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EMPIRICAL RESEARCH QUANTITATIVE

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"Jumping into the COVID-19 arena": The professional transition into clinical practice of new graduate nurses in Italy at time of COVID-19

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Abstract

Aims and Objectives: To evaluate the impact of the professional transition of new graduate nurses during the COVID-19 pandemic.

Background: The transition from the role of student to the professional role can be challenging for new graduate nurses for the acquisition of higher autonomy and responsibility. The COVID-19 pandemic impacted the quality of the professional transition.

Design: This was a cross-sectional observational study following the Strengthening and Reporting of Observational Studies in Epidemiology checklist.

Methods: One hundred and two nurses who graduated in three consecutive sessions (November 2019—pre-pandemic, March 2020—pandemic outbreak, and November 2020—2nd wave) in a north Italian university located in the most affected Italian region by the COVID-19 pandemic, completed an online survey assessing well-being, risk of burnout, resilience, perceived stigma, strengths and limitations and quality of the professional transition. The study was performed between March and May 2021.

Results: 81.4% of participants described the professional transition as worse than expected, and new graduate nurses who worked in COVID-19 settings reported a more difficult transition to professional life. No differences emerged in burnout, mental well-being and perceived stigma between new graduate nurses who worked in COVID-19 settings and those who did not. Similarly, no differences emerged amongst the three graduated cohort sessions. The most commonly mentioned challenges faced during the transition were organisational aspects, suddenly acquired autonomy and lack of suitable coaching.

Conclusion: New graduate nurses reported a challenging academic-professional transition, in particular, those who worked in COVID-19 settings. The mid- and long-term impact of experiencing an academic-professional transition in COVID-19 settings should be assessed and monitored.

Relevance to clinical practice: The professional transition of new graduate students should be adequately planned and monitored, new graduates should be assisted to develop realistic expectations about the transition, and an adequate coaching period should be guaranteed all the more during health emergencies.

KEYWORDS
COVID-19, new graduate nurses, pandemic, professional transition

1 | INTRODUCTION

The transition from student nurse to registered nurse is a critical step and can be fraught with many emotions ranging from excitement to fear and anxiety (Wong et al., 2018). The initial reaction of new graduate nurses to clinical practice has been described as *reality shock* (Kramer, 1975) and *transition shock* which has been seen as stemming from more idealistic than realistic expectations (Duchscher, 2009).

The first work experiences are highly significant for new graduate nurses as they explore total autonomy and independence. The new environment and responsibilities could be, however, overwhelming for some, wrecking professional self-esteem and identity (Kramer et al., 2012). The healthcare workplace is never easy to tackle the first time and several are the challenges that may occur during the transition period including coping with unexpected events, intense workload, performance anxiety and lack of access to experienced mentors (Aldosari et al., 2021; Hofler & Thomas, 2016). The fast pace of healthcare activities, combined with the high complexity of nursing, may give new graduate nurses little time to consolidate prior learning, leading them to question their professional skills and to worry about making mistakes (Kumaran & Carney, 2014). These feelings can be intensified when the environment is complex and characterised by excessive workload or insufficient coaching period (Duchscher, 2009).

The emergency and the urgent needs imposed by the first phases of the COVID-19 pandemic requested to muster all healthcare professionals available in an attempt to quell the disease. New graduate nurses found themselves having to face the delicate student–nurse transition in a limited time window and in the midst of a global health emergency where hospital-based healthcare professionals endured heavy workload, staff shortage, long hours shifts, high disease-related uncertainty, and cumbersome and uncomfortable personal protective equipment they were not necessarily used to (Haldane et al., 2021). The COVID-19 pandemic represents the most severe global health challenge western countries had to face in the last century and had a deep impact on healthcare systems worldwide, especially in countries with pre-existing critical issues. The dearth of nursing staff in Italy had been a lasting issue for many years before the COVID-19 pandemic hit the country with one of the lowest number of professional nurses per thousand inhabitants in Europe (6.16; OECD, 2021). With many nurses getting infected and being quarantined, hospitalised or dying (Hayter & Jackson, 2020), the COVID-19 pandemic exacerbated the problem and drastically reduced the nursing workforce available.

