Work-Family Conflict in Nursing: An Integrative Review of Its Antecedents and Outcomes

Claudia Gonnelli
Local Health Unit of Siena, Italy

Rosalba Raffagnino
University of Florence, Italy

Abstract

The aim of this paper is to provide an integrative review of the literature on work-family conflict (WFC) in nursing, assessing the antecedents and consequences of nurses' productivity, physical and psychological health, and well-being. We searched electronic databases, focusing on articles published in English and Italian during the period of 2005 to 2017. From the 1,180 studies found, we selected 28 papers for this integrative review. The findings, expressed as narrative synthesis, show that WFC is a stressor in nursing and most analyzed risk factors centered on the workplace. Some shortcomings of our review include methodological aspects and depth, although our synthesis of the 28 studies provides an evidence base for further insights into WFC in nursing.

Keywords: work-family conflict, nursing, risk and protective factors, job stress, job satisfaction

Nursing is a stressful job that can affect nurses' productivity, satisfaction levels, physical and mental health, and turnover intentions, as well as their patients' satisfaction (e.g. Khamisa, Peltzer, & Oldenburg, 2013). The effects of many different risks and protective factors (i.e. personal, relational, structural and organizational) on nurses' performance, personal health and well-being (Khamisa, Peltzer, & Oldenburg, 2013) and turnover (Heinen et al., 2013) have been analyzed by researchers. Conventional research on this topic has focused mainly on the workplace, observing various stressful tasks and characteristics of nursing that contribute to the quality of the work environment (Glazer & Gyurak, 2008).

Besides work-domain antecedents of nursing stress, burnout and satisfaction, researchers have begun to consider other domains, such as the work-family interface, which may generate factors that could overlap with strictly professional ones. Many scholars have analyzed work-family conflict (WFC), which is a dynamic area of research in work-family literature across various occupational sectors. However, this topic is relatively under-researched, with noteworthy gaps in the nursing literature. The present paper describes an integrative review of the recent literature on the role of WFC in nursing. Our objective is to obtain a clear understanding of the frequency, effects, and risk as well as protective factors of WFC in nursing. We chose the method of integrative review because it "allows for the inclusion of diverse methodologies (i.e. experimental and non-experimental research) and has the potential to play a greater role in evidence-based practice for nursing" (Whittemore & Knafl, 2005, p. 547). Understanding of the frequency of WFC and how nurses experience it may have conceptual and practical utility. It may help make nurses and managers more aware of its importance and of the need to invest energy and resources in promoting new organizational models, and developing personnel policies aimed at limiting or solving this problem.

Work-Family Conflict

Since work and family are the two major life domains of most people, a growing body of empirical research has analyzed the work-family interface in recent years. Some researchers have proposed that the flow of attitudes, emotions, and behaviors established in one domain may spill over into the other, as a linking mechanism between work and family (Edwards & Rothbard, 2000). The concept of spillover has been studied from the perspective of facilitation and enrichment of these two domains (work-family enrichment) and the point of view of the conflict, in this last case using the WFC construct. While the first angle has showed that multiple roles could have a positive effect on an individual's well-being and health, the WFC perspective maintained that engagement in one role is harmful to the other, leading to adverse outcomes for individuals, families, and organizations (Greenhaus & Beutell, 1985).

The concept of WFC has been widely studied in the work-family literature. It is considered a complex construct that involves different outcomes and antecedents and includes two possible directions. The argument regarding the WFC's two directions was first suggested by Greenhaus and Beutell (1985), and explicitly distinguished and analyzed by Frone, Russell, and Cooper (1992). These two directions are Work-to-Family Conflict (W-F-C), when difficulties at work affect functioning at home, and Family-to-Work Conflict (F-W-C) when problems at home affect functioning at work. In general, WFC can have various adverse effects on individuals' mental and physical health (Panatik, Badri, Rajab, Rahman, & Shah, 2011). In addition, it is argued that WFC can have multiple harmful effects on life satisfaction (e.g. Zhao, Qu, & Ghiselli, 2011) and job and family domains (e.g. Carroll, Hill, Yorgason, Larson, & Sandberg, 2013; Kalliath, Hughes, & Newcombe, 2012). However, most research has shown stronger

relationships to same-domain outcomes than to cross-domain effects (e.g. Amstad, Meier, Fasel, Elfering, & Semmer, 2011).

Regarding the antecedents of WFC, Greenhaus and Beutell (1985) proposed that time (time-based conflict), negative emotional states and fatigue (strain-based conflict) and required behaviors, expectations or rules (behavior-based conflict) experienced in one domain may influence functions, performance, satisfaction, expectations, and rules in the other. Later studies offered many different insights into the effects of work or family antecedents on the other life domain. The topic of time-based conflict has been studied more than other types; in these studies, scholars focused on working hours and their effect on worker well-being, health, jobs and life satisfaction (e.g. Wooden, Warren, & Drago, 2009). Regarding the topic of strain-based conflict, the impact of job-stress has been mainly studied, and findings show it has adverse effects on marital interactions and marital quality (e.g., Schulz, Cowan, Cowan, & Brennan, 2004). In the family domain, studies show that parenting stress has been associated with WFC (e.g. Vieira, Avila, & Matos, 2012). Regarding behavioral-based conflict, scholars have found that workers with high work-role expectations who considered work-roles as highly salient to their identity, experienced WFC (Fox, Fonseca, & Bao, 2011). Job-associated responsibility for others has also been found to be associated with WFC (Dierdorff & Ellington, 2008).

Scholars have also outlined the significant role of different protective and mediating factors in preventing or helping individuals cope effectively with WFC. Investigation of the protective factors has revealed that dispositional factors mainly seem to reduce the risk of WFC. These include self-efficacy, positive affect, internal locus of control, hope, optimism and resilience (Allen et al., 2012), as well as abilities such as selecting own life goals, optimizing goal-relevant means and looking for alternative compensatory means (Baltes & Heydens-Gahir, 2003). Other protective factors, such as social support from colleagues and supervisors, have been factored in studies on the work domain (Karatepe, 2010). In the family domain, some of the protective factors against WFC included emotional support from a partner (Selvarajan, Cloninger, & Singh, 2013) and marital satisfaction (Rogers & May, 2003). Moderating factors of WFC regarded socio-demographic characteristics, such as gender differences (Powell & Greenhaus, 2010) and particular job characteristics (Dierdorff & Ellington, 2008).

