Advanced competence in intensive care unit: expectations, role ambiguity between physicians and nurses in intensive care units. Multi - method survey

Roberta Carbone [1], Silvia Ferrari[2], Sara Belperio[3], Sofia Bravi[3], Camilla Mancinelli[3], Eleonora Soave[3], Margaux Di Bartolomeo[3], Laura Andreassi[3], Lorenzo Perondi[3], Martina Tamba[3], Martina Astolfi[3], Cinzia Ossola[3], Giovanna Artioli[4], Leopoldo Sarli[1]

[1]Department of Medicine and Surgery, University of Parma, Italy ; [2]Ambulance Service-118 ASST Mntova, Italy, [3]Master in Nursing, University of Parma, Italy 4 USL-IRCCS di Reggio Emilia, Italy

Abstract. *Background and aim:* The roles of physicians and nurses have undergone profound changes in recent years, becoming more complex and creating, at times, overlapping competencies with consequent negative repercussions in terms of problems related to autonomy and inter-professional collaboration. The study aims to detect the opinions of intensive care physicians and nurses with respect to their skills and role expectations. *Method:* The study was conducted in two phases. In the first phase, with a qualitative design, data were collected through the focus group. In the second phase, with quantitative design, an ad hoc questionnaire was constructed from the results of the previous phase. *Results:* 3 main themes emerged from the focus groups: the need to increase the system of inter-professional collaboration; autonomy and professional role; and the need for a shared advanced training system for physicians and nurses. The results of the questionnaire show that both professionals believe that the development of advanced skills does not lead to conflicting situations and role ambiguity unless the skills are recognized and respected. Both professionals agree that it is useful and necessary to implement a shared educational pathway. *Conclusion:* Inter-professional collaboration, specialist skills and specific training are a key element of the ICU teamwork.

Keywords: clinical competence; intensive care unit; focus group; questionnaire; role conflict and ambiguity; advanced nursing practice; medical device; professional training.

Introduction

In the last thirty years, the Italian healthcare has undergone numerous changes: from a traditional organization - focused on pathology treatment - to a holistic one, focused on objectives and results. This evolution has placed health care professionals in front of increasingly complex challenges that require both advanced technical and relational knowledge and skills to respond efficiently and satisfactorily to citizens' demands. In this context, it is crucial to question what the competences of health professionals should be and what it means. Competence is essentially a person's ability to do something, even from an intellectual point of view, efficiently in relation to a given objective, a given subject or professional field; the demonstrable and observable result of competent behavior is performance (1). In this context, advances skills represent the normal development of a profession that operates in a context where increasing skills and competence are required. Advanced competences allow professionals to experiment with innovative solutions, combining experience in the field with the cultural background acquired during training. Alongside the concept of competence is the one of "personal autonomy" which refers to the freedom of making decisions within one's pro-

fession, based on one's own knowledge, clinical skills and scientific evidence (2). For some decades now, in order to facilitate the acquisition of these advanced skills, post-basic training has been developed with the aim of providing health professionals with in-depth clinical knowledge and skills enabling them to deliver specific services in specific areas in order to provide appropriate, specialized and competent health care and to optimize available resources. Consequently, over the years, the roles of doctors and nurses have undergone profound changes, becoming increasingly complex and dynamic (3). Greater professional autonomy and more specialized skills acquired could, in come situations, increase the risk of relational difficulties with the various members of the team due to overlapping competences, with consequent negative repercussions in terms of problems related to autonomy, role ambiguity and collaboration between professionals (4; 5; 6; 7; 8; 9). In order to resolve this eventuality, a new conception of professional role is necessary, intended as a system of expectations in which the rigid division of tasks is progressively replaced by mutual collaboration between different roles in relation to the aptitudes of each one (10). It is easy to understand the contrary, failure to resolve conflicts and problems can sometimes create ambiguity between different roles and difficulties in acquiring professional autonomy, especially if the professional himself is not sufficiently clear about objectives and responsibilities that his role entails (10). The lack of professional autonomy is associated with a large number of issues: moral distress, the severity of which increase when Inter-professional collaboration between nurses and doctors decreases (2; 11); poor collaboration between doctors and nurses (2); increased work stress (12), reduced job satisfaction (13;14), job abandonment and emotional exhaustion (15; 16; 17); "*Nurses with limited autonomy, poor control over their practice, and poor relationships with physicians, experience a greater level of emotional exhaustion, which can negatively influence their perception of quality of care, job satisfaction and intention to abandon their jobs*" (18). On the contrary, some studies demonstrate how autonomy and collaboration between professionals can improve patients outcomes (19), increase levels of safety and effectiveness of care, and benefit the profession as a whole (20;21).

