

Article

Perception Exposure of Nursing Management against Covid-19 disease in a University Teaching Hospital

*Lefons Diego.¹, Evangelista Giulia², Desimio Maria.³, Sodo Susanna⁴, Molinaro Ilma⁵, Tibaldi Laura⁶

¹UOSD-ER and OBI – Emergency and Accident Department, Rome University Hospital “Policlinico Umberto I”, Specialized Nurse, Sapienza University of Rome

²UOC-MEU – Emergency and Accident Department, Rome University Hospital “Policlinico Umberto I”, Specialized Nurse, Sapienza University of Rome

³IDD – Infectious Disease Department, Rome University Hospital “Policlinico Umberto I”, Health Manager Nurse, Sapienza University of Rome

⁴DAPS – Professionals Health Department, Rome University Hospital “Policlinico Umberto I”, Health Manager Nurse, Sapienza University of Rome

⁵CCICA – Operative Group, Rome University Hospital “Policlinico Umberto I”, Health Manager Nurse, Sapienza University of Rome

⁶HGD – Health General Direction, Rome University Hospital “Policlinico Umberto I”, Health Manager Nurse, Sapienza University of Rome

Correspondence: Lefons Diego. Email: diego.lefons1995@gmail.com

Abstract. *Objective:* to investigate the skills deployed by nursing professionals during the emergency caused by the new coronavirus, analyze the experiential experience and collect considerations about the future implications of the profession and the working context in which it is inserted. *Materials and methods:* Qualitative Phenomenological Study conducted in a University hospital in the city of Rome. The sample was recruited with the convenience methodology, including healthcare professionals nurses without gender or age preference employed within the Teaching hospital Umberto I in Rome during the new coronavirus emergency. A semi-structured interview was given consisting of 31 questions, collected orally, noted and inserted in decoding tables.

Results: The results obtained were included in the decoding tables until redundancy was achieved. They have been critically analyzed by identifying similarities and differences in the nursing skills required, be they of a technical / theoretical or managerial nature. Professional experiences and future prospects of the profession. The results obtained from the interviews showed the presence of numerous feelings and sensations attributable to stress and fear during work. In all the interviews the willpower in helping the person with coronavirus emerged. In all the interviews, the contribution of the nurses in the creation of pandemic management protocols was found, such as: methods of accessing the hospital, taking charge of patients, management of PPE, training for new staff and support for workers in first line. *Conclusion:* The results highlighted the importance of the nursing contribution which, however, should be evaluated with a quantitative methodology. The experiences and skills put in place have recognized nursing as a fundamental profession for dealing with the COVID-19 pathology.

Keywords: Nurse, Nursing Management, Nursing care, Covid-19, SARS-CoV2, Italy

Background

On 27 December 2019 in China, in the province of Hubei, precisely in the city of Wuhan, 27 cases of pneumonia of unknown etiology were identified¹. These patients presented with clinical symptoms such as: cough, fever, dyspnea and bilateral pulmonary infiltrations on diagnostic imaging, the latter attributable to a clinical picture of atypical interstitial pneumonia^{2,3}. The starting point of the infection was identified in the fish and other live animals market (so-called "wet market") of Huanan, in the center of Wuhan city, closed on January 1, 2020. At first the infection was confined almost exclusively in China, but from mid-February it spread rapidly around the world^{4,5}.

The causative agent was identified on January 7, 2020 from throat swabs performed by the Chinese Center for Disease Control and Prevention (CCDC) and subsequently, on January 10, the genome was published, the new virus was baptized Severe Acute Respiratory Syndrome Coronavirus2 (SARS- CoV-2)^{6,7}.

The first cases of COVID-19 infection in Italy were confirmed by the Istituto Superiore di Sanità (ISS)⁸ on January 30, 2020. They were two Chinese tourists hospitalized since January 29 at the National Institute for Infectious Diseases "Lazzaro Spallanzani". The regional health authorities implemented all measures to trace contacts as a precaution, in accordance with the measures already defined by the Ministry of Health.

On February 21, 2020, the ISS confirmed the first autochthonous case in Italy (positive result at the Sacco Hospital in Milan), the first case of local transmission of COVID-19 infection. An outbreak of infection was subsequently detected on February 21, 2020 starting from 16 confirmed cases in Lombardy, in Codogno, in the province of Lodi, which increased to 60 the following day, with the first deaths⁹.