Method

Aim and Search Strategy
To obtain an overall picture of the WFC in nursing, our integrative review was conducted to detect the sensitivity of researchers and operators toward WFC as a risk factor for nurses' productivity, health, and well-being. To identify and assess relevant papers on WFC in nursing in the international literature, we designed a study protocol with the analysis of scientific material using inclusion/exclusion criteria. The findings were expressed as narrative syntheses in summary sheets. As a landmark, we used the extensive NEXT study by Simon, Kummerling, and Hasselhorn (2004) on nursing in several European countries that reported high levels of WFC in nurses in many countries. In our search, we considered peer-reviewed articles published in the last decade (2005–2017). The keywords used were: Work-family, outcomes, consequences, risk factors, protective factors and antecedents (used interchangeably), nursing stress, burnout, satisfaction, turnover. We first conducted an extensive search of the literature in the following databases: Medline, Embase, EBSCO, ScienceDirect, PubMed, Psychinfo, Google Scholar and Cochrane.

Screening Search Outcome and Quality Appraisal
Using the title and abstract to assess the relevance of a given research report for our review, we identified 1180 papers. In this first screening, we included editorials (n = 40) and brief reports (n = 60), useful for a full background of the review topic. After skimming the abstracts, 610 papers on the general topic (WFC, nursing stress, well-being, job satisfaction) and unique to WFC in nursing, were selected and retrieved in full-text. We added 60 other papers to this full-text sample, and two people made a selection by centrality to the review objectives and methodological quality. This approach narrowed down the sample to 215 articles, and information from analysis of these full-texts was entered in various sheets, and used as a basis for the review. Then we focused solely on WFC, and a sample of 28 papers was identified for analysis (Figure 1). In some cases, we excluded articles that analyzed WFC in health organizations without focusing on nurses or distinguishing nurses from other workers.

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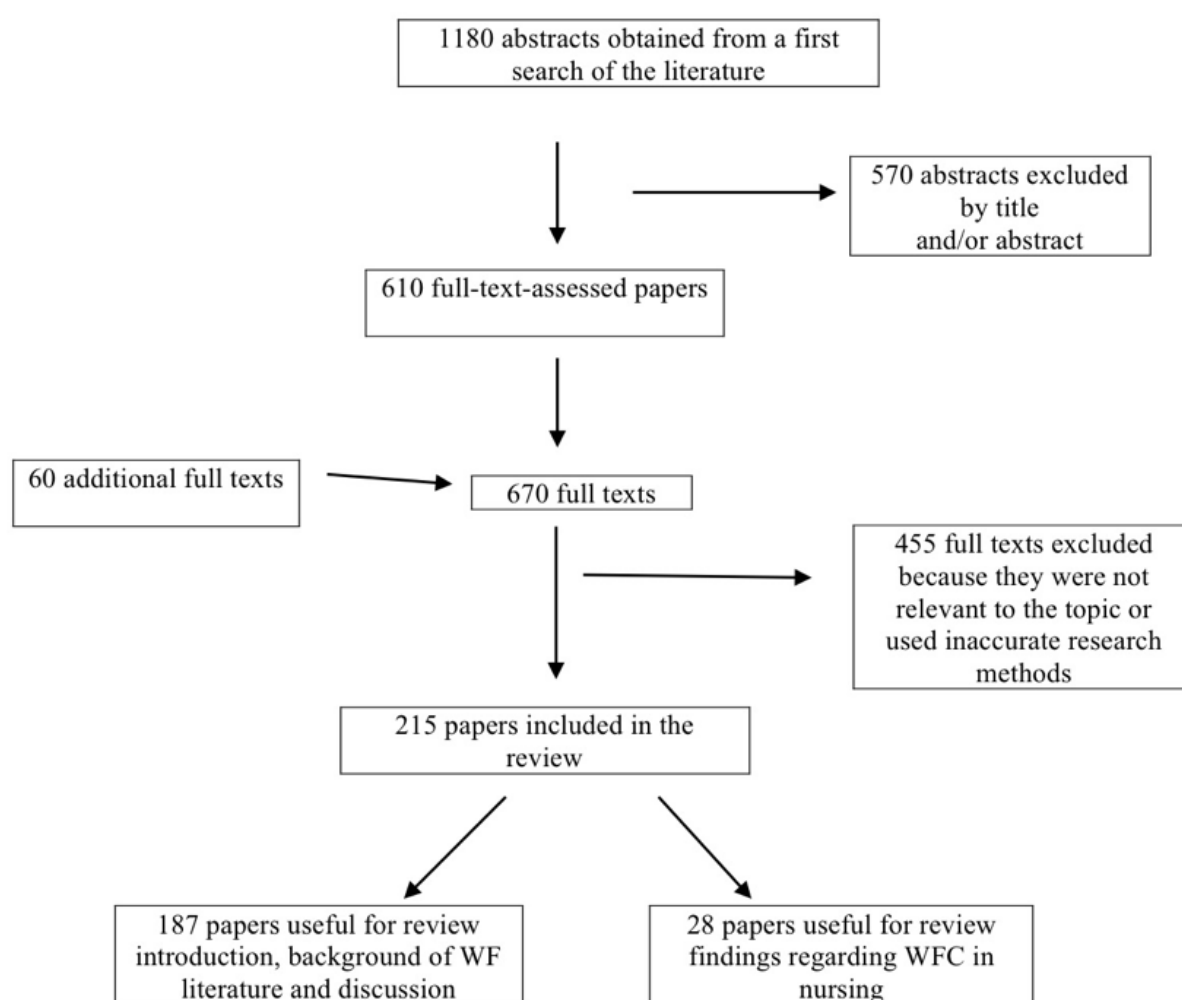
Figure 1: Search and screening papers for review.

To analyze the final sample of the 28 papers, we assessed the theoretical basis, as well as the editorial and scientific quality, of the study using a specially designed sheet. The various themes emerging from the sample provided a general understanding of state of the art about the review topic. During this phase of quality appraisal, any disagreement between the two researchers was resolved through discussion and occasionally by enlisting a third reviewer for

mediation. The data extracted from the 28 papers were the basis for the review and is summarized in the following discussion sections.

Results

In this section, we present certain methodological aspects and findings of the reviewed papers. Regarding the method used in the 28 articles, we considered the journal in which each article was published; the country, the type of paper, participants and sampling method, research design, the measures used and the type of data analysis. The findings of the research articles were distinguished according to five main topics: presence and frequency of WFC in nursing, negative and positive antecedents of WFC, WFC outcomes, mediator factors between WFC and its results and differential factors of WFC. This approach meant that reviewed papers could be cited more than once if they dealt with more than one of the five topics considered.