Under pressure from the government and public institutions, some Italian Universities moved the graduation of third-year nursing students up from June to March 2020, to legally allow students inclusion in the hospital workforce during the initial and critical pandemic phases. This measure to face nursing staff shortage aligns with similar measures entailing some form of waiver of academic duties or requirements such as the deferment of clinical placement (adopted in Spain, Canada, UK, USA; Jackson et al., 2020; Swift et al., 2020) or permission to final-year students to join the nursing workforce (adopted in Spain; Hernández-Martínez et al., 2021) which had been later used in other countries. The transition of new graduate nurses under these unusual and pressing circumstances severely reduced thorough coaching opportunities and forced new nurses in a highly stressful environment (Hernández-Martínez et al., 2021).

What does this paper contribute to the wider global clinical community?

- The professional transition of new graduate nurses is a crucial step in the nursing profession. During the COVID-19 pandemic, the lack of an adequate coaching period was reported as a critical aspect. The professional transition should be adequately monitored and prepared, and in case of emergency situations, such as the COVID-19 pandemic, intensive training for the management of specific skills should be implemented and an additional coaching period afterwards should be provided to promote a valuable professional transition.

Previous studies exploring the impact of working in COVID-19 settings in new graduate nurses and last-year nursing students highlighted students' high commitment to volunteering in COVID-19 wards (Gómez-Ibáñez et al., 2020), perception of the job experience as a challenging but unique learning and professional growth opportunity (Martin-Delgado et al., 2021; Roca et al., 2021) which strengthened the career choice (Velarde-García et al., 2021). While some studies focused on the experience of nursing students in COVID-19 settings, to our knowledge, little is known about the professional transition of new graduate nurses during COVID-19. Recent studies reported that the pandemic negatively influenced job opportunities and post-graduation plans for new graduates (Crismon et al., 2022; Smith et al., 2021) and that the lack of experience led to physical, psychological and social negative outcomes in this population (Fernández-Basanta et al., 2022). Having more information on the impact of the pandemic on professional transition could inform nursing institutions about the learning needs of new graduate nurses who started their professional experience in COVID-19 settings and identify criticisms to develop interventions supporting an optimal professional transition for new graduate nurses.

2 | AIMS

This cross-sectional study aimed to assess the impact of the COVID-19 pandemic on the transition to the professional life of new graduate nurses and to explore their experiences and perceived training needs. More precisely: (i) We compared new graduate nurses who worked with COVID-19 patients with those who worked in COVID-19-free settings. We hypothesised (H1) that new graduate nurses who worked in COVID-19 settings straight after graduation reported higher levels of professional distress and burnout, lower levels of personal well-being and a more difficult transition process. (ii) We considered new graduate nurses who graduated and faced the transition student-to-nurse a few months before the outbreak of the pandemic in Italy (November 2019), in the midst of the first pandemic peak (March 2020) and during the second pandemic peak (November 2020). We hypothesised (H2) nurses graduated in March 2020 reporting greater burnout and lower personal well-being, and a more difficult transition from university to professional. (iii) Finally, we asked about strength and criticism of the professional experience after the graduation and the perceived unmet training needs.

3 | METHODS

3.1 | Participants and procedure

The Strengthening and Reporting of Observational Studies in Epidemiology guideline for cross-sectional studies was used to report methods and findings (Appendix S1).

Three hundred ninety-two nurses who graduated in three consecutive sessions (November 2019, March 2020 and November 2020) at the University of Milano—Bicocca, Italy, were invited to participate in this study. They received an email invitation describing the aim of the study and including the link to the online study survey. The survey completion took about 15 min. No exclusion criteria were set. The University and the hospitals where participants worked are located in one of the first and most affected Italian regions by the COVID-19 pandemic.

3.2 | Ethics considerations

Participants responded to the questionnaire voluntarily and informed consent was obtained from all individuals who agreed to participate in the study. The questionnaire explained in detail the study subject matter and included the participant's consent. Participants' responses were recorded anonymously, and data were treated confidentially. The study was conducted under the 'Ethical Principles for Medical Research in Humans' contained in the latest version of the Helsinki Declaration (Fortress Amendment, Brazil, October 2013). The study was approved by the Ethical Committee of the University of Milano—Bicocca (no. 583, 0032994/21). The data obtained during the study were processed in accordance with Organic Law 3/2018, of December 5, on the Protection of Personal Data and Guarantee of Digital Rights.