In order to minimize conflicts and role ambiguity problems, team work and inter-professional collaboration become necessary to provide quality care in complex, dynamic and unpredictable environments, where the time factor plays a fundamental role and of which the "critical area" and intensive care in particular, are one of the most obvious expressions. Autonomy and inter-professional collaboration improve patients outcomes, reduce and - in some case- prevent hospitalization complications and enable a better use of resources (22). However, it is not always easy to understand what the advanced skills of the professional are, the qualities and attributes required in contexts as complex as critical care; in a constantly evolving profession, where professional boundaries tend to blur more and more, it is possible do highlight some elements that build the "core" of the professional: a patient- centered care, self empowerment and good training (16; 23).

Aim

The aim of this study is to survey and investigate doctors and nurses, who work in critical care, opinions and expectations regarding their professional role.
Specifically, the interest is directed toward:

- detecting physicians and nurses' expectations regarding their professional role;
- evaluating physicians and nurses' opinion regarding the use of advanced devices;
- investigating collaboration areas between physicians and nurses and possibly identifying competencies at the border between the two professional roles;
- evaluating the opinion of physicians and nurses regarding training needs.

Ethics

The study procedures were designed according to ethical standards regarding research projects involving human beings. The study received approval from the Ethics Committee of the Vasta Emilia Nord area. All participants were informed about the study and signed an informed consent form certifying their willingness to participate. Participation in the research was by in-

vitation and was on a voluntary basis. Written consent for audio recording of the discussion was requested from all participants (recordings were made after explicit consent of individual participants and the forms were developed according to the guidelines of the new DGPR of April 27, 2016 "Regulation (EU) 2016/679 of the European Parliament and of the Council".

Method

The study involved two phases. An initial phase based on a focus group and a second phase based on the construction of an anonymous questionnaire developed from the results of the first phase. A focus group was chosen in the first phase because it is a low-structured method useful for exploring and describing complex opinions and expectations, with the aim of delving into aspects related to the opinions, attitudes, and expectations of physicians and nurses. The second phase chose to integrate the results obtained through a method with a greater degree of structuring, with the aim of identifying and measuring the main results of the research in order to obtain a more general vision. The first phase represented the "starting point", useful for exploring the topic at hand, while the second phase served to conduct more in-depth research at a later date. It was also decided to approach the study in different ways and with different timing with the aim of having a broader and more in-depth view of the topic under investigation.

Study 1 design

Study design: descriptive qualitative survey based on focus groups.

Setting: six intensive care and resuscitation units for adults in public hospitals in Emilia-Romagna, Veneto and Tuscany: Arcispedale Santa Maria Nuova - AUSL of Reggio Emilia; Dell'Angelo Hospital - AULSS 3 Veneto based in Mestre; AOUP Cisanello based in Pisa.

Sample: the sample considered is non probabilistic, consisting of ICU and resuscitation physicians and nurses. Nurses and physicians working in intensive care and resuscitation units for at least 5 years were included, whereas nurses with less than 5 years of experience, resident physicians, and professionals working in pediatric and neonatal intensive care areas were excluded.

Instrument: data collection was conducted through focus groups.

