

Working conditions, missed care and patient experience in home care nursing in Italy: An observational study

Annamaria Bagnasco PhD, MNS, RN, MEdSc, FFMRCISI¹  | Rosaria Alvaro MSN, RN, FAAN, FESC²  | Loreto Lancia MSN, RN³  | Duilio Fiorenzo Manara MSN, RN⁴  | Laura Rasero MSN, RN⁵  | Gennaro Rocco PhD, MSN, RN, FAAN, FFMRCISI⁶  | Alessandra Burgio PhD⁷ | Marco Di Nitto PhD, MSN, RN¹  | Milko Zanini PhD, MSN, MSoc, RN, FFMRCISI¹  | Maurizio Zega PhD, MSN, RN⁸  | Giancarlo Cicolini PhD, MSN, RN⁹  | Loredana Sasso MSN, MEdSc, RN, FAAN, FFMRCISI¹  | Beatrice Mazzoleni PhD, MSN, RN¹⁰ 

¹Scientific Committee CERSI-FNOPI, Department of Health Sciences, University of Genoa, Genoa, Italy

²Scientific Committee CERSI-FNOPI, Department of Biomedicine and Prevention, Faculty of Medicine, University of Rome Tor Vergata, Rome, Italy

³Scientific Committee CERSI-FNOPI, Department of Clinical Medicine, Public Health, Life and Environmental Sciences, University of L'Aquila, L'Aquila, Italy

⁴Scientific Committee CERSI-FNOPI, Vita-Salute San Raffaele University, Milano, Italy

⁵Scientific Committee CERSI-FNOPI, Department of Health Sciences, University of Florence, Florence, Italy

⁶Scientific Committee CERSI-FNOPI, Centre of Excellence for Nursing Scholarship, c/o OPI Roma, Rome, Italy

⁷Statistician, Italian National Statistics Institute – ISTAT, Rome, Italy

⁸FNOPI Board Member, University Policlinic A. Gemelli IRCCS, Rome, Italy

⁹Department of Biomedical Science and Human Oncology, University of Bari, Bari, Italy

¹⁰National General Secretary FNOPI, Humanitas University, Milano, Italy

Correspondence

Annamaria Bagnasco, PhD, MNS, RN, MEdSc, FFMRCISI, Scientific Committee CERSI-FNOPI, Professor of Nursing, Department of Health Sciences, University of Genoa, Via A. Pastore 1, 16132 Genoa, Italy.
Email: annamaria.bagnasco@unige.it

The members of the AIDOMUS-IT Collaborative Group:

Caponnetto Valeria, PhD, MSN, RN, Assistant Professor, Dipartimento di Medicina Clinica, Sanità Pubblica, Scienze della vita e dell'Ambiente, Università degli Studi dell'Aquila;
Cesare Manuele, PhD, MSN, RN, Research Fellow, Centro di Eccellenza per la Cultura e la Ricerca Infermieristica c/o OPI Roma;
Longobucco Yari, PhD, MSN, RN, Assistant Professor, Dipartimento di Scienze della Salute Università di Firenze;
Marcomini Ilaria, PhD, MSN, RN, Research Fellow, Università Vita-Salute San Raffaele;

Abstract

Introduction: The aging of the population requires an appropriate knowledge of the type of care that needs to be provided to inform healthcare policies. In Italy, neither home care nursing, nor the patient experiences have ever been described.

Objectives: To describe the characteristics of nurses and care recipients involved in home care.

Methods: A descriptive cross-sectional study conducted in 18 Italian Regions. Between April and October 2023, data from nurses and patients involved in home care were collected through two surveys. Psychosocial conditions in workplaces, missed care, and care experiences were assessed using validated tools. Descriptive statistics and Pearson's correlations were performed.

Results: A total of 46 local healthcare units were included in this study, with a total of 2549 nurses and 4709 care recipients. Nurses (mean age 46.60; 79.48% female; 44.68% regional nursing diploma as the highest qualification) reported good working conditions (42.37; SD = 12.25; range = 0–100) and a high mean number of missed care activities (5.11; SD = 3.19; range 0–9). Most nurses (83.41%) reported high levels of

Zaghini Francesco, PhD, MSN, RN, Assistant Professor, Dipartimento di Biomedicina e Prevenzione Facoltà di Medicina Università degli Studi di Roma Tor Vergata.

job satisfaction, while 20.28% intended to leave their job. Patients (mean age 75.18; 57.57% female; 36.95% primary school), on the other hand, rated positively the care they had received (8.23; range = 0–10).

Conclusions: Despite the perception of critical issues at work and some missed care, satisfaction in nurses and patients was high. These data constitute a preliminary snapshot of the studied phenomena, which will be investigated through more in-depth analyses.

KEYWORDS

home care nursing, missed care, quality of health care, workforce, working conditions

1 | INTRODUCTION

Globally, home care is an essential resource in response to the aging population. It is expected that in 2050, 22% of the population will be over the age of 60 (World Health Organization, 2022). The increasing aging of the population (complex and with chronic illnesses; Cheng et al., 2020) and the need for sustainable healthcare management all demand health care methods that combine quality, effectiveness, and closeness to patients.

In Italy, the over-65 population is expected to increase from 23.8% in 2022–34.5% in 2050, with a possible increase in the number of people living alone, with financial, healthcare, and social consequences (Istituto nazionale di statistica, 2023). The increasing number of people affected by chronic and complex diseases requires a redefinition of the very concept of care, which can no longer be confined to the hospital setting. With this in mind, home care is essential to effectively deal with the complex healthcare needs of this population and at the same time reduce hospital admissions and the overuse of health services (Kazawa & Moriyama, 2022).

It is estimated that up to 25% of rehospitalizations and emergency department (ED) admissions can be avoided (Unroe et al., 2018). The possible causes of rehospitalizations and ED readmissions are associated with inadequate communication, suboptimal care processes, lack of resources, and failure to define home care goals (Unroe et al., 2018). By clearly defining the goals of home care, including the safe transition to the home setting (Li et al., 2022), the risk of rehospitalizations and ED admissions could be reduced. Therefore, the role of nursing in the community is essential to adequately ensure the continuity of care at home.

In addition to having the clinical skills to care for patients in their homes, nurses also play the role of mediators between the healthcare system, patients and their families (Jackson et al., 2021). Since nurses are trained to effectively manage chronic conditions and implement health promotion, they are invaluable professionals for home care, able to guarantee continuity of care and optimize available resources. However, to ensure adequate care and avoid adverse outcomes, such as rehospitalizations and unnecessary readmissions to the ED, it is necessary to establish the right workload and avoid the risk of missed care. Specifically, excessive workloads could reduce the quality of nursing

care, decrease job satisfaction (Maghsoud et al., 2022), and compromise patient outcomes (Jansson et al., 2019). Higher workloads lead to poorer working conditions, while the impact on the quality of care can be measured through the amount of missed care.

The quality of the working conditions is of paramount importance for any profession. For the nursing profession this aspect is even more important, due to their close contact with patients. The work environment, if not properly assessed, can lead to negative outcomes for nurses, such as emotional exhaustion (Zanini et al., 2020), which could have a negative impact on the quality of care. As a result, missed care may have serious implications for patients in terms of reduced quality of care, errors that put patient safety at risk, and rehospitalizations (Recio-Saucedo et al., 2018). This may result in poor job satisfaction and increased intention to leave the profession (Janatolmakan & Khatony, 2022).

Another important aspect is workload, which has been extensively studied in hospitals (Aiken et al., 2014; Havaei & MacPhee, 2020) but very little in the home setting. In fact, the nursing workload in the home setting has recently attracted more attention, indicating a possible correlation with the number of bureaucratic activities performed (De Groot et al., 2022).

The main objective of the AIDOMUS-IT study was to evaluate the characteristics and quality of home care nursing in Italy from three perspectives: patients, nurses, and organizations, to establish staffing levels together with skill mix, and the distribution of workload in the community setting in accordance to the healthcare needs of the population living in each district.

Home care nursing in Italy serves a significant proportion of its total population which, according to data from the Ministry of Health, in 2021 involved 1,170,130 patients, with an incidence of 1982 patients per 100,000 inhabitants. Of these, approximately 75% are over the age of 65 years, equal to 62.6 per 1000 inhabitants, and about 9.7% with a terminal illness receiving palliative care (Ministero della Salute, 2023). Currently, only 5% of the population over the age of 65 years in Italy are taken care of at home, with the aim of surpassing 10% by 2026 (Ministero della Salute, 2023). This objective is in line with legislation in force in Italy (Ministero della Salute, 2022), which aims to redefine community care and enroll greater numbers of family and community nurses.