In general, most of the 28 papers remarked on the paucity of published nursing studies on WFC, and its antecedents and outcomes in their introductions. However, many recognized the importance of the topic, above all due to the increasing female workforce and the predominance of women in nursing. Table 1 summarizes the main research themes and the theoretical basis of each of the papers reviewed.

Authors Paper Title	Main Research Topic	Theoretical Background
1. Abrahamsen, Holte, & Laine. (2012)	***Level of WFI and its antecedents*** The scholars analyzed the level of Work Family Interface (WFI) among part-time and full-time nurses working in Norway and Finland. Then they considered the role of work hours and work schedules in the association between part-time and WFI.	Relatively little is known about the day-to-day problems experienced by part-time workers. The literature showed contradictory findings about the effects of part-time and full-time work on WFI.
2. Barnett, Gareis, & Brennan. (2008)	***Antecedents of WFC and other variables*** The aim of this research was the observation of iinteractional effects of the wife's shift schedule and number of hours on WFC, psychological distress, marital-role quality.	In WFC research, within-couple analysis is little used. Also, there are different and contradictory findings about the outcomes of day shifts work.
3. Battistelli, Portoghese, Galletta & Pohl. (2012)	***Outcomes of WFC and other variables*** The scholars developed and tested a theoretical model of turnover intention that involved both WFC and community embeddedness.	Recently, new research directions have permit to identified WFC and job embeddedness (JE) in nursing turnover intention.
4. Camerino et al. (2010)	***Antecedents and consequences of WFC*** In this research, the scholars observed both the role of shifwork and preventative measures at work in determining WFC and the effects of WFC on specific health and well-being indicators.	There is little research on the impact of work schedules and preventative measures at work on work-family conflict.
5. Cortese, Colombo & Ghislieri. (2010)	***Effects of WFC and other variables on job satisfaction*** The scholars tested a model about the causal relationship between job and emotional charge, supportive management, supportive colleagues and WFC and job satisfaction.	In nursing literature, the findings are often limited and not accurate in detecting WFC.
6. Gandi, Beben & Gyarazama. (2011)	***Outcomes of WFC and other variables*** The aim of this research was the assessment of the effects of work-home and homework interferences on job performance in male and female nurses in Nigeria.	In low income and developing countries, research on the effects of job characteristics and family responsibility on the nurses' performance working are few .
7. Ghislieri, Molino & Gatti. (2015)	***Outcomes of WF interface*** The authors analyzed the association between WFI, in terms of conflict and enrichment, and turnover intentions (TI).	In nursing management literature, scholars have observed that WFC increased the probability of TI, while the WF enrichment was linked to lower levels of TI.
8. Ghislieri, Gatti, Molino & Cortese. (2017)	***Antecedents of WFC and WFE*** The authors examined the associations among work relationships, job demands (e.g. workload, emotional dissonance), WFC and work–family enrichment (WFE).	In nursing, there are few studies on the positive side of the work–family interface, such as work–family backlash and organizational support.
9. Gipson-Jones. (2009)	***Outcomes of interaction between work, family and roles*** The scholars observed both the interaction among African-American nurses' work, family and student roles, and their influence on nurses' psychological well-being and desire to stay in their profession.	Occupying multiple roles makes nurses susceptible to WFC. No studies have addressed WFC among minority nurses.

10. Grzywacz, Frone, Brewer & Kovner (2006)	***Prevalence and frequency of WFC*** The scholars detected the prevalence and frequency of WFC in nursing.	The literature did not give satisfactory information about how frequently nurses experience WFC
11. Hanif & Raza Naqvi. (2014)	***Effects of WFC*** The aim of this research was the assessment of effects of WFC on job satisfaction, job performance and psychological well-being in Pakistani nurses.	The study outlined the difficulty of work environment for nurses in developing countries.
12. Heponiemi, Kouvonen, Sinervo & Elovainio. (2010)	***Antecedents of WFC and other variables*** The scholars evaluated the role of organizational justice and job control in work-family interference and sleeping problems.	The empirical literature showed mixed evidence of the effects of increased use of fixed-term employment contracts in Europe.
13. Keepnews, Brewer, Kovner & Shin. (2010)	***WFC and other variables as differential factors*** The scholars identified and understood the generational differences among newly licensed registered nurses (NLRNs).	No research about generational differences among the NLRNs.
14. Kim et al. (2013)	***Effects of WFC*** The aim of this research was the analysis of the association between WFC and musculoskeletal pain within a 3-months period among hospital patient-care workers.	Little is known about the effects of WFC on physical health among hospital patient care workers, and in particular in nurses.
15. Kunst et al. (2014)	***Antecedents of positive and negative WF spillover*** The scholars examined the effects of shift work schedules on positive and negative WF spillover.	Shift work is very common in nursing, but few studies have investigated work–family spillover in this profession.
16.Lagerström, Josephson, Arsalani, & Fallahi-Khoshknab (2010)	***Experience of managing work and family roles*** The scholars studied the effects of work–family issues in the everyday life of Iranian nurses.	The WFC is little known in developing countries such as Iran, where nurses face many difficulties at work (e.g. high workload, low salary).
17. Leineweber et al. (2014)	***Effects of WFC on burnout*** The scholars analyzed the effects of WFC on burnout, in Swedish registered nurses (RNs). The work practice environment was measured at department level.	In nursing, few studies have examined the association between WFC and burnout at different organizational levels.
18. Lembrechts, Dekocker, Zanoni & Pulignano (2014)	***Antecedents of W-to-F conflict*** The scholars examined the job sources of W-to-F conflict such as the role of work–family policy use, job dimensions and organizational support.	The relations among organizational support, job dimensions, work–family policy and W-to-F conflict have not been fully investigated.
19. Martini & Converso. (2012)	***Effects of WFC and other variables on burnout*** The scholars analyzed some antecedents of burnout in nursing including WFC.	The literature outlined the specific nature of the job strain and burnout risk factors in various job contexts.
20. Moazami-Goodarzi., Rantanen, Nurmi & Mauno. (2015)	***The ways to manage WFC*** The aim of this research was the identification of work-family boundary management profiles among university staff and nurses.	Boundary management styles are flexible and influenced by differences between individuals and the structure of their jobs.