Data collection and analysis: the creation of focus groups was entrusted to a research group composed of nurses appropriately trained to conduct this type of investigation. To ensure the reliability of data collection, an initial focus group was conducted, used as a test for the refinement of the method and instrument of data collection for a more precise definition of the control criteria of the procedure of conducting the interview. Data collection has been carried out in the period between 20/02/2019 and 28/02/2019 at the 6 healthcare facilities that authorized the survey based on specific collaboration agreements and permits. The focus groups lasted approximately one hour and thirty minutes, and between 6 and 12 participants from each facility were involved. Subjects were recruited in a non-probabilistic manner and efforts were made to ensure adequate representation of the various components so as to facilitate the exchange of views. Each meeting followed an articulated and specific procedure based on an ad hoc constructed interview and was recorded with prior consent (audio recording) with the aim of ensuring greater reliability in the collected data transcription. Each recording was translated entirely. Complete anonymity of participants was ensured in the transcripts. Content was explored using a categorization approach through a thematic content analysis (24). Two research independently analyzed the transcripts by reading the text repeatedly, gradually extracting the meanings that emerged, grouping and/or dividing them into content categories: the text was divided into meaningful units; these were extracted and coded; then - based on differences and similarities - the initial codes were classified into sub-categories. After these sub categories were sorted into other categories and themes were created to link the underlying meanings in the categories.

Themes and categories were derived solely from the transcripts (verbatim), through the use of a deductive approach in which the categorization process was structured from the meanings identified each time. The two categorizations were compared and the differ-

ences discussed until agreement was reached between the researchers, who then proceeded to draw up the final categorization by identifying and describing the extrapolated meanings and their component categories.

Study 2 design

Study design. Quantitative, cross-sectional observational design.

Setting. To conduct this study, some public hospitals with adult intensive care and resuscitation units were selected: Emilia-Romagna, Friuli Venezia Giulia, Liguria, Lombardia, Piemonte.

Sample. The sample is a non probabilistic type and consists of intensive care and resuscitation physicians and nurses; nurses and physicians with less than 5 years of experience, resident physicians, and professionals working in pediatric and neonatal intensive care areas were excluded.

Instrument. An anonymous, self-completed questionnaire was used. The questionnaire, constructed ad hoc, is composed of 20 closed questions grouped by area: *Expectations, Roles and Skills Area; Advanced Skills Area; Training Area.* The answers to the questions were formulated on a 5-point Likert scale: the respondent, based on the wording of the question, was able to express his or her thoughts by choosing from five response modes (from strongly agree to strongly disagree; and from never to always).

Data collection and analysis: Data were collected from December 2019 through January 2020. For analysis, categories related to agreement/disagreement were merged as follows: strongly agree and agree = agree; indifferent = indifferent; disagree and strongly disagree = disagree. Data were analyzed using the Excel database by evaluating the response rate for each item.

Results

Study 1

Sample characteristics. Forty-three Health Care Professionals participated in the study. Most were nurses (77%) working in the ICU/Resuscitation, while the remaining 23% was represented by the Physician class. Regarding gender, a female (74%) versus male (26%) prevalence emerged (tab.1).

Data anaylsis

The content analysis identified three principal themes (tab.2):

1. *The necessity to establish a collaboration system between physicians and nurses that work in intensive care unit*
2. *Autonomy and professional role;*
3. *The need for adequate theoretical and practical training of physicians and nurses working in the Critical Care Area.*

The first theme has included a total of three categories: a) the necessity of a cooperation system between physicians; b) recognizing the competencies of different professionals; c) management of advanced devices. The second theme has included one category: a) expectations regarding activities to be performed independently. The third theme included a total of four categories: a) importance of basic training pathways; b) importance of practice training; c) the need of specific training; d) the necessity of a shared training pathway between physicians and nurses.

Some verbatim related to the first theme:

"I think that in a critical care unit such as the ICU [...] any action we perform requires medical-nursing collaboration, after all, we are a team pursuing the same goal: the optimal management of the patient."

"Any invasive maneuver requires physician-nurse collaboration, even in the management of the simplest things"

" [...] in my opinion, the skills are complementary, they are two things that coexist but do not overlap, there is not something you can do instead of them (nurses) and vice versa, it is a combination of actions that provides for a co-participation."