3.3 | Measures

Self-reported measures elicited information on socio-demographic features, professional and training information and psychological variables.

3.3.1 | Questionnaires

Burnout was assessed with the Italian version of the Copenhagen Burnout Inventory (CBI; Fiorilli et al., 2015; Kristensen et al., 2005). CBI includes 19 items evaluating the respondents' level of burnout in three domains: personal burnout (CBI-PB), work burnout (CBI-WB) and patient-related burnout (CBI-PTB). All items are rated on a 5-point Likert scale ranging from "Never" to "Always" and a total score is obtained by summing the scores of the three domains with greater scores reflecting a greater risk of burnout. In this study, Cronbach's alpha of the CBI was $\alpha = 0.897$. The Cronbach's alpha of the CBI-PB, CBI-WB and CBI-PTB subscales were $\alpha = 0.872$, $\alpha = 0.754$, $\alpha = 0.817$, respectively. According to Fiorilli et al. (2015), a score higher than 51 indicates a mid-high level of burnout.

Self-defined burnout was measured with a five-option multiple-choice question that assessed burnout on a scale from 1 to 5. High burnout was defined as answering positively to options 3, 4 or 5 (Dolan et al., 2015). Response options were as follows: (1) "I enjoy

my work. I have no symptoms of burnout"; (2) "Occasionally I am under stress, and I don't always have as much energy as I once did, but I don't feel burned out"; (3) "I am definitely burning out and have one or more symptoms of burnout, such as physical and emotional exhaustion"; (4) "The symptoms of burnout that I'm experiencing won't go away. I think about work frustrations a lot"; and (5) "I feel completely burned out and often wonder if I can go on. I am at the point where I may need some changes or may need to seek some sort of help."

Participants' psychological well-being was assessed with the 14-item Italian version of the Warwick-Edinburgh Mental Wellbeing Scales (WEMWBS; Gremigni & Stewart-Brown, 2011; Tennant et al., 2007). The Cronbach's alpha of the WEMWBS in this study was $\alpha = 0.892$. A score lower than 43 indicates low well-being, a score between 43 and 60 indicates moderate well-being and a score greater than 60 indicates high well-being.

The Italian adaptation of the 10-item Resilience Scale (RS) assessed participants' resilience (Peveri, 2009; Wagnild & Young, 1993). Each item is rated on a 7-point Likert scale ranging from "1 = Totally disagree" to "7 = Totally agree". In this study, Cronbach's alpha of the RS was $\alpha = 0.934$.

3.3.2 | Purposively created questions

One item explored participants' perceived difficulties to progress from nursing student to healthcare professional ("How difficult has been the transition from university student to healthcare professional?"). The item was rated on a 7-point Likert scale ranging from "Not at all" to "Very Much."

One item assessed on a 7-point Likert scale explored participants' perception of the first months of their professional experience compared with their pre-existing expectations ("Considering your beliefs before graduation, your professional experience in these first months has been much more difficult than expected/much easier than expected") with higher scores indicating easier transitions.

Two items explored participants' perceived preparedness to work as a nurse and the adequacy of the training received ("In relation to your professional experience since you graduated, how adequate do you consider the training you received during your academic years?"/"In relation to your professional experience since you graduated, to what extent did you feel to be prepared to work as a nurse?"). Items were rated on a 7-point Likert scale ranging from "1 = Not at all" to "7 = Extremely".

Three items explored participants' perceived impact of professional activity on professional pride, job satisfaction and motivation for the career choice ("What impact did these first months of professional experience since graduation have on: professional pride, professional satisfaction and motivation for your career choice?"). Items were rated on a 7-point Likert scale with higher scores indicating higher professional pride, satisfaction and motivation.

One item assessed participants' perceived stigmatisation for being a healthcare professional during the COVID-19 pandemic, on a 5-point Likert scale from "1 = Never" to "5 = Very often".