21. Sharma, Dhar & Tyagi (2016)	*Effects of WFC* In this research, the scholars observed both WFC as cause of stress and its subsequent impact on nurses' psychological health. They regarded also the mediating role of emotional intelligence.	In India, the high women workforce in nursing is consistent with increased WFC. Also, WFC and lower emotional intelligence increase nurses' stress.
22. Takeuchi & Yamazaki (2010)	*Effects of WFC and other varables* In this research, the scholars considered both the influence of WFC and the sense di coherence (SOC) on mental and physical health of nurses.	Very few studies have investigated WFC among Japanese nurses and no study has considered the SOC, that helps nurses to cope with stress.
23.Van der Heijden, van Dam & Hasselhorn (2009)	*Effects of WF interference* The scholars identified the predictors of nurses' turnover intention (TI), including work-home interference. They also analyzed the influence of these predictors on job satisfaction.	Current knowledge of the predictors of nurses' turnover is still limited. Theory and research indicate that nurses' TI was affect by occupational commitment and job satisfaction.
24. Van Der Heijden, Demerouti & Bakker (2008)	*The mediator role of WH interference* The scholars viewed the mediating role of Work-Home interference between job demands (emotional, quantitative, physical) and nurses' health.	Many studies have assessed stressor–WH Interference-strain model. No longitudinal studies about the impact of WH Interference upon general health.
25. Wang, Chang, Fu & Wang. (2012)	*Effects and mediator role of WFC* The aim of this research was analysis of the relationship between work-family conflict and burnout; also, the scholars regarded the mediating role of psychological capital in this relationship.	Nurses are considered risk workers with high levels of burnout, often associated with WFC.
26. Ward- Griffin et al. (2015)	*Effects of WF spillover* The scholars examined both the health of nurses who provide care to older relatives, and their striving for balance between the job and familial care expectations.	Little is known about the health effects of double duty caregiving, or to the factors that shape this experience.
27.Yamaguchi, Inoue, Harada & Oike. (2016)	*Effects of WFC and other variables* With other variables (job control, family variables), the scholars analyzed both the effects of WFC on nurses' intention to leave their organization or profession, and their variations among caregiving settings.	Many researchers identified numerous factors affecting nurses' intention to leave work, but there are few studies on the different caregiving settings.
28.Yildirim & Yacan (2008)	*Effects of WFC and other variables* The aim of this research was the assessment of the role of social support, both as a moderator and a main effect in the relationship among work demands, work-to-family conflict, and life/ job satisfaction.	There is paucity of research about WFC in nursing. Most research has been conducted in Western industrialized societies. Social support has received wide interest in WF literature.

Table 1. The main research topics and the theoretical background of the reviewed papers.

Methodological Aspects of the Articles Reviewed
Table 2 summarizes particular methodological aspects of the 28 papers, most of which were published in international nursing and psychology journals.

All papers presented empirical research, and in some of them, the report was part of a wider study. For instance, in the study by Abrahamsen et al. (2012), the data were gathered as a part of the European Nurses Early Exit Study. Also, those in the study by Kim et al. (2013) were part of the "Be Well Work Well" study conducted by the Harvard School of Public Health, Center for Work, Health and Wellbeing. In addition, Leineweber et al. (2014) used data from the Swedish portion of RN4CAST, a European Project, focusing on nurses in surgical and medical inpatient care. Still, in the European context, the two papers by Van der Heijden et al. (2008; 2009) were part of "Nurses Early Exit (NEXT)," a research project financed by the European Commission, regarding the reasons, circumstances, and consequences of nurses' intention to leave their profession.

The geographical research contexts of the reviewed papers involved both European and extra-European countries (US, Nigeria, Pakistan, Iran, India, and Japan). According to Hanif and Raza Naqvi (2014), interest in the analysis of nursing WFC in developing countries with traditional social roles suggests that "the impact of multiple roles at work and in a family may be bound to the culture in different countries" (p. 103).

In most of the studies, the participants were women and even when the sample comprised men, they were a minor percentage. Regarding methodology, we noted that scholars preferred cross-sectional design, self-report instruments, and quantitative data analysis, with a few exceptions. Indeed, three studies used focus groups and interviews (Gipson-Jones, 2009; Lagerström et al., 2010; Ward-Griffin et al., 2015). The latter two used grounded theory, analyzing the meaning and interaction processes surrounding phenomena from the participants' perspective.

Regarding research design, in two similar studies, Van der Heijden et al. (2008; 2009) employed longitudinal design with a one-year interval between the two steps. While all 28 papers used individuals as the unit of analysis, Barnett et al. (2008) focused on couples as appropriate for the analysis of WFC, because this construct included family, a systemic context in which members are linked in relationships and what happens to one member can affect the others. Likewise, couple analysis enables assessment of within-couple crossover effects. Regarding the measures employed to assess the various variables treated in the studies, in a majority of cases the researchers sent or delivered the tools to a broad cross-section of nurses, but did not receive responses from all of them. Yildirim and Yacan (2008) suggested this may depend on the excessive workload and time constraints of clinical nurses. For the measure of WFC, the authors used the tool of Netemeyer et al. (1996), a validated short self-report that assesses the two directions of WFC (W-F-C and F-W-C). In some of the studies, WFC was one of various other variables measured by researchers.

Authors, Year, Journal, Country	*Paper Type*	*Partecipants and Sample Method*	*Research Design and Measures*	*Analysis Type*
1. Abrahamsen et al. (2012) *Professions & Professionalism* Norway, Finland	Empirical research as part of wider European Nurses Early Exit Study	1,315 female registered nurses for Norway and 1,240 FRNs for Finland. These samples were drawn from a large sample of all nurses employed in the target institutions	Cross-sectional design, using a questionnaire sent by post. WF interference was measured by scale of Netemeyer et al. (1996)	Quantitative data
2. Barnett et al. (2008) *Journal of Family Issues.* Boston	Empirical research focusing on the couple as the unit of analysis.	55 dual-earner families with children, in which the mother was a registered nurse, This sample was randomly drawn from the registry of the Board of Certification in Nursing.	Cross-sectional design, using face-to-face quantitative interviews,which were conducted at each family's home. WFC was assessed by a scale developed by MacDermid et al. (2000)	Quantitative data
3. Battistelli et al. (2012) *International Nursing Review.* Italy	Empirical research Ethical Committee approval	440 professional nurses working at one Italian public hospital. The sample was drawn from 695 nurses who received questionnaire.	Cross-sectional design using questionnaire that was delivered by nurse supervisors. WFC was measured by the scale of Netemeyer et al. (1996)	Quantitative data
4. Camerino et al. (2010) *Chronobiology International.* Italy	Empirical research institutions' approval	664 registered nurses, 98% female, randomly selected from all registered nurses working at six health care institutions	Cross-sectional design using survey, with italian Nurses' Early Exit Study questionnaire (NEXT). WFC was measured using the scale of Netemeyer et al. (1996)	Quantitative data
5. Cortese, et al. (2010) *Journal of Nursing Management* Italy	Empirical Research Ethical Committee approval	299 professional selected from all nurses working at all medical departments of one hospital.	Cross-sectional design, using questionnaire that was delivered by nurse supervisors	Quantitative data
6. Gandi, et al. (2011) *Psychology.* Bauchi State, Nigeria	Empirical research The National Association of Nigeria Nurses & Midwives approval	373 male and female nurses, selected from 3698 ones by stratified random sampling	Cross-sectional design using a questionnaire that was administrated by research field assistants. Two ad hoc scales were used for WHI.	Quantitative data