However, this enormous economic, social, and healthcare investment requires in-depth knowledge of the services that are currently provided in the community, especially in terms of staffing, missed care, and workload. This knowledge will enable interventions to effectively meet the needs of the patients living in the community.

The purpose of this study was to describe the main characteristics of home care nurses and patients receiving nursing care in their homes, providing a snapshot of the current Italian healthcare panorama, and highlighting the crucial role of home care nurses.

2 | OBJECTIVES

The main objective of this study was to describe the main characteristics of nurses providing home care in the community and of their patients receiving nursing care in their homes. The secondary objectives were: (1) to describe the nursing workload, (2) nurses' psychosocial conditions in the workplace, (3) missed nursing care, (4) patients' perception of the care received, and (5) their health conditions.

3 | METHODS

3.1 | Study design

This was a multicenter cross-sectional observational study conducted through a survey (Wang & Cheng, 2020). The guidelines of the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement (von Elm et al., 2008) were followed.

3.2 | Participants and setting

This study was part of a larger national study conducted in 70 out of the total 110 Local Health Board (LHBs) services in Italy, located in 18 of the 21 Italian Regions. The present paper is based on data collected from 46 LHBs located across 10 Regions.

The participants included in the present study were: (1) nurses working in the home setting, (2) patients cared by the home care (HC) services, and (3) the patient's main informal caregiver, if the patient needed help to fill in the form or it was filled in by their caregiver. Nurses working in home care services but not providing direct care (e.g., nurses with front office or coordination activities) were excluded. Patients were eligible to participate in the study if they were being directly cared for by a home care service. Patients under the care of other services were excluded.

3.3 | Procedures and data collection

Data collection took place between April and October 2023 through two surveys, one for nurses and one for patients. The nurses were recruited through the HC service where they worked and were invited

to complete an online survey. All the nurses working in the HC service during the data collection period were invited to participate in the study. A facilitator working in each participating HC service distributed the survey to nurses. Patients were invited to join the study by completing the online survey or, alternatively, a paper questionnaire, which was subsequently collected at the patient's home by the HC service nurses, who had previously been trained to correctly conduct the study procedure, as reported in the study protocol (Bagnasco et al., 2022, 2023). Patient data were collected through convenience sampling.

3.4 | Instruments

The first part of the nurse questionnaire included socio-demographic questions, such as age, gender, education, postgraduate courses, years of experience in home care, and questions related staffing, work organization or workload, such as type of employment, average duration of each service provided at home, number of home visits to perform a clinical procedure/additional home visits in the last shift, total time required to reach patients' homes, and total kilometers traveled in the last shift.

In addition, two instruments for measuring psychosocial conditions in the workplace were included in the questionnaire, namely, the Copenhagen Psychosocial Questionnaire version III (COPSOQIII) and the missed care survey to detect and analyze essential missed nursing care activities. The missed care survey was adapted to the community study setting, and its validation study will be the subject of another publication in the future.

COPSOQIII is a tool designed for the assessment of psychosocial risks in the workplace. This tool was first developed in 2005 (Kristensen et al., 2005) and has been modified over time to version III currently in use (Burr et al., 2019). In addition, it has been translated into Italian and validated in the hospital environment (Peter et al., 2022). The Italian version of COPSOQIII consists of a total of 29 items with the responses based on a five-point Likert scale (from 0 = never/not at all to 4 = always/very much). However, for the purposes of the present study, we used 16 items of the COPSOQIII, associated with eight psychosocial dimensions. The following dimensions were considered (number of items in brackets): Demands (3), Influence at work (2), Professional development opportunities (2), Role conflicts (2), Quality of leadership (2), Burnout (2), Commitment to workplace (1) and Work-life balance (2). These items were selected by a panel of experts, considering the specifics of home nursing care. To calculate the total score of the scale, the responses to each item were transformed into a score ranging between 0 (never or not at all) and 100 (always or very much). Items with a reverse score were also considered. We also calculated a total score, which is the average of all the scores of the 16 items. Higher scores highlighted poorer workplace conditions. Since there is no universally recognized cut-off, we divided the scores into four categories: optimal (0-24), good (25-49), poor (50-74), and very poor (75-100) workplace conditions. We tested this scale for its reliability, obtaining a Cronbach's Alpha coefficient of 0.82.

The missed care survey used in this study assesses the amount and type of essential nursing care activity left undone. The missed care survey was initially developed to measure essential missed nursing care in hospital settings in adult patients (Kalisch & Williams, 2009; Sist et al., 2017) and was later adapted and validated for pediatric patients (Bagnasco et al., 2018). For the purposes of the present study, we developed a version for the home care setting, considering its peculiarities and differences compared to the hospital environment. The missed care survey is made up of two sections. The first section consists of nine items, with responses based on a four-point Likert scale (0 = never, 1 = rarely, 2 = sometimes, 4 = often), while in the second section respondents are asked to report the reasons for missed care. The total score is obtained by summing the scores to responses from “never,” therefore the total score ranges between 0 and 9. Higher scores refer to a higher number of missed care activities. The missed care survey used for the present study context was tested for its reliability, obtaining a Cronbach’s Alpha coefficient of 0.92.

For the patient survey, data were collected using the “Home Health Care Survey of the Consumer Assessment of Healthcare Providers and System” (HHCAS) tool (Squires et al., 2012), which was validated in Italian for the home care context. This tool evaluates patients’ experience with the home care they received.

3.5 | Data analysis

The analyses conducted in this first phase of the study were descriptive. The categorical variables were synthesized in terms of absolute and relative frequencies, while the quantitative variables were synthesized in terms of centrality indices, such as mean values. Pearson’s *r*-index was used to determine the presence of a linear correlation between the various continuous variables considered (Mukaka, 2012). Analyses were conducted using Jasp Statistics V. 0.18.1 and SAS/STAT V. 15.3.

3.6 | Ethical considerations

This study was approved by the ethics committee of the Liguria Region (n° 675/2022–DB id 12844) on 29/11/2022 and by the single local ethics committees of the HC services, where necessary. Participation was voluntary for all participants. In addition, all participants were informed in advance about the objectives of the study and before receiving the questionnaires, they were asked to sign an informed consent for data processing. The two surveys were entered into the LimeSurvey® platform and the links to the survey for the participants were generated. The questionnaires were administered anonymously and no questions regarding personal data were included. All data, during extraction, were anonymized and aggregated so that they could not be used to track back the participant. All data were saved on a protected server owned by CERSI-FNOPI, which could only be accessed by authorized persons.

4 | RESULTS

The results described here are part of the preliminary data of the AIDOMUS-IT study. Specifically, this paper focuses on the data collected in the regions with the highest response rate in relation to the total number of nurses (average response rate = 82%), that is, Abruzzo, Lazio, Liguria, Lombardy, Piedmont, Autonomous Province of Trento, Puglia, Tuscany, Valle D’Aosta and Veneto. From these regions, data from a total of 46 LHBs, 2549 nurses, and 4709 patients were analyzed.

4.1 | The nurse survey: Participants’ characteristics

The nurses reported a mean age of 46.6 years (SD = 10.26; range = 21–70) and were predominantly female (79.48%). In addition, about 44.68% held a regional nursing degree, while 44.46% had a bachelor’s degree, and 72.38% had not completed a postgraduate course regarding home care or family and community nursing.

With respect to staffing, almost all of the respondents were employed by the LHBs (92.86%). Regarding workload during the last shift, most of the nurses reported between 6 and 10 (54.69%) home visits per day, of which between 1 and 5 (59.43%) involved performing a clinical procedure. The average duration of each home visit reported by most of the nurses was between 21 and 40 min (57.32%). In addition, almost all the nurses reported that the duration of the last shift was less than or equal to 6 h (47.23%), or between 6 and 8 h (47.63%), and about one-third of the respondents reported that they generally worked overtime (33.31%) with an average of about 8.05 h of overtime in the last month ($n = 839$; SD = 6.94; range = 0.5–50). In addition, most of the respondents reported that they traveled on average between 10 and 30 km every day to reach patients’ homes (38.13%). The mean perceived work condition score was 42.37 (SD = 12.25; range = 3.13–85.94) and the mean reported missed care score was 5.73 (SD = 3.47; range = 0–10).