During the Coronavirus disease pandemic, nurses, along with other health care professionals, were the first line to fight the disease. many scientific studies have investigated the emotional aspect that these professionals experienced while assistance.

In particular the cross-sectional study of (Deying Hu et al. 2020)¹⁰ that investigated the fear, anxiety, depression and burnout related to the work of nurses engaged during the health emergency in the city of Whuan.

The study was conducted on nurses in the COVID-19 management wards of two hospitals in Whuan City.

This study was considered significant because it was one of the first to be published and to have investigated these issues. Furthermore, the high sample size and the multicenter methodology helped to provide a representative picture of the nurses engaged during the emergency.

In Italy the nursing figure was of fundamental importance. the studies conducted have contributed to generating greater awareness of the work done in the realities that have fought viruses.

Objective of the study

The aim of the study was to investigate the skills deployed by nursing professionals, in a university teaching hospital, during the new coronavirus emergency, to analyze the emotional experience and to collect considerations about the future implications of the profession and the working context in the which one fits

Material and methods

Study design

The study design was identified as a qualitative phenomenological type. It is a mono-centric study, conducted in a University hospital of the city of Rome. the semi-structured interview is the tool with which the study was conducted.

Recruitment and eligibility criteria for participants

The sample was selected with the convenience methodology; this included a cohort of 6 nurses belonging to the Policlinic Umberto I in Rome.

The recruited professional figures were employed in different care settings such as: nurses within the Emergency Medicine department, infectious diseases department coordinator, head of the ICI-CIO team of infectious diseases, responsible for the acquisition and disposal of PPE, Director of Department of Health Care.

Eligibility criteria applied:

Professional nurses, male and female, without age limits, graduates, qualified to exercise the profession, framed with any type of contract, who worked within the Policlinic Umberto I in Rome during the 'emergency.

Exclusion criteria applied:

Healthcare professionals who are not nurses, working staff of the Teaching hospital Umberto I company in Rome not classified as health professionals, graduated personnel not classified as health personnel, nurses who did not provide service during the emergency phase, health personnel not belonging to the Teaching hospital Umberto I in Rome, retired staff.

Data collection

The survey was carried out by administering a semi-structured interview (reported in **Annex A**) consisting of 9 questions concerning the personal data sphere and 23 questions, divided into three sections, which included the sphere of management and work management, one the second which aimed to analyze the emotional and experiential aspect linked to work and a third on the opinions and future implications of the nursing profession.

The interviews were acquired orally and, with the consent of the interviewees, recorded on electronic media and transcribed manually. Following the transcription, the most significant results were reported in a decoding table, using the Van Kaam method, until redundancy was achieved.

Results and discussion

The analysis carried out on the responses involves a discussion that is first articulated by reporting personal data, then they will be described between branches of interest: a section relating to the organization of work at the time of the pandemic; a second that turns interest towards the emotional and experiential experience linked to work, in relation to both the clients and the affections of the professionals themselves; lastly, some futuristic considerations regarding the role of the professional figure and the methods of carrying out the work.

As regards the organizational and managerial aspects, the interviewees replied, for the most part, that they found themselves particularly unprepared at the time of the virus's appearance, they all had to face a new pathogen of which there was no certain scientific knowledge, it was all in progress, therefore the need to update quickly and continuously has proved to be very strong and necessary in order to do the job better.

The organizational actions undertaken followed the succession of decrees of the President of the Council of Ministers and the consequent regional ordinances, this indicates that the Italian territory was not ready to face such an emergency, therefore there were no protocols or practices used in the past that could be adapted to the current situation.

The creation of new protocols extrapolated from the most updated guidelines highlighted the organizational and managerial skills of the nursing profession. The work carried out together with the medical figures of the health management established the pathways for managing sick patients and moving them between the different areas of the hospital.

Ad hoc paths and lines of behavior have been created for all professionals involved directly in the field, among these we can mention the most recent "Fever Path" which aims to identify potentially infected patients to include them in a diagnostic path with particular attention to the risk of transmission of pathogens.