7. Ghislieri et al. (2015) *Medicina del Lavoro (Occupational Medicine)* Italy	Empirical research approvated by hospital management	478 nurses, mainly women (84%), working at a northern Italy hospital	Cross-sectional design using survey. WFC was measured using the Netemeyer et al. (1996) scale.	Quantitative data
8. Ghislieri et al. (2017) *Journal of Nursing Management* Italy	Empirical research authorized by the hospital board of directors	500 nurses,mainly women (84%), working at a northern Italy hospital	Cross-sectional design using survey WFC was measured using the Netemeyer et al. (1996) scale.	Quantitative data
9. Gipson-Jones, (2009) *Journal of Transcultural Nursing* Southeastern Virginia and the District Columbia	Empirical research approved by the institutional boards	23 licensed practical women nurses, working at three schools of nursing, recruited over a 12-month period	Mixed-method design, using focus group and a semi-structured interview guide	Qualitative data . Content analysis
10. Grzywacz et al. (2006) *Research in Nursing & Health* Columbia, U.S.	Empirical research	1,213 women registered nurses, randomly selected from all nurses among 40 of the 51 metropolitan statistical areas (MSAs) in the U.S.	Cross-sectional design using mailed survey. WFC measured by three ad hoc items.	Quantitative data
11. Hanif & Raza Naqvi (2014) *International Journal of Gender and Women's Studies* Pakistan.	Empirical research	A convenience sample of 143 nurses, out of 366 distributed questionnaires, who worked at the public health sector of two cities in Pakistan, Islamabad and Rawalpindi.	Cross-sectional design, using a questionnaire administered through personal visits. WFC was measured by the Netemeyer et al. (1996) scale	Quantitative data
12. Heponiemi, et al. (2010) *International Journal of Nursing Studies*. Finland	Empirical research as a part of a Finnish study. Ethical committee approval	1,767 registered nurses (1,676 women) selected by random sample among 5,000 nurses from the Central Register of Health Care Professionals.	Cross-sectional design using a survey. Work interference with family measure was derived from the measure developed by Frone et al. (1992).	Quantitative data
13. Keepnews et al. (2010) *Nursing Outlook* Columbia	Empirical research, using data from an ongoing, longitudinal study and job choices.	2,364 members of the Baby Boomer and X and Y generations selected from a sample of 3,380 nurses	Cross-sectional study design, using a survey.	Quantitative data

14. Kim et al. (2013) *American Journal of Industrial Medicine.* Boston	Empirical research as part of the Be Well Work Well study. Institutional approval.	1,199 patient care workers randomly selected from 2000, working at 105 units (12 different types of units) of two large academic hospitals	Cross-sectional design, using a survey. WFC was measured by the Netemeyer et al. (1996) scale.	Quantitative data
15. Kunst et al. (2014) *International Journal of Occupational Safety and Ergonomics.* Norway	Empirical research as part of The survey of Sleep, Shift Work and Health (SUSSH)	2058 registered members, mainly women (91%), of the Norwegian Nurses Organization (NNO), random selected from 6000 members on the basis of the time elapsed since graduation	Cross-sectional design using a questionnaire, that was sent by post and online. The WF spillover was measured by using the Kinnunen et al. (2006) scale.	Quantitative data
16. Lagerström et al. (2010) *Nursing Science Quarterly.* Teheran (Iran)	Empirical research. Hospital administration approval	22 registered women nurses, full-time, living with their families and working at one of two teaching hospitals	Cross-sectional design, using both individual and focus group interviews, that took place during work hours.	Qualitative data. Grounded theory method
17. Leineweber et al. (2014) *PLoS One* Stockholm (Swedish)	Empirical research, as a part of RN4CAST, an European project. Ethics approved	8,620 registered nurses, from 369 departments of 53 hospitals, selected from the 33,083 members registered in the Swedish Association of Health Professionals	Cross-sectional design, using a survey. WFC assessed by one ad hoc item.	Quantitative data
18. Lembrechts et al. (2014) *Journal of Nursing Management.* Belgium	Empirical research in collaboration with the three largest Belgian trade unions.	A convenience sample of 83 nurses for the pilot testing study, and 384 nurses for the main research.	Cross-sectional study using online web. WFC measured by four ad hoc items of the European Social Survey.	Quantitative data
19. Martini & Converso (2012) *Italian Journal of Occupational Medicine and Ergonomics* Italy	Empirical research	307 participants, both nurses (61%) and support staff (39%), working at multi-specialty hospitals. The scholars did not explain how they selected their sample.	Cross-sectional study using questionnaire. WFC was measured by using the Netemeyer et al. (1996) scale	Quantitative data
20. Moazami-Goodarz et al. (2015) *International Journal of Business Administration.* Finland	Empirical research	271 nurses working at one health care district; 1,139 university employees working in two universities. They were part of a larger study on university employees	Cross-sectional study using online questionnaire. WFC was measured by Carlson, Kacmar, and Williams (2000) scale.	Quantitative data