Table 1. Sample description

Variable	Category	N	%
Gender	Female	32	74
	Male	11	26
Job	Doctor	10	23
	Nurse	33	77

Table 2. Themes that emerged from the focus groups

Themes	Categories	Sub-categories
Need to increase interprofessional collaboration system	Need for increased system of inter-professional collaboration	Many situations require physicians and nurses to be present at the same time
	Need for a system of cooperation between physicians and nurses	Importance of teamwork for optimal patient management
	Increase levels of communication and understanding between physicians and nurses	It is necessary to share decisions
		Handover is essential
	Recognize the competencies of different professionals	
	Many situations require physicians and nurses to be present at the same time	Doctors and nurses bring skills and have different roles
	Importance of teamwork for optimal patient management	The nurse with certain skills can independently manage certain devices
	It is necessary to share decisions	
	Handover is essential	The nurse can independently manage patient monitoring
	Doctors and nurses bring skills and have different roles	
	The nurse with certain skills can independently manage certain devices	
	The nurse can independently manage patient monitoring	
Autonomy and professional role	Expectations regarding activities to be performed independently	Autonomies are linked to competencies
		"Know-how" is related to autonomies
		Field experience can enable greater autonomy
Need for a shared advanced education system for physicians and nurses	Importance of basic training	Basic training is critical
		The importance of field experience
	Importance of field training	A period of shadowing with more competent people is necessary
	Need for specific training	Need for refresher courses for both professionals
		The importance of simulations aimed at doctors and nurses to learn the management of advanced devices
	Need for a shared educational pathway between physicians and nurses	Need for shared training paths between doctors and nurses

"Any invasive procedure is performed on the patient... you always collaborate with the physician to create the sterile field and pass the instruments that are needed…»

"...handover is critical, because for a thousand reasons that I don't know, continuity in the semi-intensive care unit is something that we can't get, so it's necessary that the handover is given in the right way…»

" [...] I believe in the progress of the medical profession and the nursing profession have brought them closer together. They are two professions that are getting closer and closer, the old separation, based on the way, especially doctors, used to think, distanced them more. Now I think the roles are getting closer and I like this because it is stimulating: they have a professionalism that is different from mine and they pose problems in a different way than I would, so I have to find solutions together with them to work better. Then if one of them calls me and tells me that he has auscultated a patient and that on one side he doesn't ventilate, I won't be offended, on the contrary I'll verify the situation and then I'll move on. I don't see it as competition."

«The placement of CVCs and chest drains is a medical competence but nurses are fundamental in this part of the process, alone (physicians) we would not be able to do it given the complexity of the patient who is present, precisely, in the department"

"Oro-tracheal intubation is one of those activities for which you collaborate with nurses...you need both to perform it properly"

Some verbatim regarding the second theme:

"All the activities that have been listed can be car-

ried out independently by the nurses, in the sense that after certain devices have been placed by the doctors, the nurses who have been working in this department for years know how to manage them very well without having to call on the presence of the doctor every time. We are able to manage complications immediately while waiting for the doctor to give us directions on how to act."

"We (physicians) independently call the appropriate nurses."

"those who are competent to do it do it...it's not a question of roles."

"those who can do it do it"

"Yes...we say we manage the patients, but when we see that we're not able, that an injury is getting worse, we turn to the doctors."

Some verbatim related to the third theme:

"The basic training that both physicians and nurses receive is absolutely not enough to work in a multi-purpose resuscitation like ours...especially I noticed how some commonly used devices are very difficult to understand so he has never seen them used or operated."

" We (nurses) have only received training in the field, more courses would be needed even theoretical ones"

"Simulations would be optimal for acquiring skills on certain devices. However, there is a need to review the post-basic training of both doctors and nurses, I have noticed that the preparation to work in a resuscitation department is not adequate to the type of department."

"I did my master's in critical care area and it did not give me a lot of extra things, so I would say field experience, the willingness to learn on your own and study on your own and look for scientific evidence on your own."

"Try to have a good theory and then put it into practice, the experience is then what forms you the most."