Three open questions explored (i) the aspects that participants perceived as more challenging in the professional transition; (ii) skills and expertise acquired during the undergraduate years that participants considered more useful to cope with the pandemic situation; (iii) skills and expertise that participants think should be strengthened or integrated into the academic training in order to equip nurses to face a pandemic effectively.

3.4 | Analysis

Analyses included estimations of means, standard deviations and frequency distributions of the investigated variables. We contrasted new graduate nurses with experience with COVID-19 patients and those without using *z* tests for two proportions, unpaired *t*-tests or Mann–Whitney *U* tests when assumptions of normality were violated. A set of Kruskal–Wallis *H* tests and analysis of variance (ANOVA) was performed to test if there were significant differences in psychological variables and transition student-to-nurse dimensions amongst the three new graduated nurse cohorts. The answers to open questions were coded and organised in thematic categories, the coding was done by two independent researchers and the reliability was measured using Cohen's kappa; the frequency distributions were presented. All computations were run using IBM SPSS statistical software version 26 for Windows.

4 | RESULTS

4.1 | Sample characteristics

A total of 102 nurses (response rate 26%) completed the survey and were included in the statistical analyses. Participants' demographic features, academic-related information and professional- and COVID-19-related variables are reported in Table 1.

4.2 | The impact of working with COVID-19 patients on the transition from students to healthcare professionals (H1)

Psychological well-being, burnout and resilience values are reported in Table 2. Participants who did serve in COVID-19 settings in their first nursing practice reported similar levels of psychological well-being, burnout and resilience to those who did not serve in COVID-19 settings. When looking at perceived COVID-19-related stigma (Table 2), a Mann–Whitney *U* test highlighted no statistically significant difference between new nurses having/not having first experiences in COVID-19 settings, $U = 812$, $z = -1.31$, $p = .188$.

Answer distributions for participants' experience versus their expectation, perceived difficulty of academic-professional transition, perceived preparedness to deal with the transition, perceived adequacy of the academic training; taking pride to be a nurse; job satisfaction, and motivation to career choice are reported in Table 3. A set of Mann–Whitney *U* tests explored differences between new nurses having/not having first experiences in COVID-19 settings. Distributions of the perceived difficulty of academic-professional transition were statistically significantly higher in new nurses serving in COVID-19 settings (Mdn = 56.45) than in those who did not serve in COVID-19 settings (Mdn = 39.03), $U = 697$, $z = -2.77$, $p = .006$. Distributions of the other variables considered were not statistically significantly different between new nurses serving in COVID-19 settings and those who did not serve in COVID-19 settings.

TABLE 1 Sample demographic features ($N = 102$)

	N (%)
Gender	
Female	94 (92.2%)
Male	8 (7.8%)
Age	24.69 ± 3.64 (22–47)
Relationship status	
Single	62 (60.8%)
Married or analogous relationship	29 (28.4%)
Engaged	11 (10.8%)
Living situation	
Living alone	7 (6.9%)
Living with partner	27 (26.5%)
Living with family	65 (63.7%)
Living with friends	3 (2.9%)
First professional experiences	
COVID-19 wards	73 (71.6%)
Not COVID-19 wards	29 (28.4%)
Graduation session	
November 2019—before COVID-19 outbreak	41 (40.2%)
March 2020—during 1st wave	21 (20.6%)
November 2020—during 2nd wave	40 (39.2%)

4.3 | The impact of the COVID-19 pandemic curve on the transition from students to healthcare professionals (H2)

When looking at the time of graduation and transition to work (November 2019–March 2020—November 2020), a Kruskal–Wallis *H* test revealed no statistically significant difference between groups for the single item burnout ($\chi^2(2) = 2.438$, $p = .295$). No statistically significant differences between groups emerged from a set of one-way ANOVA for the Copenhagen Burnout Inventory and its subscales (CBI-TOT $F(2, 99) = 0.447$, $p = .641$; CBI-PB $F(2, 99) = 0.608$, $p = .547$; CBI-WB $F(2, 99) = 0.439$, $p = .646$; CBI-PTB $F(2, 99) = 0.184$, $p = .833$), the RS ($F(2, 99) = 0.118$, $p = .889$) and for the WEMWBS ($F(2, 99) = 0.667$, $p = .510$).