21. Sharma et al. (2016) *Applied Nursing Research.* Uttarakhand, India	Empirical research with the agreement of 33 private nursing homes	693 female nurses out of 800 distributed questionnaires, working at 33 private nursing homes, gathered from a total of 40	Cross-sectional study using questionnaire that was delivered by hospital managers. WFC was measured by the Netemeyer et al. (1996) scale	Quantitative data
22. Takeuchi & Yamazaki (2010) *Japan Journal of Nursing Science.* Tokyo	Empirical research with ethics approval	138 female nurses out of 388 nurses working at three hospitals in the Tokyo metropolitan area	Cross-sectional study using questionnaire. The W-to-F conflict was measured by using the scale created by Kato and Yamazaki (2009).	Quantitative data
23. Van der Heijden et al. (2009) *Career Development International.* Netherlands	Empirical research as part of NEXT research with ethics approval	1,187 registered nurses, out of 9,200 questionnaire sent out during the first research step. Research participants worked at nine different general hospitals, nursing homes, home care institutions	A longitudinal research design with a one-year interval between the two steps. It used a questionnaire sent by mail. WFC measured by the Netemeyer et al. (1996) scale.	Quantitative data
24. Van der Heijden et al. (2008) *Journal of Advanced Nursing.* Netherlands	Empirical research as part of NEXT research with ethics approval	1,187 registered nurses, out of 9,200 questionnaire sent out during the first research step. Research participants worked at nine different general hospitals, nursing homes, home care institutions	A longitudinal research design with a one-year interval between the two steps. It used a questionnaire sent by mail. WFC measured by the Netemeyer et al. (1996) scale.	Quantitative data
25. Wang et al. (2012) *BMC Public Health.* Liaoning (China)	Empirical research with ethics approval	1,332 female nurses out of 1,700, working at six general hospitals, randomly selected	A cross-sectional study, using a questionnaire. WFC was measured by the Netemeyer et al. (1996) scale	Quantitative data
26. Ward- Griffin et al. (2015) *Journal of Family Nursing.* Ontario, Canada	Empirical research approved by the Ethics Review Board	32 male and female nurses in the second step of research randomly selected from 3,700 members of the Colleges of Nurses of British Columbia, Ontario and Nova Scotia.	Sequential, mixed-method study in two phases, focusing on the second step. Authors used two telephone interviews and focus group.	Qualitative data Grounded theory
27. Yamaguchi et al. (2016) *International Journal of Nursing Studies.* Kyushu (Japan)	Empirical research with written accord of organizations	1,461 nurses out of 2,177 delivered questionnaires, working at hospitals, home healthcare and nursing homes	A cross-sectional study using a questionnaire that was delivered by institution representatives. WFC was measured by the Carlson et al. (2000) scale.	Quantitative data

28. Yildirim & Yacan (2008) *International Journal of Nursing Studie*s Istanbul	Empirical research approved by the Institutional Reviewed Board of the University.	243 females nurses, including academic nurses and clinical nurses, out of 874 delivered surveys, working at the departments of nursing in two large universities	A cross-sectional study using a questionnaire. WFC was measured by the Netemeyer et al. (1996) scale.	Quantitative data

Table 2: Methodological aspects of papers surveyed.

How Common is WFC in Nursing?
The first topic of the reviewed papers looked at the presence and frequency of WFC in nursing. Since this extensive study by Simon et al. (2004) that reported high levels of WFC in nursing in several European countries, other scholars have described similar findings. Among the 28 articles, the results of a study by Hanif and Raza Naqvi (2014) showed that most nurses in Pakistan suffered WFC. On the other hand, Lagerström et al. (2010) focused on family roles and job perception, and their findings revealed that female nurses in Iran reported high pressure from family roles and perception of nursing as a tough job. Some researchers also found differences between the frequency of W-F-C and F-W-C. Grzywacz et al. (2006) offered an assessment of W-F-C and F-W-C and their chronic and episodic nature. They found a higher prevalence of work interference from family than vice versa, and that for many nurses both were episodic phenomena. Considering gender differences, Gandi et al. (2011) observed that neither work-home nor home-work interference was high among male or female nurses in Nigeria; although the former was higher and its frequency was occasionally high for both genders. They concluded that "the boundary from work to home duties is more permeable than the boundary from home to work" (pp. 328–329). By contrast, Leineweber et al. (2014) found that less than one-quarter of Swedish nurses experienced high levels of WFC; most of their sample population scored low to medium levels of WFC.

Antecedents or Predictors of WFC
Among the predictors of WFC, most articles that focused on job antecedents found that working conditions, and both quantitative as well as qualitative job demands, contributed to WFC among nurses (Cortese et al., 2010; Gandi et al., 2011; Lagerström et al., 2010; Lambrecht et al., 2014, Van der Heijden et al., 2008). Many studies focused on time-based WF interference. Long working hours, irregular work schedules and shift-work were considered major risk factors for WFC (Lagerström et al., 2010; Lambrecht et al., 2014; Takeuchi & Yamazaki, 2010). As well, Yildirim and Yacan (2008) observed that irregular work schedules and excessive workload, but not working hours or overtime, were associated with WFC. In another study by Kunst et al. (2014), it was revealed that among Japanese nurses, negative WF spillover differed across work schedules (rotating work shift, day only, evening only, night only or day and evening). In a sample of Italian nurses, Camerino et al. (2010) found that irregular day work and shiftwork with nights had the most adverse effects on WFC.

Other quantitative work demands, including emotional demands, received little attention, despite the fact that nursing is an emotional job with emotional charge. Cortese et al. (2010) observed that proper emotional charge was positively associated with Work-Family Conflict (WFC). Work relationships as risk factors for (WFC) have also received some attention in nursing. Ghislieri et al. (2017) found that supervisor backlash, but not coworker backlash, was positively associated with WFC. Also among Japanese nurses, Takeuchi and Yamazaki (2010) reported that WFC was correlated with low workplace support.

Regarding family variables, the authors considered households and family demands such as housework and child care. Assessing some households, Abrahamsen et al. (2012) noticed that living with children in the absence of a partner was a critical factor for WF interference. Takeuchi and Yamazaki (2010) found that Work-Family Conflict (WFC) increased if nurses did not receive assistance with housework on workdays and spent much time on housework and childcare. For Lagerström et al. (2010), inter-role problems were experienced mainly by nurses who had large families, young children, and family members with health problems. Focusing on double-duty caregiving involving elderly relatives, Ward-Griffin et al. (2015) found that caregivers lived a stressful life when care boundaries were blurred, and care expectations were exceedingly high.

While in the general Work-Family Conflict (WFC) literature many scholars identified individual characteristics as antecedents of WFC, we found few studies in the case of nursing. Using a person-oriented analysis, Moazami-Goodarz et al. (2015) observed that for nurses, WFC was associated with inflexibility, ability, and willingness at the work-family border (segments). Instead, as an individual antecedent of WFC, Van der Heijden et al. (2008) proposed nurses' general health, more often identified as a WFC outcome. They found that this variable had a negative impact on work-home interference over time and that good general health was associated with less work-home interference over time.