With respect to perceived job satisfaction, 83.41% of the respondents reported that they were satisfied or very satisfied with their job, and 20.28% reported that if they could, they would leave their job within the next year.

More details on the nurses’ general characteristics are shown in Table 1.

5 | NURSES’ ASSESSMENT OF PSYCHOSOCIAL WORKPLACE CONDITIONS (COPSQIII)

Nurses’ perceptions of working conditions were divided into four categories (from optimal to very bad) to organize in more detail the distribution of participants’ responses (Table 1). Most nurses (64.34%) reported a condition of criticality between 25 and 49 (i.e., optimal) and only 0.67% of respondents reported a very poor workplace condition. Workplace conditions were subsequently described in terms of presence or absence of overtime hours during a working shift (Figure 1).

TABLE 1 Characteristics of nurses (*n* = 2549).

	Frequency (%)	Mean (SD)	Missing (%)
Age		46.60 (10.26)	5 (0.20)
Sex			
Female	2026 (79.48)		
Male	470 (18.44)		
I would rather not answer	53 (2.08)		
Highest level of education			3 (0.12)
Diploma of nursing	1139 (44.68)		
Diploma	184 (7.22)		
Bachelor's degree	1133 (44.45)		
Master	90 (3.53)		
Postgraduate course in home nursing or on family nurse practitioner			
Yes	704 (27.62)		
No	1845 (72.38)		
Years of experience as a home nurse			
≤2	642 (25.18)		
3-10	953 (37.39)		
11-20	551 (21.62)		
>20	403 (15.81)		
Employment status			
LHB employee	2367 (92.86)		
Non-LHB employee	182 (7.14)		
Duration (hours) of the last work shift			21 (0.82)
≤6	1204 (47.23)		
7-8	1214 (47.63)		
>8	110 (4.32)		
Average duration of a home visit (minutes)			71 (2.79)
≤20	463 (18.16)		
21-40	1461 (57.32)		
>40	554 (21.73)		
Home visits in the last shift			21 (0.82)
None	54 (2.12)		
1-5	911 (35.74)		
6-10	1394 (54.69)		
>10	169 (6.63)		
Home visit for performance activities			31 (1.22)
Nobody	463 (18.16)		
1-5	1515 (59.43)		
6-10	490 (19.22)		
>10	50 (1.96)		
Typically works overtime hours			
Yes	849 (33.31)		
No	1700 (66.69)		
Overtime hours generally worked in a month (<i>n</i> = 849)		8.05 (6.94)	10 (1.19)
Time taken (minutes) to reach domiciles in the last shift			179 (7.02)

(Continues)

TABLE 1 (Continued)

	Frequency (%)	Mean (SD)	Missing (%)
≤15	548 (21.50)		
15-30	590 (23.15)		
31-60	607 (23.81)		
>60	625 (24.52)		
Distance traveled (km) to reach homes in the last shift			99 (3.88)
<10	310 (12.16)		
10-30	972 (38.13)		
31-60	815 (31.97)		
>60	353 (13.85)		
Assessment of perceived job satisfaction			
Very dissatisfied	74 (2.90)		
Dissatisfied	349 (13.69)		
Satisfied	1499 (58.81)		
Very satisfied	627 (24.60)		
If he could, he would quit his job within the next year			
Yes	517 (20.28)		
No	2032 (79.72)		
COPSQIII (Condition in the workplace)		42.37 (12.25)	
0-24%	174 (6.82)		
25-49%	1640 (64.34)		
50-74%	718 (28.17)		
75-100%	17 (0.67)		
Missed care		5.11 (3.19)	

Note: ASL = Local Health Authority.

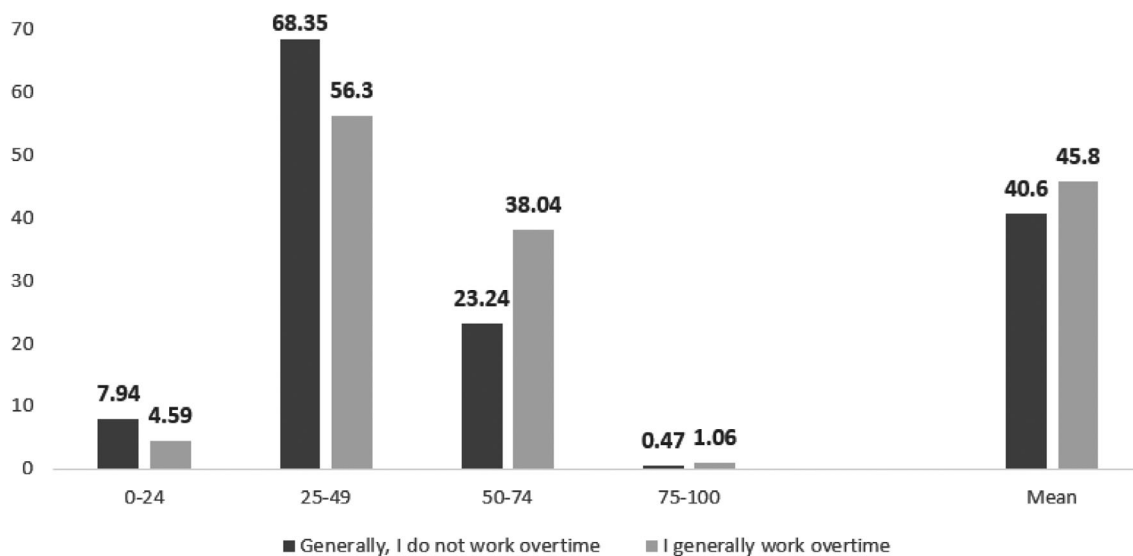


FIGURE 1 Distribution of responses on perceived conditions in the workplace in relation to overtime (COPSQIII) (*n* = 2549).

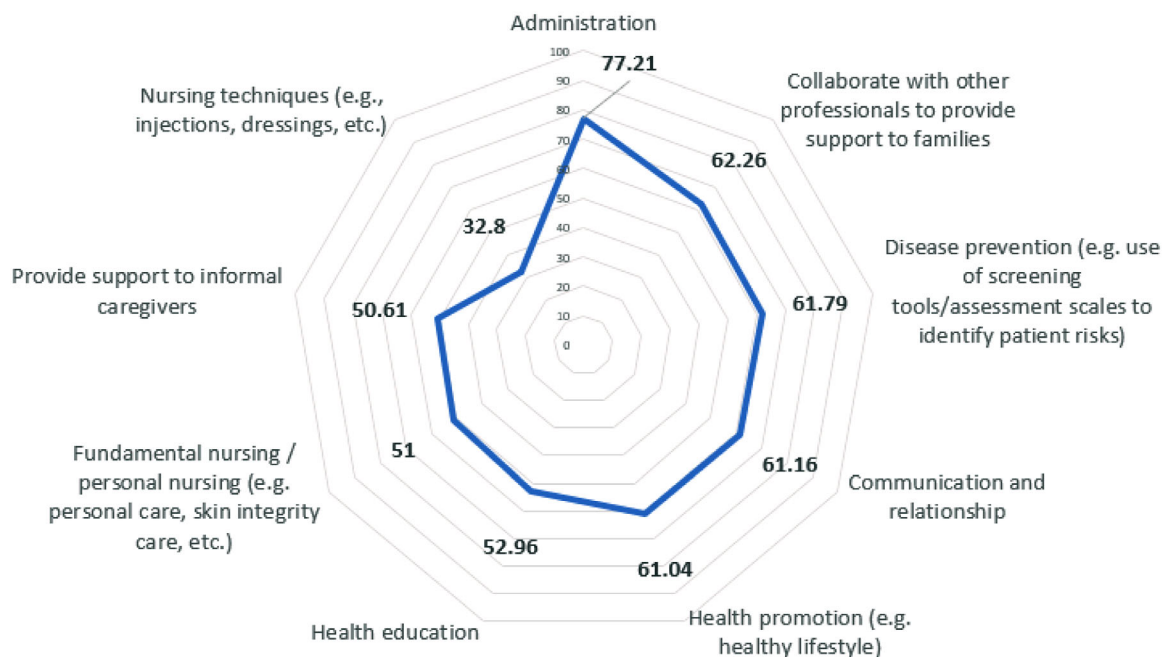


FIGURE 2 Description of the percentage of missed care for specific areas ($n = 2549$). [Color figure can be viewed at wileyonlinelibrary.com]

Specifically, participants who reported that they generally did not work overtime, also reported optimal (7.94%) or good (68.35%) workplace conditions. However, respondents who worked overtime reported poor (38.04%) or very poor (1.06%) workplace conditions. This trend was also tested using Pearson's correlation, obtaining a very weak positive correlation between workplace conditions and the number of overtime hours generally worked in the last month ($r = 0.10$; $p = .004$).