No statistically significant differences between groups emerged for nurses' experience when compared to their expectation ($\chi^2(2) = 3.862$, $p = .145$), perceived difficulty of academic-professional transition ($\chi^2(2) = 0.197$, $p = .906$), how prepared they felt to deal with the transition ($\chi^2(2) = 0.143$, $p = .931$), perceived adequacy of the academic training received ($\chi^2(2) = 0.245$, $p = .885$), taking pride to be a nurse ($\chi^2(2) = 0.491$, $p = .783$), job satisfaction ($\chi^2(2) = 1.82$, $p = .402$) and motivation to career choice ($\chi^2(2) = 0.572$, $p = .751$).

TABLE 2 Psychological variables data—nurses with first experiences in COVID-19 settings $n = 73$; Nurses with no first experiences in COVID-19 $n = 29$

		COVID-19 settings experience		
	Total sample ($n = 102$)	**COVID-19 settings ($n = 73$)**	**COVID-19-free settings ($n = 29$)**	***p*-value**
Psychological well-being	48.33 ± 7.55	48.33 ± 6.96	48.34 ± 8.99	$t(100) = -0.010$, $p = .992$
Resilience	54.82 ± 10.18	54.7 ± 9.77	55.14 ± 11.33	$t(100) = -0.196$, $p = .845$
Burnout—single item burnout (1 to 5)				
Single item burnout	1.88 ± 0.72 (mode 2)	1.92 ± 0.72 (mode 2)	1.79 ± 0.73 (mode 2)	$U = 969.5$, $z = -0.747$, $p = .455$
Single item burnout—high burnout	14 (13.8%)	9 (12.4%)	5 (17.2%)	$z = -0.65$, $p = .516$
Burnout—CBI				
CBI-TOT	46.59 ± 10.58	46.98 ± 10.19	45.62 ± 11.64	$t(100) = 0.275$, $p = .783$
CBI-PB	17.80 ± 4.19	17.92 ± 3.99	17.52 ± 4.74	$t(100) = 0.433$, $p = .666$
CBI-WB	17.83 ± 4.78	18.01 ± 4.62	17.38 ± 5.23	$t(100) = 0.602$, $p = .548$
CBI-PTB	10.96 ± 3.51	11.05 ± 3.42	10.72 ± 3.78	$t(100) = 0.428$, $p = .670$
Perceived COVID-19-related stigma (1 = Never to 5 = Very often)	2.48 ± 0.99 (mode 3)	2.57 ± 1.03 (mode 3)	2.26 ± 0.86 (mode 3)	$U = 812.5$, $z = -1.31$, $p = .188$

TABLE 3 Academic-professional transition-related variables

		COVID-19 settings experience		
	TOT ($n = 102$)	COVID-19 settings ($n = 73$)	COVID-19-free settings ($n = 29$)	p-value
Nurses' experience versus expectations	2.84 ± 1.22	2.73 ± 1.17	3.14 ± 1.3	
Much more difficult than I expected—1	12	11	1	$U = 1226$, $z = 1.31$, $p = .189$
2	26 (81.4%)	18 (83.6%)	8 (75.9%)	
3	45	32	13	
exactly as I expected—4	9 (8.8%)	6 (8.2%)	3 (10.3%)	
5	7	5	2	
6	1 (9.8%)	– (8.2%)	1 (13.5%)	
Much easier than I expected—7	2	1	1	
Perceived difficulty of academic-professional transition (1 = not at all to 7 = extremely)	4.52 ± 1.21	4.74 ± 1.17	3.97 ± 1.15	$U = 697$, $z = -2.77$, $p = .006$
How prepared did you feel to deal with the transition (1 = not at all to 7 = extremely)	4.91 ± 1.04	4.88 ± 0.97	5 ± 1.22	$U = 1186.5$, $z = 0.995$, $p = .319$
Perceived adequacy of the academic training (1 = not at all to 7 = extremely)	4.94 ± 1.07	4.92 ± 0.99	5 ± 1.25	$U = 1182$, $z = 0.956$, $p = .339$
Taking pride to be a nurse (1 = not at all to 7 = extremely)	5.79 ± 1.23	5.85 ± 1.17	5.66 ± 1.37	$U = 992.5$, $z = -0.512$, $p = .608$
Job satisfaction (1 = not at all to 7 = extremely)	5.53 ± 1.27	5.51 ± 1.23	5.59 ± 1.40	$U = 1122$, $z = 0.485$, $p = .627$
Motivation to career choice (1 = not at all to 7 = extremely)	5.97 ± 1.13	5.96 ± 1.09	6 ± 1.22	$U = 1106.5$, $z = 0.377$, $p = .706$