Among risk factors, some authors also considered protective factors as antecedents of Work-family Conflict (WFC), focusing mainly on work-related factors such as social support, regarded as a key protective factor against WFC and nursing stress. Overall, support from management and colleagues were considered. Lembrechts et al. (2014) found that physician and co-worker support significantly decreased WFC in nurses, whereas Cortese et al. (2010) found that only supportive management was correlated with WFC and not colleagues' support. Yildirim and Yacan (2008) observed that social support from supervisors was directly associated with lower WFC and higher job satisfaction, but not with life satisfaction. Gipson-Jones (2009) found that family support was important for work/family balance. Camerino et al. (2010) found that appropriate communication and active participation of workers in preventative measures decreased WFC directly, as well as indirectly via a reduction in quantitative demands at work. Takeuchi and Yamazaki (2010) observed that family-friendly organizational culture (FFOC) supported work-family balance and had a positive influence on the physical and mental health of nurses. They also identified a sense of coherence (SOC), a stress-coping ability implying a positive attitude that allows workers to live and accept stressors as opportunities for personal growth. Interestingly, Lembrechts et al. (2014) found that childcare assistance services involving daily childcare, childcare when children are ill and childcare during holidays was not a resource for coping efficiently with WFC.

Outcomes of WFC
Many of the reviewed articles focused on job outcomes of WFC, assessing variables such as occupational stress, burnout, job commitment, job satisfaction and nurse turnover intention. Among these variables, interest was directed mainly toward job satisfaction, a key factor of good motivation and commitment to work, often negatively associated with absenteeism and turnover (Ghislieri et al., 2015). In nursing, a negative association between WFC and job satisfaction has been sustained (Cortese et al., 2010; Hanif & Raza Naqvi, 2014; Yildirim & Yacan, 2008), and Battistelli et al. (2012) showed that this negative correlation could lead to nurse turnover decision. Van der Heijden et al. (2009) confirmed the relevance of work-to-home interference and absence of home-to-work interference with job satisfaction. Job performance (Hanif & Raza Naqvi, 2014) and professional efficacy (Wang et al., 2012) have

also been considered WFC outcomes. Specifically, Wang et al. (2012) observed an opposite effect of the two directions of WFC on professional efficacy. Indeed, while family to work interference had a detrimental effect, work to family interference had a positive impact on professional efficacy.

Martini and Converso (2012) identified WFC as a risk factor for burnout, due to both emotional exhaustion and depersonalization. On the other hand, Leineweber et al. (2014) found that WFC only increased the risk of emotional exhaustion, and not of depersonalization. Wang et al. (2012) observed that work to family interference was associated with emotional exhaustion, whereas family to work interference influenced the cynicism dimension of burnout.

Nurses' health and well-being were of particular interest among WFC outcomes. In the Pakistani nurse sample, Hanif and Raza Naqvi (2014) showed a direct effect of WFC on the psychological well-being of nurses. Camerino et al. (2010) found that WFC was associated with emotional exhaustion, sleep, and presentism, but not with disability or absenteeism. Takeuchi and Yamazaki (2010) reported an association between WFC, cumulative fatigue and depression. In Indian female nurses, Sharma et al. (2016) observed that WFC was associated negatively with psychological health and positively with stress. Likewise, Gipson-Jones (2009) sustained that work-family interference could cause feelings of stress, guilt, anxiety, and anger in African- American nurses, whereas Kim et al. (2013) noticed effects of WFC on physical health, especially musculoskeletal pain. Only one study focused on family outcomes. Lagerström et al. (2010) observed that Iranian nurses expressed family dissatisfaction when high work demands did not allow them to meet family and children's needs.

Mediating Factors Between WFC and Its Outcomes
Some of the reviewed studies focused on factors that mediated WFC outcomes and on the role of WFC as the mediating factor. Regarding the former, we observed that most studies concentrated on positive mediating factors concerning positive personal characteristics (such as seeking support, job satisfaction, and psychological capital) and positive job factors that can mitigate WFC outcomes. Regarding the first factor, the findings from the Van der Heijden et al. (2009) showed that job satisfaction mediated the relationship between nurse turnover intention and work-to-home interference, while Wang et al. (2012) observed the mediating role of psychological capital (PsyCap), composed of self-efficacy, hope, optimism, and resilience, between WFC and burnout. In examination of the role-positive job aspects, Leineweber et al. (2014) observed that at department level, good leadership and support for nurses reduced the effects of WFC on burnout, whereas Yildirim and Yacan (2008) found that social support from supervisors did not buffer the effects of work demands and WFC on job and life satisfaction. As well, Heponiemi et al. (2010) observed that nurses who had fixed-term contracts and high levels of organizational justice experienced less WF interference.

There were few studies about negative mediating factors. One study (Sharma et al., 2016) focused on stress level as a mediator between Work-family Conflict (WFC) and nurses' psychological health. Considering family composition and children's age, findings of a study by Abrahamsen et al. (2012) revealed that the level of interference between work and family was dependent on whether there were children.

Concerning the second area, Camerino et al. (2010) examined the mediator role of WFC. Their findings showed that WFC affected the relationship between burnout and job demands, whereas other authors only found work-to-family interference as a mediating factor. In other studies, WFC mediated the association between work characteristics and all three burnout

dimensions (e.g. Gandi et al., 2011) and negative relationships between job and life satisfaction, and specific work variables according to Yildirim and Yacan (2008). In a study by Van der Heijden et al. (2008), it was revealed that work to family interference was "an explanatory mechanism" for the reciprocal relationship between emotional, quantitative and physical job demands, and nurses' health.

Differential Aspects of WFC

In the reviewed papers, the differential aspects of WFC were concerned with cultural, job organization, gender and age variables. For cultural and social differences, Abrahamsen et al. (2012) found a slightly higher level of WF interference for hospital nurses in Finland than in Norway. The level of WF interference for Norwegian nurses increased with extended part-time work, and for nurses in Finland with long hours. The two countries showed different availabilities of part-time work and regular day work, which were higher in Norway than in Finland.

Two papers focused on various job contexts, such as hospitals, home healthcare, nursing homes and health departments. Yamaguchi et al. (2016) observed that WF interference increased the intention to leave their jobs among hospital nurses, but not among home healthcare nurses. Leineweber et al. (2014) considered several hospital health departments, and found that the outcomes of WFC on burnout changed only marginally when adjusting for department level variables.