The work of the interviewees, at all levels, has undergone remodeling, of small or large entities, clearly linked to the role played within the company, in this context the attention to controlling the spread of the infection is inserted, so who was directly engaged on the front line and had to use high-level Personal Protective Equipment (such as full protective suits, N95 filtering facials, visor / protective goggles, etc.), which made the work particularly stressful and exhausting both physically and mentally . Furthermore, finding these devices was found to be difficult at the moment of the peak of the emergency, linked to the diversion of the latter to the areas of greatest need.

The aspect of finding and managing IPRs was a particularly rough and complex terrain to deal with, some of the professionals interviewed held temporary positions as management managers, a role previously entrusted to professional figures of an administrative nature. The scarcity of IPR has posed problems of conflict both at work and in the purely ethical and personal sphere; Work shifts were agreed according to the materials available, which varied day after day and what was not used in certain contexts could be put back in common and sent to where it was most needed.

The little knowledge of the virus and the lack of help from the media generated general confusion on the use of PPE, so much so that even the professionals themselves harbored doubts and uncertainties. Precisely within the Teaching hospital, the management of PPE has seen the commitment of everyone, to the extent possible, by creating real ready-to-use kits, first customized with the help of different professionals and different assistance dynamics, then with the creation of standard kits that can be used in any situation.

The ethical dilemma arose from fear and great psychological pressure, where the safety aspect of the operator clashed with the moral principle of assistance needed by the patient.

N. Interview	Sex	Age	Study	Focus
2	F	45-64	Master Degree	
<p>Have new protocols been implemented to deal with the emergency?</p> <p>- Many protocols have been implemented to cope with the emergency, first of all in the emergency room, because we have so many first aid ... (..). These required special attention compared to all other departments such as clinics or long-term hospitalizations. There has been a lot of attention, and there has also been a lot of attention with regards to internal organization, such as catering, waste disposal activities .. (..). So the COVID emergency had a 360 ° attention in everything.</p>				Attention in the care sphere at all levels, trying to identify management protocols for all the hospital's own pathways.

Table 1 Question and Answer coding

At the company level, actions were even taken to support professionals throughout the struggle phase, training courses were prepared on the latest guidelines and the psychological counseling service for professionals was enhanced (the latter not met the hoped-for success). Ultimately, the interviews unanimously reported that, despite the stress, fear, uncertainty and inadequate initial preparation, the work was completed to the best of one's ability, always trying to ensure the maximum that this profession has to offer.

The emotional aspect related to work turned out to be the most touching section, it brought to the memory of the interviewees numerous memories, for which it is easy to find a lot of empathy.

Each professional described a deep love for their profession and a deep respect and affection linked to the patient. Nursing, which has always been a profession close to the patient, has had to undergo a forced removal, due to the needs that the disease has created. However, this physical distance only initially discouraged the professionals, who promptly found valid alternatives to ensure the proximity and presence of the nurse towards the sick.

Assisting an unspecified number of sick people, frightened because they were uncertain about what the outcome of their situation would be, was the emotionally hardest part, together with assisting people who were going to death in total solitude, involving the ritualistic aspect linked to extreme farewell from the hospital bed to the death.

The loneliness of these patients was the common denominator of the interviews, the drive to want to fill this absence of human and family contact was the backbone of the professionals, the motivation not to let down their guard and to spend up to the last energies.

N. Interview	Sex	Age	Study	Focus
3	F	45-64	Master Degree	
<p>- How did you feel towards the clients you were dealing with?</p> <p>- ... I am a nurse, I feel like one and taking care of the person is my first goal. COVID has created a distancing, it has been taking care a little from a distance, by reflection, and the most difficult thing is, still, to make the person feel that he is not abandoned to himself and his destiny ... (..)</p>				<p>Nursing as the most important thing and attention to the person despite the distancing. Express closeness and drive away the feelings of abandonment of patients.</p>

Table 2 Question and Answer coding

Professionals faced with the question concerning the relationship with loved ones and people who are part of the social fabric outside of work reported feelings of protection and strong fear, most of them voluntarily isolated themselves in separate areas of the same home not having, in fact, contact with loved ones. The fear and the will to safeguard the health and safety of one's loved ones required no small amount of strength and integrity, a symptom of an important personal and professional awareness.