"Internship is critical in intensive departments to learn how to best use the devices. If you don't have the opportunity to learn from a more experienced colleague, you have to be the one to study the theory and apply it in ward life."

"Talking about training, even starting with a new hire, you would need a good internship, some days dedicated to theory and then being able to put it into practice within the ward.."

"The basic training that doctors and nurses receive is definitely not enough to work in a resuscitation like ours... especially I noticed how some of the user devices are very difficult to understand..."

Study 2

Sample characteristics. The majority of the sample is made up of nurses (82%), with the remaining 18% represented by the physician class; the female sex prevails (72%) over the male component (28%). Examining the age group, the most significant one includes respondents between 41 and 50 years of age (64.74%), while the least representative is those over 60 years of age (0.41%). As far as the course of study is concerned, it emerges that more than half of the population under examination (61%) has a bachelor's degree, followed by 32% who have conducted post-graduate studies, while only 4% have obtained a specialist degree and finally 3% have a single-cycle degree (Table 3).

Data analysis. A total of 242 questionnaires (tab. 4) were analyzed. The score for each item in the questionnaire are shown in table 5 and table 6. It is interesting to note that most of the sample indicate with a high frequency the presence of situations, in their work environment, where there is often a collaboration between doctors and nurses during the execution of invasive maneuvers ("often" 37.19%; "always" 60.33%). To the item "collaboration (active participation in the performance of an activity) between physicians and nurses during the execution of care procedures" 16% answered "always", 23% gave as answer "often", "sometimes" holds 31.2%, 21.6% answered "rarely" and only 8% gave as answer "never". 31.2% said "sometimes",

Table 3. Sample description.

Variable	Category	N	%
Gender	Female	174	72
	Male	68	28
Age	18-30	50	23.24
	31-40	80	33.20
	41-50	77	31.54
	51-60	28	11.62
	over 60	1	0.41
Job	Doctor	44	18
	Nurse	198	82
Course of study	Three year-degree	148	61
	Master's-degree	10	4
	Single-cycle degree	7	3
	Postgraduate	77	32

Table 4. The questionnaire

ITEM	
1.A.1	Collaboration(active participation in the performance of an activity) between physicians and nurses while performing invasive maneuvers
1.A.2	Collaboration between physicians and nurses while performing care procedures
1.A.3	Clarity on "what needs to be done"
1.A.4	Clarity on "who should do what"
1.A.5	Transparency in decision-making processes
1.A.6	Presence of professional autonomy (freedom to make decisions within one's profession)
1.A.7	Presence of adequate knowledge sharing between physicians and nurses
2.A.1	Possession of specialized skills may produce disagreements between physicians and nurses if the skills are not recognized
2.A.2	The more expertise you acquire, the more jurisdictional conflicts you will have with other team members
2.A.3	Overlapping expertise exists between physicians and nurse residents
1.B.1	The tasks to be performed require an advanced level of expertise
1.B.2	The tasks to be performed require knowledge and autonomous use of advanced devices
1.B.3	The tasks to be performed require the use of tools and equipment with a significant technological and IT component
1.B.4	Duties require performing assistive procedures independently (e.g., managing ECMO, weaning off ventilator, etc.).
1.B.5	Tasks to be performed require performing invasive maneuvers independently (e.g., IOT, EGAA, etc.).
1.C.1	The autonomies and responsibilities of nurses and physicians depend primarily on their training
1.C.2	Basic training is sufficient to work in the ICU and Resuscitation Unit
1.C.3	It is necessary to include in the basic training plan a shared doctor-nurse pathway in which clinical cases and simulations are discussed with the aim of improving collaboration and work among team members
1.C.4	It is necessary to include in the post-basic training plan a course, both theoretical and practical, that provides the professional with the skills necessary to perform advanced techniques or manage advanced devices.
1.C.5	It is useful that the hospital in which you work offers training courses to doctors and nurses on the introduction of new devices in the operating unit.