Gender differences were documented for some aspects of WFC. For instance, Gandi et al. (2011) observed gender differences for social support, finding that its association with home-to-work interference was stronger among men than women. Further, considering the effects of work-to-home interference on burnout, these authors found that for men work-to-home mediated the association of work characteristics with emotional exhaustion, whereas for women it mediated the relationships between work characteristics, emotional exhaustion, and depersonalization. Using within-couple analysis and considering crossover effects from one partner to the other, Barnett et al. (2008) noticed that the wife's work shift, wife's working hours, and the interaction between them influenced wives' – but not husbands' – WFC perception. For husbands, there was a trend to perceive WFC when wives did evening shift work, and worked long hours.

Studying nurses' generational differences, Keepnews et al. (2010) found higher levels of WFC (both W-F-C and F-W-C) among Generation X (nurses born between 1965 and 1979) than in other groups (Baby Boomers born between 1946 and 1964 and Generation Y, born in 1980 or after). Generation X seemed to have a harder time balancing work and family issues than older generations, as they appeared to seek a balance between work and family. Instead, Heponiemi et al. (2010) found that younger nurses experienced higher WFC than older nurses.

Discussion and Conclusion

The aim of this article was to review the current understanding of WFC in nursing. WFC is a construct widely analyzed in the WF literature, but somewhat neglected in nursing. Our review made quite clear that interest in this topic is growing among nursing scholars in various European and non-European countries, and that its importance is being recognized. However, we detected certain shortcomings in methodological aspects and depth, and were able to identify some challenges for future WFC research in the field of nursing.

First, almost all of the studies reviewed used cross-sectional design and measurement methods, which were for the most part based on instruments adapted or modified by researchers from general WF literature (Casper, Bordeaux, Eby, Lockwood, & Lambert, 2007). Future research should use a multidimensional design, incorporating different measures of the various antecedents identified in the literature to promote a more accurate and dynamic understanding of WFC, and to develop awareness of it among nurses. Knowledge of the meaning of WFC for nurses could be increased by qualitative methods, such as interviews and focus groups, seldom used in the WF literature (Casper et al., 2007). We also noted that the 28 papers ascribed little importance to the distinction between episodic and chronic modes of WFC.

Longitudinal data are needed to establish causality between WFC and the various antecedents and outcomes observed in the nursing literature. Only two studies by the same authors (Van der Heijden et al., 2008; 2009) used a longitudinal design. Another weak methodological point in nursing WFC research regards neglect of dyadic analysis. While the authors have typically taken individuals as the unit of analysis, future studies should include couples to provide a more holistic view of the antecedents and outcomes of WFC. Researchers should analyze WFC at the family and dyadic levels to gain insights into interactional influences among the different components involved. This topic is a growing research area in couple and family literature (Traa, De Vries, Bodenmann, & Den Oudsten, 2015). Concerning research participants, the overwhelming percentage of women composing the samples may influence WFC data. This pattern exists because women are considered more sensitive than men to expectations arising from their family role (Alby, Fatigante, & Zucchermaglio, 2014), and tend to divide their time and energies between work and family activities differently than men (Dhanabhakyam & Malarvizhi, 2014). Other potentially relevant participants' characteristics were also neglected in the papers selected. Examples include the number and age of nurses' children, both characteristics considered important in the WF literature (Darcy & McCarthy, 2007).

Regarding the findings of the reviewed papers, our analysis confirmed the important role of WFC in reducing job satisfaction and psychological well-being and in increasing burnout, as commonly reported in the WF literature (Panatik et al., 2011). However, we know little about its effects on the quality of marital and family relationships, and on partner satisfaction, again topics considered in the general WF literature (Carroll et al., 2013; Ford, Heinen, & Langkamer, 2007). Most reviewed papers also confirmed the important role of time-based conflict as a risk factor for WFC, and its negative interference with the time available for family and leisure, as reported in many papers concerning numerous European countries (Crompton & Lyonette, 2006). Regarding time-based conflict in general WFC literature, nursing research findings emphasize shift work and irregular work schedules to be among the essential characteristics of job demands in nursing and health-care generally (Barnes-Farrell et al., 2008). Two studies also observed that part-time employment is not a work-family strategy that reduces conflict between the two life domains (Abrahamsen et al., 2012; Lembrechts et al., 2014).

Nursing research did not give the two other antecedents identified by Greenhaus and Beutell (1985) – strain-based conflict and behavior-based conflict – the same attention as time-based conflict. Only a few of the authors outlined the critical role of emotional demands (Van der Heijden et al., 2008) and emotional dissonance (Ghislieri et al., 2017) in WFC. This relative lack of interest in such aspects concerning WFC is not in line with the widespread recognition that nursing is an emotionally demanding job (Hülsheger & Schewe, 2011). Moreover, individual characteristics, widely considered in the WFC literature as antecedents of WFC, have rarely been assessed in nursing. We only found one study that examined boundary

management style, i.e. worker ability to manage boundaries between work and family domains, which captures the interest of WF interface scholars (Bulger, Matthews, & Hoffman, 2007; Kreiner, Hollensbe, & Sheep, 2009).

In conclusion, considering the reviewed papers and the gaps in current knowledge of WFC in nursing, there is a need to extend the research to other antecedents of WFC with the aid of multidimensional and integrated models. In one such study design, this would allow multiple variables to be treated as antecedents or consequences of WFC, producing a fuller description and understanding of WFC dynamics in the complex nursing environment. Our review also clearly shows that in-depth examination of WFC is essential for a clearer understanding and awareness of its importance for nurses. This type of research can be a useful start for the development of health organizational policies to prevent nursing WFC, as well as for planning aimed at improving the balance between the two life domains. In WF literature, some scholars have outlined the importance of work/family reconciliation policies. These policies should not only consider a reduction or change in work time, but also social policies such as participation of fathers in childcare for young children (Colombo & Ghislieri, 2014). Moreover, it is important to consider informal pro-conciliation solutions, including support from superiors and colleagues (Sharma et al., 2016), which have emerged as major protective factors against WFC and for stress reduction in nursing. In any case, as suggested by Riva (2016), it is critical to direct research towards identification and assessment of the efficacy of work-family interventions to reduce the risk of policy failure.

Despite the utility of our integrative review, there are some caveats. First is the selection of keywords and the fact that other studies published between 2005 and 2017 were not considered because we only selected peer-reviewed journals in Italian and English.

Second, our review did not use meta-analysis, which might have enabled a more accurate understanding of the topic, because we only included papers on WFC in nursing that broadly represented studies on the topic. This choice was based on the relatively poor state of knowledge of the argument and practical aims that these types of assessment can have. Another limitation of our study is that the narrative synthesis is an interpretation of the authors.

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Corresponding author: Rosalba Raffagnino
Email: rosalba.raffagnino@unifi.it