Some of them have even decided, in some situations, to stop and rest the night directly in their cars, parked inside the hospital itself in order not to go home. This is because the particularly long work shifts sometimes did not leave the time to make large movements so they took advantage of the rest in the immediate vicinity of work, which the next day would start again very early in the morning.

There are also sentiments of affection for all friends or neighbors who, aware of the work done by the nurses, have shown gestures of closeness and gratitude.

The professionals felt close to each other, and also to the other health professionals with whom they interacted, generating an important connection network which, with strong and resistant meshes, acted as protection against possible crises of fear and despair.

The last section, relating to changes in the exercise of work and future expectations related to the profession, was the one that generated in the interviewees most of the opinions and sensations regarding the future of the profession itself and the new recognition it should acquire a social level.

All interviewees expressed strong feelings about the definition of "Heroes", given to professionals during the height of the emergency, and which, once diminished, was forgotten.

All of them agreed in not wanting to be recognized as heroes, but as nurses, as professionals, effectively recognized and respected, even from an economic and professional point of view, they all reacted with strength and passion in defending the rights that these professionals feel. to claim.

N. Interview	Sex	Age	Study	Focus
4	F	45-64	Master Degree and Other	
<p>- How did you relate to the extra-hospital social equipment you deal with on a daily basis?</p> <p>- I must say that my neighbors and my friends have been very nice... (..). I saw little of them but I received many messages, of closeness, in which they thanked me for the work I was doing, for the availability and they greatly admired our courage ... (..) all these beautiful things but I believe that these appreciations should be made always because the nurse is always there.</p>				<p>Feelings of affection, admiration and gratitude for the work done by nurses by the population. Desire for greater recognition given the perennial presence of the nursing profession.</p>

Table 3 Question and Answer coding

In a section of the interview there is a question related to the minority of the population identified with the term "Deniers" who claim that the virus does not exist and that in reality the whole emergency situation is the result of a conspiracy engineered by the state Italian. To this question, the professionals reacted with strong words and hard feelings arising from their work experience and expressed themselves clearly, stating that implementing passive and not very incisive behavior would not help to face this rampant opinion, they are of the opinion that the services of information should better report the work done and the efforts made, while eclipsing contrary opinions so as to be able to discredit them and make even clearer the idea of the situation that, many times, remains trapped inside the hospital walls. Professionals have stated how much their work has actually already changed and will continue to change exactly in step with what the international scientific literature discovers day after day about the virus. This could be a further springboard for what the nurses interviewed expect about the future of the profession, namely that, being the medical landscape in constant enrichment and evolution, even the nursing one, should follow this path in parallel, guaranteeing channels training courses more directed towards specializations so as to guarantee even greater professionalism and competence to the patients.

N. Interview	Sex	Age	Study	Focus
2	F	45-64	Master Degree	
<p>- Do you think there will be future repercussions on your work compared to before the pandemic?</p> <p>- the virus made us understand that some health care habits were wrong. The virus has highlighted the concept of security, which is not so much to say, but is found at 360 ° ... (..) COVID has elevated the concept of security by a step.</p>				<p>Awareness of wrong care habits from which to learn to improve the concept of safety.</p>

Table 4 Question and Answer coding

Paraphrasing the words of one of the interviewees, I quote: "a patient who is stable from a medical point of view is not always stable from a nursing point of view". These words clarify how

much the nursing profession, although it is part of the medical field, actually has its own identity and its own field of action, for which professionals have the will to train and update themselves so as to be able to enrich them. themselves and the patients they care for.

Conclusion

Nursing is configured within the healthcare landscape as a profession of particular relevance and the new coronavirus pandemic has underlined this in several respects. The interviews collected highlighted the preparation of the professionals and their desire to roll up their hands to update themselves and carry out their work to the best of their ability. The fields of intervention highlighted have collected only a part, the tip of the iceberg, in which this profession can fit and the contribution it can make to address this pathology still under study.

Knowledge of the scientific landscape with respect to the new pathogen is enriched day by day and the medical aspect of the disease discovers new therapeutic strategies and new fields of action. As for the nursing sphere linked to the patient and the pathology, however, the same cannot be said since it takes time to ascertain the real consequences and possible complications that the healed may face.