5.1 | Reported missed care

The number of missed care activities reported by the respondents were grouped into three categories, namely low (0 to 3), medium (4 to 6), and high (7 to 9); 42.49% of nurses reported a high score, 22.44% a medium score, and the remaining 35.07% a low score. The activity with the highest rate of missed care was the documentation of nursing care (77.21%), while activities related to direct nursing care (e.g., injections, dressings, feeding tube changes, blood sampling, bladder catheter management, etc.) were reported to be missed less (32.8%) (Figure 2).

The score has a very weak positive correlation with the number of home visits ($r = 0.09$; $p < .001$) and the number of clinical procedures performed during the last shift ($r = 0.06$; $p = .005$), while there was a very weak negative correlation with the average duration (in minutes) of the visits in patients' homes ($r = -0.05$; $p = .007$). The average duration of each visit in the patient's home was further correlated with the total number of visits made ($r = -0.24$; $p < .001$) and clinical procedures performed ($r = -0.19$; $p < .001$) in the last shift, showing a weak and significant negative correlation between these factors.

Of the nurses who obtained a high missed care score (between 7 and 9), 34.82% did 1–4 home visits, 44.55% did between 5 and 9 visits, and

46.89% perform more than 10 visits during the last shift. The average missed care score was 4.57, 5.27, and 5.3, respectively (Figure 3).

Among those who obtained a high missed care score (i.e., between 7 and 9), the percentage of nurses who did home visits involving only clinical procedures was 42.52% for those doing 1–4 visits, while the percentage of nurses rose to 44.98% if they did between 5 and 9 visits, and up to 53.15% if they did 10 or more visits during their last shift. The average missed care score was 5.10, 5.38, and 5.36, respectively (Figure 4).

Among those who obtained a high missed care score (i.e., between 7 and 9), the share of nurses with an average home visit duration ≤ 20 min was 44.49%, while the percentage slightly decreased to 43.39% if the average home visit duration was between 21 and 40 min, and to 40.07% if the average home visit was longer than 40 min. The average score was 5.18, 5.24, and 4.85, respectively (Figure 5).

5.2 | The patient survey: Participants' characteristics

The mean age of the patients who participated in this study was 75.18 (SD = 14.72; range = 19 - 104), with a slight prevalence of females (57.57%). In addition, 36.95% only had elementary education.

With respect to the care received, in 41.20% of the cases patients reported that they had taken new medications or changed their prescribed medications in the last month. Of these, 78.87% reported receiving instructions from nurses on when to take the drug, and 72.68% reported receiving information from nurses about the side effects of these medications. Over one third of the patients rated their health status as sufficient (38.24%), and about one third rated their health status as insufficient or poor (33.56%). In addition, more

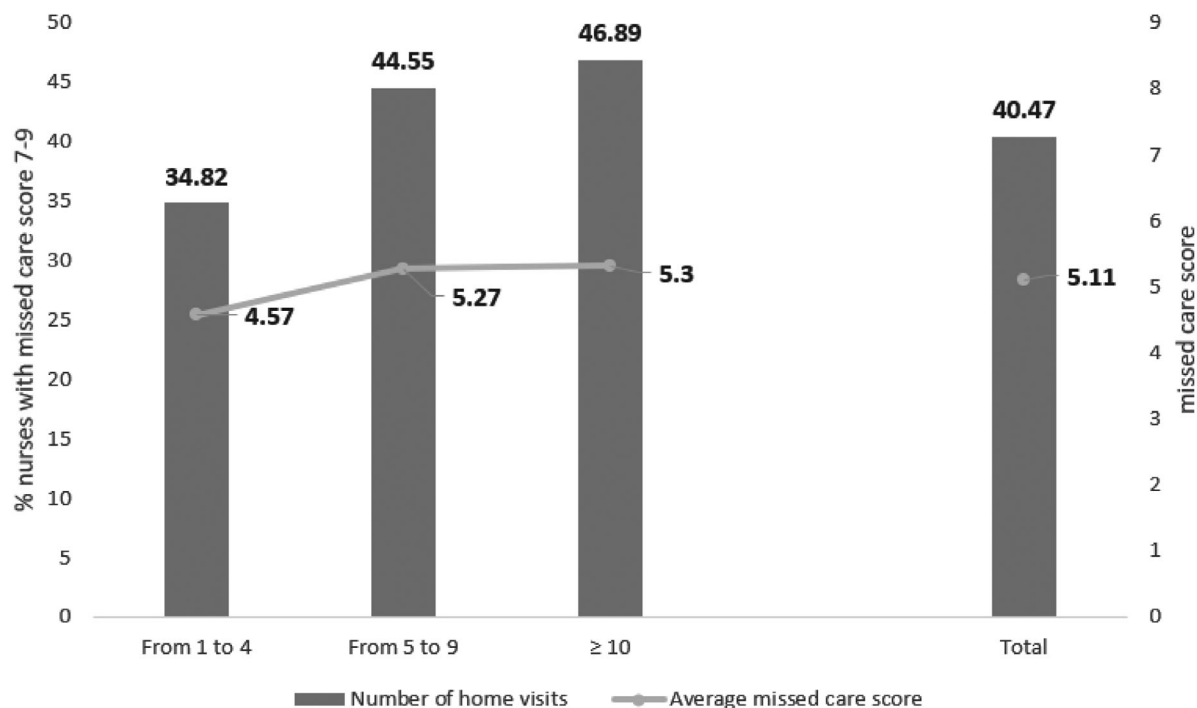


FIGURE 3 Description of the number of home visits during the last shift for nurses with a high (7 to 9) missed care score ($n = 1074$).

than one third of the respondents rated their mental/emotional health status as good (38.88%) and 22% rated it insufficient or poor.

In general, the average evaluation of the care they received was positive (8.23; SD = 1.07; range = 0–10) and 99.04% of the respondents would recommend friends and the family to be cared for by their nurses. The characteristics of the patients who responded to the survey are reported in Table 2.

5.3 | Perception of patients' health status based on the information received

The perception of general and mental/emotional health status was further described by considering the information received from nurses regarding the side effects of medications.

Patients who did not receive information from nurses about the side effects of their drugs reported a poor to sufficient health status in 83.20% of the cases. This response rate was lower for patients who received information about medication side effects from their nurse (72.20%). Instead, among participants reporting good to excellent overall health, 27.80% had received information about medication side effects from their nurse, compared to 16.8% who had not received this information (Figure 6).

Similarly, patients who did not receive information from nurses about the side effects of the drugs they were taking reported poor to sufficient mental/emotional health status in 64.84% of cases, instead this rate was lower (55.46%) in patients who did receive information from nurses about medication side effects, while 44.54% of the participants who received information from nurses about their medica-

tion side effects reported a good to excellent mental/emotional health status (Figure 7).

6 | DISCUSSION AND CONCLUSIONS

The objectives of this study were to describe the characteristics of nurses working in the home care setting, their workload, missed care, psychosocial conditions in the workplace, and the characteristics of the patients receiving care at home.

Regarding the nurses' characteristics, two aspects are of interest for the profession and health policies: these are the average age and the level of specific training in this field. The average age of our sample of nurses was 46.6 years, with 64.7% aged ≥ 45 years. This finding is in line with data reported in similar studies (Buerhaus et al., 2015; Poghosyan et al., 2017). This could be a challenge for organizations, as nurses themselves, who care for a larger number of older patients, may suffer the effects of aging, be affected by more pathological conditions, and therefore need support.