Table 5. Response rate by item Area 1.A and Area B

Item	Sample=N 242				
	Never	Rarely	Sometimes	Often	Always
Area 1.A					
1.A.1	0,00%	0,41%	23,14%	37,19%	60,33%
1.A..2	8,00%	21,60%	31,20%	23,20%	16,00%
1.A.3	0,00%	4,55%	23,14%	56,20%	16,12%
1.A.4	0,00%	7,44%	19,01%	53,31%	20,25%
1.A.5	0,84%	7,53%	30,96%	46,86%	13,81%
1.A.6	0,41%	3,72%	21,90%	57,44%	16,53%
1.A.7	0,00%	7,85%	29,34%	47,93%	14,88%
Area B					
B.1	0,00%	1,24%	11,16%	65,70%	21,90%
B.2	0,00%	0,41%	8,68%	64,46%	26,45%
B.3	0,00%	0,41%	13,64%	59,50%	26,45%
B.4	0,00%	4,55%	21,90%	57,02%	16,53%
B.5	5,02%	12,55%	21,34%	41,84%	19,25%

Table 6. Percentage of response for item Area 2.A and Area C

Item	Sample=N 242		
	Disagreement	Indifferent	Agreement
Area 2.A			
2.A.1	15,35%	7,88%	76,76%
2.A..2	58,92%	9,54%	31,54%
2.A.3	41,60%	14,29%	44,12%
Area C			
C.1	82,50%	4,58%	12,92%
C.2	82,82%	4,55%	12,81%
C.3	2,49%	4,15%	93,36%
C.4	0,00%	1,66%	98,34%
C.5	0,00%	2,94%	97,06%

21.6% said "rarely" and only 8% said "never". The sample indicates that in their work environment there is clarity about "what needs to be done" ("often" 56.20%; "always" 16.12%) and clarity about "who needs to do what" ("often" 53.31%; "always" 16.12%). From the percentages of responses it emerges that, in their work environment, according to the subjects of the study, there is a certain degree of personal autonomy ("often" 57.44%; "always" 16.53%) and that there is an adequate sharing of knowledge between physicians and nurses ("often" 47.93%; "always" 14.88%). In reference to all items related to the area of competencies, the sample expresses significant positions regarding the need of advanced skills in their work environment. In fact, to item 1.B.1, which investigated how often in one's working activity "the tasks require a level of advanced skills", well over half of the sample gave "often" as an answer (65.7%), 21.9% answered "always", only 1.24% answered "rarely" and 0% "never". More than half of the sample (64.46%) stated that the tasks, in their own structure, often require knowledge and independent use of advanced devices. In particular, it emerges that the tasks often (59.50%) require the use of tools and devices with a significant technological and IT component. The sample also states that their tasks often (57.02%) require them to perform assistive procedures independently (ECMO management, ventilator weaning, etc...)" and often (48.84%) or always (19.25%) require them to perform invasive maneuvers independently (OT, ABG, exc..)". The sample agrees (76.76%) that the possession of specialized skills can produce contrasts between physicians and nurses if the skills are not recognized; a good percentage also disagrees with the statement that "the greater the skills acquired, the greater the contrasts with other members of the team (58.92%), however, a good portion of the sample (31.54%) agrees with this statement. Finally, regarding the items related to the area of training, the majority believes that autonomies and responsibilities of nurses and physicians do not depend primarily on their training (82.50%); 81.82% believe that basic training is not sufficient to work in Intensive Care and Rehabilitation. Moreover, almost the entire sample (93.36%) believes that it is necessary to include a shared doctor-nurse course in the training plan and agrees (98.34%) that a training course is necessary to provide professionals with the necessary skills to perform advanced techniques or manage advanced devices. In the end, most of the subjects involved (97.06%) agree on the usefulness of training courses on the introduction of new devices in the operating unit.