4.4 | New graduate nurses' experiences and perceived training needs

Seventy-six percent of participants ($N = 78$) completed the open-ended question on academic-professional transition challenges and 64% ($N = 66$) answered the two open-ended questions on the aspects of the academic training received which were relevant to the COVID-19 situation and on the aspects that should be strengthened during and after the academic training to properly equip new graduate nurses to face pandemic and emergency situations.

Following literature indication on coding and reporting of open-ended questions (O'Cathain & Thomas, 2004; Singer & Couper, 2017), one of the authors (MB) read all of the answers to familiarise himself with the data. Those data that were meaningful to the study were noted, recurring messages were identified, and codes were generated in the form of phrases to represent significant data categories. The generated coding frame was reviewed by a second author (SR) and in case of doubts, codes were discussed until an agreement was reached. When the coding frame was defined the coding process was carried out by two independent researchers (MB and CC) with a concordance rate—calculated using Cohen's kappa coefficient—ranging between 0.678 and 1.000 ($p < .001$) casting the quality of agreement from good to very good. Table 4 reports the challenges the new graduate nurses reported they had to face during their transition to professional life, the skills and expertise they acquired during the university path that they considered useful in managing the health emergency, and the skills and competence they suggested to include in the academic training to properly equip future nurses for pandemic and emergency situations.

As for the transition-related challenges during the COVID-19 pandemic, the most mentioned were linked to how to manage responsibilities and the suddenly acquired autonomy, lack of proper coaching, organisational aspects and psychological distress. Communication and relational challenges as well as fear to get infected were less frequently mentioned. When asked about the skills developed during their academic years that helped them in navigating the health emergency, the new graduate nurses mostly singled out relational and psychological skills, clinical placements, PPE use, and infectious diseases management. The most mentioned aspects that should be strengthened during and after the undergraduate course were psychological and relational aspects, emergency procedures and management, technical and practical skills for critically ill patients and resuscitation.

5 | DISCUSSION

This is one of the first studies exploring the transition from the university to professional life during the COVID-19 pandemic of new graduate nurses, considering their well-being level, risk of burnout and training needs.

TABLE 4 Reported academic-professional transition challenges; skills/expertise acquired at university considered useful to face the pandemic; and skills/expertise nurses would integrate into the academic training in order to equip them to face a pandemic

	Cohen's *k*	*N* (%)
Challenges faced in the transition[a]		
Responsibility/autonomy management	0.731	26 (33.3%)
Lack of coaching	0.968	22 (28.2%)
Organisational aspects	0.671	16 (20.5%)
Psychological and emotional burden	0.729	15 (19.2%)
Lack of knowledge/limited knowledge	0.861	8 (10.3%)
Difficulties in relationships/communications	0.787	4 (5.1%)
Fear to get infected/to infect family members	1.000	2 (2.6%)
Skills acquired during university that were useful to face the pandemic situation[b]		
Relational aspects with patients and family members/ Empathy/soft skills/flexibility	0.848	17 (25.8%)
Clinical placement/practical activities	1.000	16 (24.2%)
Use of PPE and management of infectious diseases	0.782	16 (24.2%)
Theoretical basis/clinical skills	0.781	13 (19.7%)
Emergency and critical medicine/intensive care/ protocols	0.640	8 (12.1%)
Theory on pneumonia/respiratory failure/airway management/use of CPAP/high flow/ventilators	0.926	7 (10.6%)
Organisational skills	0.573	7 (10.6%)
None/few/I don't know	1.000	3 (4.5%)
Skills to be implemented/strengthened in academic curricula[b]		
Psychological and relational aspects with patients and team/resilience/bereavement management	0.865	22 (33.3%)
Emergency procedures and management/organisational skills/health documentation	0.858	20 (30.3%)
Technical and practical skills for critically ill patients/ cardio-pulmonary resuscitation/infectious diseases/ PPE use	0.843	19 (28.8%)
Exploring autonomy in internships/practice clinical cases/experiences in infectious disease or covid-19 wards	0.910	14 (21.2%)
Training on the principles of ventilation and on the use of ventilators/respiratory assistance devices	0.858	7 (10.6%)
Pharmacology	1.000	4 (6.1%)