Only 3.53% had a master's degree and only 27.62% had completed postgraduate training (i.e., master's degree, specialization course, regional course, etc.) on home or community nursing. To address the healthcare needs of the community, which will increase, more investment in the training of health workers, along with a teaching program on primary care, is essential (Watkins & Neubrandner, 2020). The age of professionals and their specific training play an even more important role in the Italian context, where the care recipients have a high average age (in our study this was 75.18 years) and considering the health policy goal of providing home care to at least 10% of the total population over

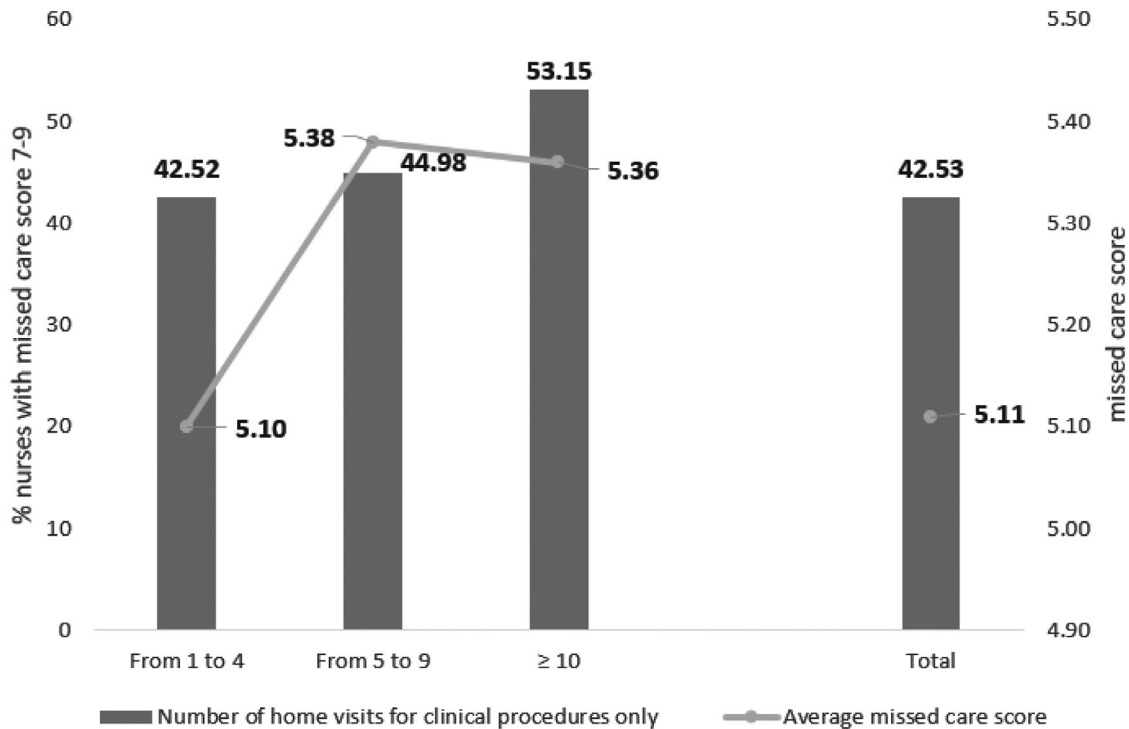


FIGURE 4 Description of the number of home visits involving clinical procedures during the last shift for nurses with a high (7 to 9) missed care score ($n = 1071$).

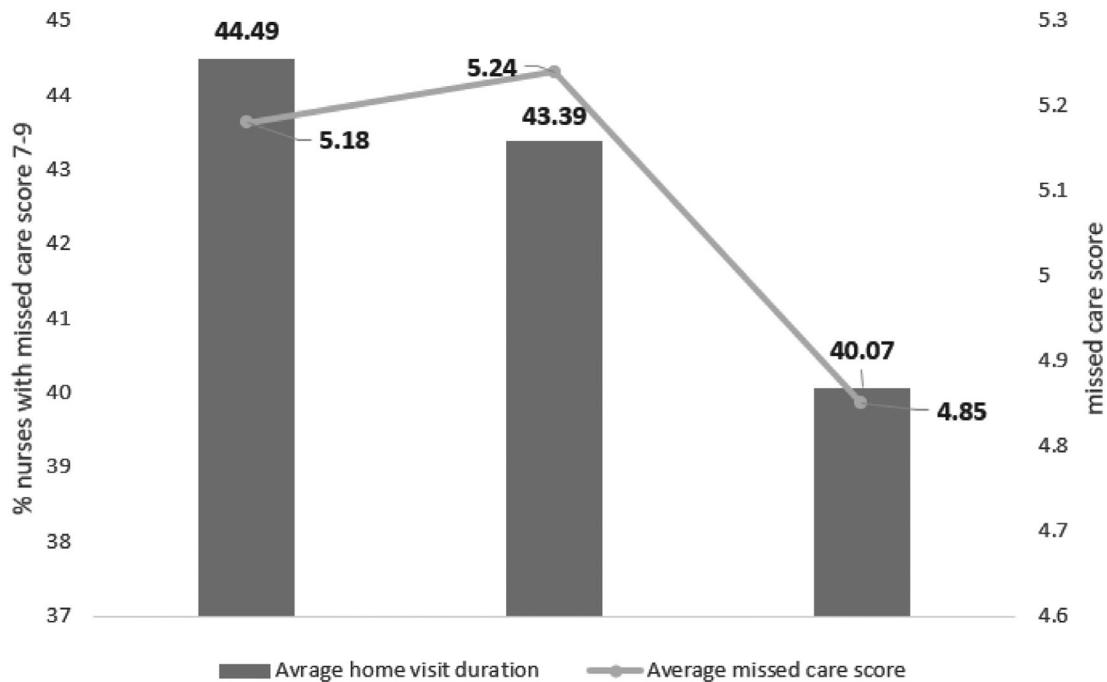


FIGURE 5 Description of the average duration of home visits (minutes) for nurses with a high score (7 to 9) of missed care ($n = 1062$).

65 years of age at home by 2026 (Ministero della Salute, 2023). The challenges of home care and the objectives set by health administrators also affect workloads for professionals, the psychosocial conditions in the workplace, and missed care.

The nurses included in our study on average reported good working conditions (42.37; range = 0–100). Measuring the psychosocial conditions for nursing staff is important for healthcare organizations to ensure better patient outcomes and avoid negative staff outcomes.

**TABLE 2** Patients' characteristics (n = 4709).

	n (%)	Average (SD)	Missing (%)
Age		75.18 (14.72)	
Sex			
Female	2711 (57.57)		
Male	1964 (41.71)		
I would rather not answer	34 (0.72)		
Level of educational			
None	254 (5.39)		
Elementary school	1740 (36.95)		
Lower secondary school	1209 (25.67)		
High school	1215 (25.80)		
Bachelor's or postgraduate degrees	291 (6.18)		
In general, you would assess his state of health			
Excellent	126 (2.68)		
Good	1202 (25.52)		
Sufficient	1801 (38.24)		
Insufficient	669 (14.21)		
Scarce	911 (19.35)		
In general, you would assess your mental or emotional health status			
Excellent	316 (6.71)		
Good	1831 (38.88)		
Sufficient	1526 (32.41)		
Insufficient	484 (10.28)		
Scarce	552 (11.72)		
Have you taken new medications/changed medications in the last period			
Yes	1940 (41.20)		
No	2769 (58.80)		
The nurses explained to you when to take these medications (n = 1940)			10 (0.51)
Yes	1530 (78.87)		
No	400 (20.62)		
The nurses explained to you the side effects of these drugs (n = 1940)			18 (0.93)
Yes	1410 (72.68)		
No	512 (26.39)		
Would you recommend the nurses who cared for you to your friends or relatives			
Definitely not	20 (0.43)		
Probably not	25 (0.53)		
Probably yes	924 (19.62)		
Definitely, yes	3740 (79.42)		
In general, I evaluate the home care received by nurses ^a		8.23 (1.07)	

^aRating expressed with a number from 0 (worst possible care) to 10 (best possible care).