Discussion

From the results, interesting thoughts are emerging regarding the issues related to competencies and role expectations of professional figures operating in critical areas. The results that emerged from the two studies move substantially in the same direction. What emerged from the focus groups was the need to establish a good system of cooperation between the various professional categories based on clear communication and recognition of the complementary nature of everyone's skills; that decision-making and practical autonomy depend more on the skills acquired rather than on the role; that, in a context such as the critical area, basic training cannot be sufficient but that an advanced training course is necessary that can also include moments of shadowing with more experienced personnel. The data coming from the questionnaires have contributed to confirm the results coming from the first phase: a high degree of agreement emerged between physicians and nurses regarding the need of possessing specialized skills also in the knowledge of the operation and use of tools and devices with a high technological and computer component; there is agreement on the need for clarity "on what must be done and who must do it" so as to improve communication and interprofessional collaboration; moreover, both categories agree that unrecognized skills can generate role conflicts and confusion, a high degree of agreement also emerges regarding the need of an advanced and common training path. Thus, it appears from this study, as a major factor in ensuring quality patient care and improving practice, the importance of the involvement of different professionals. The key points that emerged to ensure successful integration between the roles and skills of physicians and nurses include definition and implementation of autonomy and specialized skills, especially of nurse practitioners. The data underscore that a structural redefinition of practices is necessary

and that recognition of skills acquired through clinical experience and participation in educational pathways is imperative. The study shows the importance of an appropriate recognition of the roles and skills of each health category and in this regard it is essential the ability of team members to establish relationships of trust and mutual exchange: the results show how collaboration and communication are essential to achieve positive results in a dynamic and complex context as the critical area can be. The autonomy that team members manage to achieve is strongly influenced by the solidity of the relationships that an individual manages to establish with the other members of the group and, therefore, by the relationship of trust that is established. The data also show that both categories involved in the study agree that autonomy and responsibility also depend on adequate training, and that this training cannot and should not be only basic training. The issue of training seems to be one that professionals care a lot about: the common opinion of doctors and nurses is that the best way to foster inter-professional collaboration is with training dedicated to both professions, shared and acquired together. In fact, the results emphasize the need to include in the training plan a common and shared pathway for the two professions with the aim of improving collaboration and work between team members. Therefore, it emerges the need for a "co-evolution" of the two professions that can pass through the advanced training aspect and the mutual respect of roles and knowledge. In this regard, the results underline how both professional categories agree on the fact that, to work in a critical area department such as ICU and Resuscitation, it is also necessary to have an adequate training, both theoretical and practical, which also concerns the type of device used, the risks related to the execution of this procedure and the management procedure itself. The results point to a primary and non-negligible issue: the possession of specialized skills, if not recognized, can lead to contrasts and conflicts between physicians and nurses. Interesting in this regard is the data that underlines how these possible conflicts do not prove to be directly proportional to the degree of knowledge acquired by each, but rather, the launch of training courses, increasingly specialized by area and possibly shared, can help to eliminate any conflicts and overlapping of roles and skills between the two categories, helping to generate greater clarity and complementarity between the different professions.

Conclusion

The results lay the groundwork for further study and reflection and they are part of the professional and political debate regarding the competencies of specialized physicians and especially nurses in particular. As the nursing profession and medicine have progressed, it has become evident that the knowledge and skills that a professional working in the critical care area must possess are increasingly complex and broad. The literature shows that the greater the skills acquired, the greater the autonomy aspired to and the greater the risks of complex relationships within a team. However, what emerged from the study in question shows how doctors and nurses can establish new modes of communication and collaboration that allow a better management of the patient also in terms of continuity of care. The results that emerged, although limited, could be useful to optimize the collaboration of physicians and professional nurses within the context of critical areas: the key points that emerged were collaboration, inter-professional communication, recognition of autonomy and skills, and specific and shared training. All these factors appear to be key elements of teamwork and are fundamental components to improve the conditions and quality of work and consequently to provide quality care in complex, dynamic and unpredictable environments such as the critical care area.

Conflict of Interest: Each author declares that he or she has no commercial associations (e.g. consultancies, stock ownership, equity interest, patent/licensing arrangement etc.) that might pose a conflict of interest in connection with the submitted article.

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Correspondence:
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Roberta Carbone
Department of Medicine and Surgery, University of Parma, Italy
E-mail: roberta.carbone@gmail.com