	To assess the impact of an established centre for nursing research on number of research protocols approved, articles published and nurse authors involved	Observational, quasi-experimental study: multiple series study Research paper	Before and after implementation of the establishment of a research centre/unit for healthcare professions (intervention) Data collection from 2002 and 2012	Seven hospitals in northern Italy	<b>Facilitators:</b> A statistically significant difference was reported: 1-In research protocols approved by REC for hospitals A (p=0.046) and B (p=0.032) 2- Number of nurses as authors of publications that worked in hospital A (p = 0.038) and D (p = 0.037)
Dall'Oglio et al., 2010 (20) Italian	To describe the self-reported reading of nursing journals and to assess its association with their participation to research activities	Observational study: cross-sectional survey Research paper	Survey carried out between March and May 2008	All nurses working at OPBG	<b>Facilitators:</b> reading nursing journals has been significantly associated with research activities (for example: to be involved in research, to actively participate in publications or conferences); those nurses reading international journals as compared to those reading only Italian journals have reported a greater likelihood of publishing (31.3% vs. 8.7%, p=0.003)
Forni et al., 2014 (14) Italian	To assess the impact of the research centre on the number of research articles and protocols produced by nurses	Quasi-experimental study: interrupted time series study Research paper	Before and after the implementation of the centre for research (in the five years)	430 nurses of the Rizzoli Hospital, Bologna	<b>Facilitators:</b> implementing a centre for research has increased the number of research protocols applied (p=0.037), the number of nurse's authors among the scientific articles published (p=0.027) and the number of studies published in impacted journals (p=0.098 empirical tendency)

Author(s), Year Language	Objectives	Study design Type of document	Data collection	Sample Setting	Findings
Gallagher et al., 2014 (24) English	To offer some reflections on the position of nurses and nursing research in Italy	NA Editorial	NA	NA	<b>Barriers:</b> no sufficient acknowledgment of nursing research as legitimate and necessary; difficulties to obtain ethics committee approval; limited knowledge of English language <b>Facilitators:</b> including at least one member with qualitative research expertise in each ethics committee; developing international collaboration, cross-cultural conversations and commitment to learn from each other; finding support in accessing the Centre of Excellence for Nursing Culture and Research (Rome), interpreting, applying nursing research and disseminating it locally and internationally; providing leadership by nursing professors to develop local research, supporting nurses and creating bridges locally and internationally
Grassi, 2012 (21) Italian	To describe nurses' beliefs on research, their approach to it and the conditions they deal with in the hospitals where they work	Quasi-experimental study: interrupted time series study Master's in nursing science degree thesis	Questionnaire Data collection from May to September 2012	Convenience sample: 152 nurses working at three different hospitals in Puglia region	<b>Barriers:</b> lack of managerial support; lack of time; lack of promotion and research dissemination strategy; obstacles induced by colleagues; limited possibility to participate in continuing education; low English proficiency; limited skills regarding how to access and understand research findings <b>Facilitators:</b> developing and establishing guidelines/protocols regarding research activities; promoting continuing education; establishing a support unit for nursing research inside of hospital/health services; educating on research methodology during undergraduate programmes
Turci et al., 2013 (22)	To check and analyse nurses' specific knowledge/competences about nursing research	Retrospective survey	Survey, August 2013	194 nurses: Fatebene-fratelli Hospital (=114), Cristo Re Hospital (=80) in Rome (all wards)	<b>Barriers:</b> limited dissemination of research results; difficult to find papers by accessing available databases; English language as a barrier to find articles <b>Facilitators:</b> being involved in research projects and activities as an essential part of the nursing role; doing research and disseminating its results is an essential tool for professional development; increasing the number of nurses educated at PhD level could contribute to the development of the nursing profession; participating in international scientific meetings useful to update knowledge and competence; understanding scientific language; having more time to read research papers

Legend: DR=Diploma Regionale per Infermiere (Diploma of Vocational Nurse); NA=not applicable; OPBG=Ospedale Pediatrico Bambino Gesù (Bambino Gesù Children's Hospital); REC=Research Ethics Committee; PhD=Philosophy Doctor (Doctor of Philosophy); RN4CAST=Centro di Eccellenza per la Cultura e la Ricerca Infermieristica (Centre of Excellence for Nursing Scholarship).