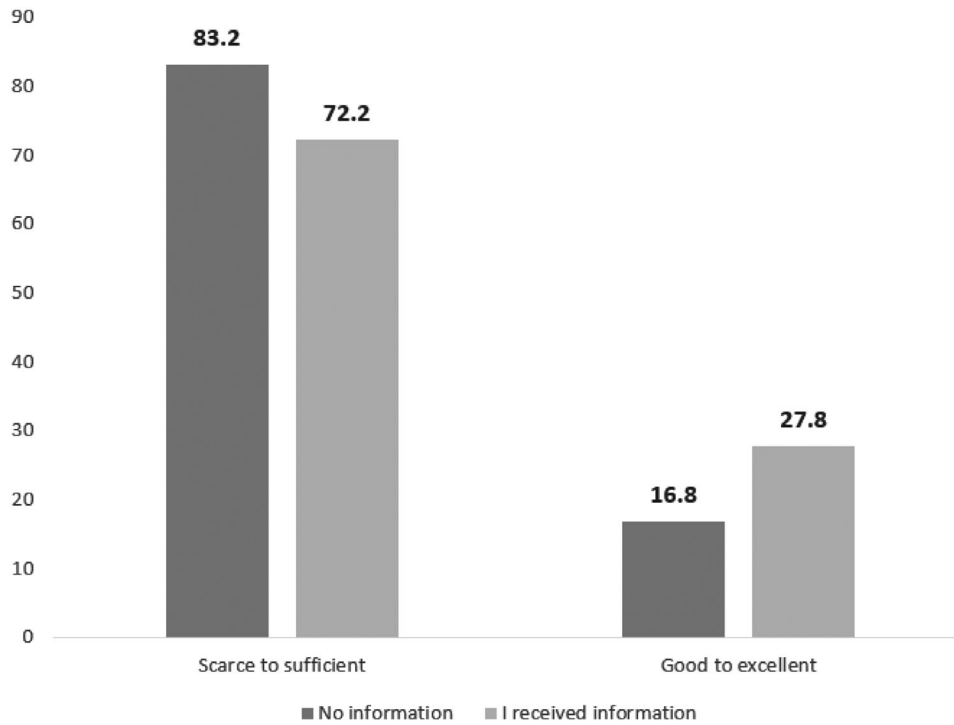


FIGURE 6 Perception of general health status broken down by patients who were given information about new medications taken ($n = 1922$).

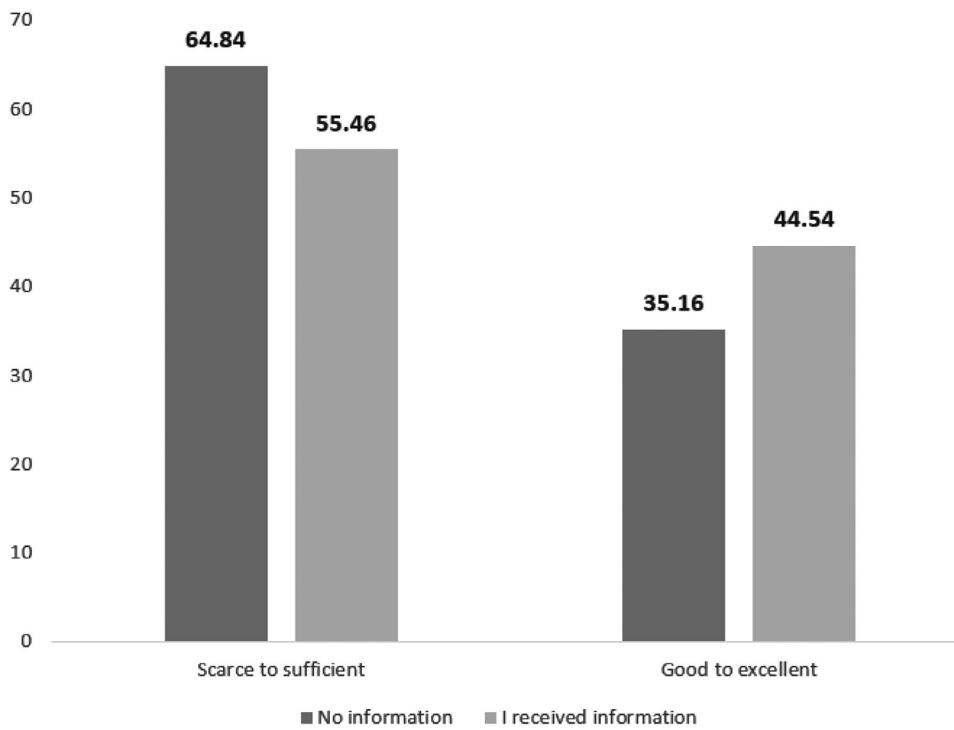


FIGURE 7 Perception of mental/emotional health status broken down by patients who were given information about side effects of the medications they were taking ($n = 1922$).



Previous studies have described how a safe psychosocial climate may be related to better job satisfaction (Geisler et al., 2019). This aspect also deserves specific attention in the Italian context because, in view of the recent regulations in favor of the development of community services (Ministero della Salute, 2022) and the general shortage of nursing staff, which in Italy is estimated to be between 40,000 and 80,000 nurses (CREA, 2023), the risk of having an excessive workload also in the home care setting is high, negatively affecting psychosocial conditions in the workplace, and consequently the entire health system and patient outcomes.

With respect to patient outcomes, we found a significant correlation between a higher workload (i.e., number of home visits and number of clinical procedures performed in the last shift) and a higher number of missed care activities, in line with previous studies (Jane et al., 2014; Tubbs-Cooley et al., 2019). In addition, 42.87% of our sample of nurses reported a high number of missed care activities, between 7 and 9 (range = 0–9). The most frequently missed care activity was the documentation of nursing care, while the least missed care activities were those related to nursing techniques. This finding is in line with the previous studies conducted in acute hospital settings (RN4CAST), where nurses reported a higher percentage of missed care in relation to planning nursing care (Sasso et al., 2017). However, the lack of information and data regarding missed care in the community setting could have serious consequences for patient outcomes. Longer home visits were associated with less nursing missed care. This is not surprising, because a higher number of home visits (general or involving clinical procedures) entails a greater workload, which translates into a reduction in the duration of each visit, and a major likelihood of missed care. In addition, a higher percentage of missed care is attributable to time-consuming activities (e.g., filling out nursing documentation, communication, or health promotion activities). To ensure a higher quality of care in the home setting, it is necessary to increase the number of nurses who work in the community (Winter et al., 2021).

Another aspect described in this study was nurses' intention to leave their jobs. We found that 20.28% of our sample would leave their jobs in the next 12 months if given the opportunity. This result contrasts with the data reported in previous studies (Ayalew & Workineh, 2020; Tadesse et al., 2023). In addition, we found that these data were consistent with the number of participants who were satisfied with their job (83.41%). This phenomenon is of particular interest for healthcare organizations and must be monitored to avoid putting further pressure on staff. More studies are needed to explore which factors affect nurses' intention to leave in the community setting, because the work environment, training in the field of family and community nursing, and the socio-demographic characteristics of the professionals could affect this phenomenon (Sharififard et al., 2019).

Regarding the characteristics of the patients, they had a high average age (75.18 years). Their rating of the care received was positive (average 8.23, range = 0–10) and almost all the participating patients would recommend the nursing staff to friends and other patients (99.04%). This finding was consistent with the high levels of job satisfaction and moderate intention to leave their job reported by the

nurses in our study. In fact, previous studies have reported how nurses' job satisfaction could be a predictor of patient's perceived satisfaction (Perry et al., 2018).

With respect to their health status, most of our patients reported a poor to sufficient health status, both in terms of general health (71.8%) and mental/emotional health status (54.41%). These data were also correlated with the information received from nurses on the side effects of newly prescribed drugs. When they did not receive information about the side effects of their drugs, patients reported a higher percentage of poor to sufficient responses for their general health status (83.2% vs. 72.2%) and emotional mental health status (64.84% vs. 45.86%), compared to the group of patients who received information about the side effects of their drugs. This trend confirms the key role of the nurse in providing health education, with possible implications for patients' health. Adequate information about side effects could also have positive implications on patient adherence, which is another fundamental aspect considering the high average age of the population receiving care, who are often under polypharmacotherapy. This further underlines the need for suitable nurse staffing levels in the community to ensure safe care and positive patient outcomes.

7 | LIMITATIONS AND STRENGTHS

This study has some limitations and strengths that need to be considered. Since this was a descriptive observational study, the results cannot prove the presence of a causal link between the variables considered. Then, there may be confounding variables that were not considered for the present study. The use of only specific COPSQIII items can also be limiting, as we explored only specific dimensions of this complex overall dimension, perhaps limiting an exhaustive description of the phenomenon, although the dimensions we included were those considered to be the most important ones by a panel of experts. Finally, the home care nurses distributed and collected the questionnaires completed by their patients, so a distortion of the answers obtained for the patient survey cannot be completely excluded.