[a]78 respondents.

[b]66 respondents.

5.1 | The impact of working with COVID-19 patients on the transition from students to healthcare professionals

Most new graduate nurses reported a moderate to high mental well-being (81%), while only 19% of them reported a low level. In addition, nearly one-third of participants reported a mid-high level of burnout, similar to previous studies on nurses (Salvarani et al., 2019). Notably, nearly 13% of participants reported having often received stigmatisation for being healthcare professionals working during the COVID-19 pandemic (and 40% occasionally), regardless having worked in COVID-19 settings. More than 80% of participants described the transition from university to professional life as worse than expected, confirming previous studies on the pre-pandemic (Aldosari et al., 2021) and pandemic period (Fernández-Basanta et al., 2022).

In line with our prediction, new graduate nurses who worked in COVID-19 settings reported a more difficult transition from university to professional life. This result echoes previous Spanish studies with similar populations (Canet-Vélez et al., 2021; Gómez-Ibáñez et al., 2020; Roca et al., 2021). However, in contrast to our hypothesis, no difference emerged in burnout, mental well-being and perceived stigma between new graduate nurses who worked in COVID-19 settings and those who did not. Furthermore, in line with previous findings (Crismon et al., 2022), no differences emerged between the two groups for the other professional transition-related

variables: nurses' experience versus expectations, how prepared they felt to deal with the academic-professional transition, the perceived adequacy of the academic training received, job satisfaction, and motivation for career choice and professional pride. New graduate nurses could choose their workplace, and we can assume that those who believed to have enough personal resources to work in a COVID-19 setting opted for this choice. In contrast, those who felt unskilled in managing COVID-19 patients opted for a different healthcare setting. This awareness of their resources could explain the lack of differences between new graduate nurses who worked in COVID-19 settings and those who did not.

When considering the three graduation sessions (November 2019/COVID-19 free, March 2020/first COVID-19 wave and November 2020/second COVID-19 wave), no significant differences emerged in psychological outcomes (burnout, mental well-being and resilience), and academic-professional transition-related variables. Unless nurses who graduated before the pandemic could have an adequate coaching period and supervised clinical activity, the disrupting impact of the pandemic posed the same unpredictable level of difficulties for young nurses, and the few months of early professional experience do not play a protective role. Some authors (Gómez-Ibáñez et al., 2020; Roca et al., 2021) highlighted the ambivalence of nursing students serving in COVID-19 settings, suggesting that the exceptional learning opportunity represented by working in these settings might have mitigated the challenges of the professional transition and the emergency. Other authors (Glasdam et al., 2022; Schmuck et al., 2021) highlighted the protective role of perceived social support and the social recognition from the community as heroes.

5.2 | New graduate nurses' experiences and perceived training needs

Amongst the most commonly mentioned challenges faced during the transition were organisational aspects, suddenly acquired autonomy and lack of suitable coaching. Previous studies have pointed out these factors (Ankers et al., 2018; Hampton et al., 2020), suggesting the pivotal role of an adequate coaching period for an effective professional transition and the improvement of competence and confidence of new graduate nurses (Irwin et al., 2018). However, the COVID-19 pandemic has made it impossible to provide this coaching period, leaving the new graduate nurses often alone in managing complex clinical situations.

New graduate nurses pointed out that emergency procedures, technical and practical skills for critically ill patients, and psychological and relational aspects (unless yet part of the undergraduate course) should be strengthened to equip nurses with valuable skills and expertise to deal with pandemics and other health emergencies. While some basic knowledge and skills are already part of the 3 years of undergraduate training, they are not enough to become skilled to work in a pandemic context, and post-graduate training should be considered to strengthen these competencies as suggested in other studies (Zhou et al., 2020). Yet, implementing training—outside of the undergraduate course—focused on coping with stressful situations should be considered, possibly adapting it to emergencies in an intensive format.