New follow-up scientific studies (Carfi et Al. 2020)¹¹ have been published that try to outline what is currently identified with the name of "Covid-19 Syndrome", in which patients experience disorders related to the disease (dyspnea, joint pain and fatigue, last held in particular consideration because it is attributable to causes of impaired cardiac function or pulmonary fibrosis) despite negative results to two swabs carried out after the treatment period and therefore effectively classified as cured.

This is an example, like many others, in which a patient who is considered stable or out of danger, from a medical point of view, cannot be the same from a nursing point of view. The contribution of the profession fits into this context as it is linked to the intrinsic and eclectic nature of the same that gravitates around the patient considering him in its holistic dimension, thus also embracing the social and psychological context.

Finally, it would be necessary to carry out further studies on the nursing management of the COVID-19 pathology, and to establish precise lines of specialization for the figure who, as for the world of medicine, is vast and diversified.

References

1. H.Lu, C.W.Stratton, Y.Tang, Outbreak of pneumonia of unknown etiology in wuhan China: the mystery and the miracle, *J.Med. Virol.* (2020) 25678.
2. Verity R,C Okell L, Dorigatti I, Winskill P, Whittaker C, Imai N, Cuomo-Dannenburg G, Thompson H, Walker P, Fu H, Dighe A, Griffin J T, Baguelin M, Bhatia S, Boonyasiri A, Cori A, Cucunubá Z, FitzJohn R, Gaythorpe K, Green W, Hamlet A, Hinsley W, Laydon D,

- Nedjati-Gilani G, Riley S, van Elsland S, Volz E, Wang H, Wang Y, Xi X, Donnelly C A, Ghani A C, Ferguson N M, Estimates of the severity of coronavirus disease 2019: a model-based analysis, *The Lancet*, March 30, 2020.
3. Chen N, Zhou M, Dong X, Qu J, Gong F, Han Y, Qiu Y, Wang J, Liu Y, Wei Y, Sia J, You T, Zhang X, Zhang L, Epidemiological and clinical characteristics of 99 cases of 2019 novel coronavirus pneumonia in Wuhan, China: a descriptive study, *The Lancet*, vol. 395, 15 February 2020, pp. 507–513.
 4. Lu R, Zhao X, Li J, Niu P, Yang B, Wu H, Wang W, Song H, Huang B, Zhu N, Bi Y, Ma X, Zhan F, Wang L, Hu T, Zhou H, Hu Z, Zhou W, Zhao L, Chen J, Meng Y, Wang J, Lin Y, Yuan J, Xie Z, Ma J, Liu WJ, Wang D, Xu W, Holmes E C, Gao GF, Wu G, Chen W, Shi W, Tan W, Genomic characterisation and epidemiology of 2019 novel coronavirus: implications for virus origins and receptor binding, *The Lancet*, vol. 395, n. 10224, February 2020, pp. 565–574.
 5. Zu Z Y, Jiang M D, Xu P P, Chen W, Ni Q Q, Lu G M, Zhang L J. Coronavirus Disease 2019 (COVID-19): A Perspective from China. *Radiology* 2020 21 February.
 6. Vital Surveillances: The Epidemiological Characteristics of an Outbreak of 2019 Novel Coronavirus Diseases (COVID-19) – China, 2020.
 7. [web.archive.org/web/20200120214550/https://www.who.int/health-topics/coronavirus](https://www.who.int/health-topics/coronavirus)
 8. <https://www.iss.it/coronavirus>
 9. www.reuters.com/article/us-china-health-italy/coronavirus-outbreak-grows-in-northern-italy-16-cases-reported-in-one-day-idUSKBN20F0UI
 10. Deyin Hu, Kong Y, Lic W, Hand Q, Zhange X, Zhuf L X, Wanf S W, Liuc Z, Shenc Q, Yangc J, Hong-Gu H, Zhuc J. Frontline nurses' burnout, anxiety, depression, and fear statuses and their associated factors during the COVID-19 outbreak in Wuhan, China: A large-scale cross-sectional study. *ELSEVIER*, 7 June 2020.
 11. Carfi A, Bernabei R, Landi F, Persistent Symptoms in Patients after Acute Covid-19, *JAMA*. 2020;324(6):603-605.