The main strength of this study was the sample size of the nurses. The high response rate of the nurses enabled us to ensure the generalizability of our results. In addition, this was the first study to offer a general description of home care nursing in Italy.

In conclusion, the present study provided a first description of the characteristics of home care nurses and patients, reporting some important characteristics in both populations. These preliminary results will need to be further analyzed to identify which factors may lead to better job satisfaction for nurses and better health outcomes for patients.

ACKNOWLEDGMENTS

The authors would like to thank all the healthcare centers (see [supplementary file](#)) that participated in this study, in particular the Director General, the Director of Health Professions, the Head of the Home Care Services and the facilitators who made this study possible. We also thank all the nurses who responded to the survey of this study.

CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.


DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

ETHICAL APPROVAL

This study protocol was approved by the Liguria Ethics Committee (Ref. N. 675/2022 - DB id 12844).

ORCID

Annamaria Bagnasco PhD, MNS, RN, MEdSc, FFMRCISI  <https://orcid.org/0000-0002-9079-8460>

Rosaria Alvaro MSN, RN, FAAN, FESC  <https://orcid.org/0000-0002-4659-1569>


Loreto Lancia MSN, RN  <https://orcid.org/0000-0002-2345-1731>

Duilio Fiorenzo Manara MSN, RN  <https://orcid.org/0000-0001-5182-6994>

Laura Rasero MSN, RN  <https://orcid.org/0000-0003-4460-8002>


Gennaro Rocco PhD, MSN, RN, FAAN, FFMRCISI  <https://orcid.org/0000-0002-9211-3752>

Marco Di Nitto PhD, MSN, RN  <https://orcid.org/0000-0001-8951-622X>

Milko Zanini PhD, MSN, MSoc, RN, FFMRCISI  <https://orcid.org/0000-0002-1081-6279>

Maurizio Zega PhD, MSN, RN  <https://orcid.org/0000-0002-7821-2615>

Giancarlo Cicolini PhD, MSN, RN  <https://orcid.org/0000-0002-2736-1792>

Loredana Sasso MSN, MEdSc, RN, FAAN, FFMRCISI  <https://orcid.org/0000-0001-5886-5937>

Beatrice Mazzoleni PhD, MSN, RN  <https://orcid.org/0000-0002-3870-1238>

REFERENCES

- Aiken, L. H., Sloane, D. M., Bruyneel, L., Van den Heede, K., Griffiths, P., Busse, R., Diomidous, M., Kinnunen, J., Kózka, M., Lesaffre, E., McHugh, M. D., Moreno-Casbas, M. T., Rafferty, A. M., Schwendimann, R., Scott, P. A., Tishelman, C., van Achtenberg, T., & Sermeus, W. (2014). Nurse staffing and education and hospital mortality in nine European countries: A retrospective observational study. *Lancet*, 383(9931), 1824–1830. [https://doi.org/10.1016/S0140-6736\(13\)62631-8](https://doi.org/10.1016/S0140-6736(13)62631-8)
- Ayalew, E., & Workineh, Y. (2020). Nurses' intention to leave their job and associated factors in Bahir Dar, Amhara Region, Ethiopia, 2017. *BMC Nursing*, 19, 46. <https://doi.org/10.1186/s12912-020-00439-5>
- Bagnasco, A., Alvaro, R., Lancia, L., Manara, D. F., Zega, M., Rocco, G., Rasero, L., Mazzoleni, B., & Sasso, L. (2023). Protocol for evaluating quality and safety for the public through home care nursing in Italy: A multicentre cross-sectional descriptive observational study (AIDOMUS-IT). *BMJ Open*, 13(5), e071155. <https://doi.org/10.1136/bmjopen-2022-071155>
- Bagnasco, A., Alvaroi, R., Lancia, L., Manara, D. F., Rasero, L., Rocco, G., Zega, M., Mangiacavalli, B., Mazzoleni, B., & Sasso, L. (2022). Assistenza Infermieristica Domiciliare in Italia AIDOMUS-IT: primo studio nazionale del Centro di Eccellenza per la Ricerca e lo Sviluppo dell'Infermieristica CERSI-FNOPI. *L'Infermiere*, 59(6), e113–e122.

- Bagnasco, A., Zanini, M., Aleo, G., Catania, G., Kalisch, B. J., & Sasso, L. (2018). Development and validation of the MISSCARE survey—Pediatric version. *Journal of Advanced Nursing*, 74(12), 2922–2934. <https://doi.org/10.1111/jan.13837>
- Buerhaus, P. I., DesRoches, C. M., Dittus, R., & Donelan, K. (2015). Practice characteristics of primary care nurse practitioners and physicians. *Nursing Outlook*, 63(2), 144–153. <https://doi.org/10.1016/j.outlook.2014.08.008>
- Burr, H., Berthelsen, H., Moncada, S., Nübling, M., Dupret, E., Demiral, Y., Oudyk, J., Kristensen, T. S., Llorens, C., Navarro, A., Lincke, H. J., Bocéréan, C., Sahan, C., Smith, P., & Pohrt, A. (2019). The third version of the copenhagen psychosocial questionnaire. *Safety and Health at Work*, 10(4), 482–503. <https://doi.org/10.1016/j.shaw.2019.10.002>
- Cheng, X., Yang, Y., Schwebel, D. C., Liu, Z., Li, L., Cheng, P., Ning, P., & Hu, G. (2020). Population ageing and mortality during 1990–2017: A global decomposition analysis. *Plos Medicine*, 17(6), e1003138. <https://doi.org/10.1371/journal.pmed.1003138>
- CREA. (2023). [Le performance regionali]. [Available from: <https://www.creasanita.it/attivitascientifiche/le-performance-regionali-xi-edizione-2023/>]
- De Groot, K., De Veer, A. J. E., Munster, A. M., Francke, A. L., & Paans, W. (2022). Nursing documentation and its relationship with perceived nursing workload: A mixed-methods study among community nurses. *BMC Nursing*, 21(1), 34. <https://doi.org/10.1186/s12912-022-00811-7>
- Geisler, M., Berthelsen, H., & Muhonen, T. (2019). Retaining social workers: The role of quality of work and psychosocial safety climate for work engagement, job satisfaction, and organizational commitment. *Human Service Organizations: Management, Leadership & Governance*, 43(1), 1–15.
- Havaei, F., & MacPhee, M. (2020). The impact of heavy nurse workload and patient/family complaints on workplace violence: An application of human factors framework. *Nursing Open*, 7(3), 731–741. <https://doi.org/10.1002/nop.2.444>
- Istituto nazionale di statistica. (2023). [Previsioni della popolazione residente e delle famiglie - 2022]. [Available from: <https://www.istat.it/it/archivio/288443>]
- Jackson, J., Anderson, J. E., & Maben, J. (2021). What is nursing work? A meta-narrative review and integrated framework. *International Journal of Nursing Studies*, 122, 103944. <https://doi.org/10.1016/j.ijnurstu.2021.103944>
- Janatolmakan, M., & Khatony, A. (2022). Explaining the consequences of missed nursing care from the perspective of nurses: A qualitative descriptive study in Iran. *BMC Nursing*, 21(1), 59. <https://doi.org/10.1186/s12912-022-00839-9>
- Jane, E. B., Trevor, M., Anne Marie, R., Elizabeth, M., & Peter, G. (2014). 'Care left undone' during nursing shifts: Associations with workload and perceived quality of care. *BMJ Quality & Safety*, 23(2), 116.
- Jansson, M. M., Syrjälä, H. P., & Ala-Kokko, T. I. (2019). Association of nurse staffing and nursing workload with ventilator-associated pneumonia and mortality: A prospective, single-center cohort study. *Journal of Hospital Infection*, 101(3), 257–263. <https://doi.org/10.1016/j.jhin.2018.12.001>
- Kalisch, B. J., & Williams, R. A. (2009). Development and psychometric testing of a tool to measure missed nursing care. *JONA: The Journal of Nursing Administration*, 39(5), 211–219. <https://doi.org/10.1097/NNA.0b013e3181a23cf5>
- Kazawa, K., & Moriyama, M. (2022). Community-based advanced case management for patients with complex multimorbidity and high medical dependence: A longitudinal study. *International Journal of Environmental Research and Public Health*, 19(13), 7807. <https://doi.org/10.3390/ijerph19137807>
- Kristensen, T. S., Hannerz, H., Høgh, A., & Borg, V. (2005). The Copenhagen Psychosocial Questionnaire—A tool for the assessment and improvement of the psychosocial work environment. *Scandinavian Journal of Work, Environment & Health*, 31(6), 438–449.
- Li, J., Clouser, J. M., Brock, J., Davis, T., Jack, B., Levine, C., Mays, G. P., Mittman, B., Nguyen, H., Sorra, J., Stromberg, A., Du, G., Dai, C., Adu,