As our data show, new graduate nurses who have started their professional experience in pandemic settings reported a more difficult transition to professional life, and we parallel the request for caution in including new graduate nurses in pandemics and other health emergencies (Hayter & Jackson, 2020) without adequate support for both students who volunteer and those who decline to join the healthcare workforce in COVID-19 context. Nevertheless, it has to be noted that the increased perceived difficulty did not hamper nurses' well-being, resilience, and burnout level and did not weaken their job satisfaction, motivation for career choice and professional pride. Conflicting with our expectations, nurses who graduated during the first COVID-19 wave (March 2020) reported the same level of burnout and well-being as nurses who graduated pre-COVID-19 (November 2019) and during the second wave (November 2020). However, we may speculate that the pandemic outbreak in Italy, the first western country to be reached by COVID-19, presented new and unknown challenges to all healthcare professionals nullifying the effect of a structured academic-professional transition. Although nurses who graduated before the pandemic (November 2019) could move to professional life with a coaching period and in clinical settings more similar to those experienced during their academic placements, these initial advantages may have been wiped out by the sudden and disruptive pandemic outbreak with its extreme levels of uncertainty and novelty.

Considering that the first 3 months of entry into practice are the most stressful time for a new graduate nurse (Jewell, 2013; Woo & Newman, 2019) and that the pandemic has introduced new stressors and needs, it is pivotal to develop a mid–long-term monitoring program for nurses who graduated during the pandemic to monitor early signs of distress or burnout.

Furthermore, as suggested by a recent study (Zhou et al., 2020), considering the training needs reported by new graduate nurses and the lack of time to integrate this knowledge and skills into the 3 years' undergraduate program, a short post-graduate training focused on navigating the emergency ward should be sought.

6 | STRENGTHS AND LIMITATIONS

The inclusion of three cohorts of new graduate nurses from a University located in the most affected Italian region, provided a precious representation of the professional transition during the COVID-19 pandemic. However, the inclusion of a single university and the low response rate severely reduces the generalisability of the results and conclusions. The cross-sectional design prevents the monitoring of the mid- and long-term impact of the

academic-professional transition process. Moreover, the lack of a pre-pandemic control group limits the possibility of a thorough comparison to appreciate the role of the COVID-19 pandemic in the transition process.

7 | CONCLUSIONS

The challenging academic-professional transition reported by new graduate nurses in our study highlights the need to nurture more realistic expectations towards the first professional experiences in nursing students. In addition, there is a need to enrich academic training with specific skills and knowledge to handle health emergencies and to include a tailored coaching period to benefit a functional and less challenging academic-professional transition. Previous studies have shown that a positive professional transition is related to the efforts (which can take different forms such as internships programs, transition programs, preceptorship, etc.) done by organisations helping nurses to be regarded as important and to the attempts made to help them in acquiring their new roles (Edwards et al., 2015). The possible mid- and long-term impact of experiencing an academic-professional transition in COVID-19 settings on nurses' professional-related variables and their well-being and burnout risk should be assessed and monitored.

8 | RELEVANCE TO CLINICAL PRACTICE

Our study showed that new graduate nurses who experienced the academic-professional transition should be supported with specific interventions to improve their self-confidence and facilitate their transition to the professional context. In addition, more attention should be paid to monitor the transition of nurses who start their professional experience in emergency situations similar to the COVID-19 pandemic as nurses in these settings perceived the transition as more difficult. However, due to the difficulties in providing a tailored coaching period during pandemics and health emergencies, these new graduate nurses should be supported with a post-transition program to review their professional experience, identify any training needs, and monitor their self-confidence to prevent the possibility of burnout. A tailored intervention aiming to improve the quality of the professional transition should be implemented, depending on the specific first professional context.

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CONFLICT OF INTEREST

None.

DATA AVAILABILITY STATEMENT

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

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SUPPORTING INFORMATION

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

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