- A., Vundi, N., & Williams, M. V. (2022). Effects of different transitional care strategies on outcomes after hospital discharge—trust matters, too. *The Joint Commission Journal on Quality and Patient Safety*, 48(1), 40–52. <https://doi.org/10.1016/j.jcjq.2021.09.012>
- Maghsoud, F., Rezaei, M., Asgarian, F. S., & Rassouli, M. (2022). Workload and quality of nursing care: The mediating role of implicit rationing of nursing care, job satisfaction and emotional exhaustion by using structural equations modeling approach. *BMC Nursing*, 21(1), 273. <https://doi.org/10.1186/s12912-022-01055-1>
- Ministero della Salute. (2022). [Legge 77/2022: Regolamento recante la definizione di modelli e standard per lo sviluppo dell'assistenza territoriale nel Servizio sanitario nazionale].
- Ministero della Salute. (2023). [Piano Nazionale di Ripresa e Resilienza—Subinvestimento: M6C111.2.1 - Assistenza domiciliare]. [Available from: <https://www.pnrr.salute.gov.it/portale/pnrrsalute/dettaglioContenutiPNRRSalute.jsp?lingua%3Ditaliano&id%3D5874&area%3DPNRR-Salute&menu%3Dinvestimenti>]
- Ministero della Salute. (2023). [Annuario 2021, i dati aggiornati del Servizio sanitario nazionale]. [Available from: https://www.salute.gov.it/portale/news/p3_2_1_1_1.jsp?lingua=italiano&menu=notizie&p=dalministero&id=6192]
- Mukaka, M. M. (2012). Statistics corner: A guide to appropriate use of correlation coefficient in medical research. *Malawi Medical Journal*, 24(3), 69–71.
- Perry, S. J., Richter, J. P., & Beauvais, B. (2018). The effects of nursing satisfaction and turnover cognitions on patient attitudes and outcomes: A three-level multisource study. *Health Services Research*, 53(6), 4943–4969. <https://doi.org/10.1111/1475-6773.12997>
- Peter, K. A., Golz, C., Bürgin, R. A., Nübling, M., Voirol, C., Zürcher, S. J., & Hahn, S. (2022). Assessing the psychosocial work environment in the health care setting: translation and psychometric testing of the French and Italian Copenhagen Psychosocial Questionnaires (COPSOQ) in a large sample of health professionals in Switzerland. *BMC Health Services Research [Electronic Resource]*, 22(1), 608. <https://doi.org/10.1186/s12913-022-07924-4>
- Poghosyan, L., Norful, A. A., & Martsof, G. R. (2017). Primary care nurse practitioner practice characteristics: Barriers and opportunities for interprofessional teamwork. *The Journal of Ambulatory Care Management*, 40(1), 77–86. <https://doi.org/10.1097/JAC.000000000000156>
- Recio-Saucedo, A., Dall'Ora, C., Maruotti, A., Ball, J., Briggs, J., Meredith, P., Redfern, O. C., Kovacs, C., Prytherch, D., Smith, G. B., & Griffiths, P. (2018). What impact does nursing care left undone have on patient outcomes? Review of the literature. *Journal of Clinical Nursing*, 27(11–12), 2248–2259. <https://doi.org/10.1111/jocn.14058>
- Sasso, L., Bagnasco, A., Zanini, M., Catania, G., Aleo, G., Santullo, A., Spandonaro, F., Icardi, G., Watson, R., & Sermeus, W. (2017). The general results of the RN4CAST survey in Italy. *Journal of Advanced Nursing*, 73(9), 2028–2030. <https://doi.org/10.1111/jan.13066>
- Sharififard, F., Asayesh, H., Rahmani-Anark, H., Qorbani, M., Akbari, V., & Jafarizadeh, H. (2019). Intention to leave the nursing profession and its relation with work climate and demographic characteristics. *Iranian Journal of Nursing and Midwifery Research*, 24(6), 457–461.
- Sist, L., Contini, C., Bandini, A., Bandini, S., Massa, L., Zanin, R., Maricchio, R., Giancesini, G., Bassi, E., Tartagliani, D., Palese, A., & Ferraresi, A. (2017). [MISSCARE survey—Italian Version: Findings from an Italian validation study]. *Igiene e Sanita Pubblica*, 73(1), 29–45.
- Squires, A., Bruyneel, L., Aiken, L. H., Van den Heede, K., Brzostek, T., Busse, R., Ensio, A., Schubert, M., Zikos, D., & Sermeus, W. (2012). Cross-cultural evaluation of the relevance of the HCAHPS survey in five European countries. *International Journal for Quality in Health Care*, 24(5), 470–475. <https://doi.org/10.1093/intqhc/mzs040>
- Tadesse, B., Dechasa, A., Ayana, M., & Tura, M. R. (2023). Intention to leave nursing profession and its associated factors among nurses: A facility based cross-sectional study. *Inquiry*, 60, 469580231200602. <https://doi.org/10.1177/00469580231200602>
- Tubbs-Cooley, H. L., Mara, C. A., Carle, A. C., Mark, B. A., & Pickler, R. H. (2019). Association of nurse workload with missed nursing care in the neonatal intensive care unit. *JAMA Pediatrics*, 173(1), 44–51. <https://doi.org/10.1001/jamapediatrics.2018.3619>
- Unroe, K. T., Hickman, S. E., Carnahan, J. L., Hass, Z., Sachs, G., & Arling, G. (2018). Investigating the avoidability of hospitalizations of long stay nursing home residents: Opportunities for improvement. *Innovation in Aging*, 2(2), igy017. <https://doi.org/10.1093/geroni/igy017>
- von Elm, E., Altman, D. G., Egger, M., Pocock, S. J., Gøtzsche, P. C., & Vandenbroucke, J. P. (2008). The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement: Guidelines for reporting observational studies. *Journal of Clinical Epidemiology*, 61(4), 344–349. <https://doi.org/10.1016/j.jclinepi.2007.11.008>
- Wang, X., & Cheng, Z. (2020). Cross-sectional studies: Strengths, weaknesses, and recommendations. *Chest*, 158(Supplement 1), S65–S71. <https://doi.org/10.1016/j.chest.2020.03.012>
- Watkins, S., & Neubrandner, J. (2020). Registered nurse education in primary care: Barriers and resolutions. *Nursing Forum*, 55(3), 362–368. <https://doi.org/10.1111/nuf.12436>
- Winter, V., Dietermann, K., Schneider, U., & Schreyögg, J. (2021). Nurse staffing and patient-perceived quality of nursing care: A cross-sectional analysis of survey and administrative data in German hospitals. *BMJ Open*, 11(11), e051133. <https://doi.org/10.1136/bmjopen-2021-051133>
- World Health Organization. (2022). Ageing and health. [Available from: <https://www.who.int/news-room/fact-sheets/detail/ageing-and-health>]
- Zanini, M., Bagnasco, A., Dasso, N., Catania, G., & Sasso, L. (2020). Work environment and nurse outcomes: A secondary analysis from the RN4CAST@IT study. *European Heart Journal*, 41(Supplement_2), ehaa946.3406. <https://doi.org/10.1093/ehjci/ehaa946.3406>

SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

How to cite this article: Bagnasco, A., Alvaro, R., Lancia, L., Manara, D. F., Rasero, L., Rocco, G., Burgio, A., Di Nitto, M., Zanini, M., Zega, M., Cicolini, G., Sasso, L., & Mazzoleni, B. (2024). Working conditions, missed care and patient experience in Home Care Nursing in Italy: an observational study. *Public Health Nursing*, 1–14. <https://doi.org/10.1111/phn.13320>