

Original Research

Cite this article: Ripoll-Gallardo A, Scarpolini E, Colzani G, Biella R, Offredi I, Di Silvestre R, Giannotti C, Sechi GM, Fumagalli R, Fioravanzo RE and Stucchi R (2024). Management Of Psychiatric Emergencies and Associated Comfort Among EMS Physicians in Lombardy, Italy: A Cross-Sectional Study. *Disaster Medicine and Public Health Preparedness*, **18**, e267, 1–6
<https://doi.org/10.1017/dmp.2024.182>

Received: 03 August 2023

Revised: 03 June 2024

Accepted: 19 July 2024

Keywords:


psychiatry; emergency medical system; training; prehospital

Corresponding author:

Alba Ripoll Gallardo;

Email: a.ripoll@areu.lombardia.it

Management Of Psychiatric Emergencies and Associated Comfort Among EMS Physicians in Lombardy, Italy: A Cross-Sectional Study

Alba Ripoll-Gallardo MD, MSc, PhD¹ , Elisa Scarpolini MD¹, Giacomo Colzani RN, MNurs¹, Roberto Biella², Ilaria Offredi², Roberto Di Silvestre MD², Claudia Giannotti MD¹, Giuseppe Maria Sechi MD², Roberto Fumagalli MD^{3,4}, Rita E Fioravanzo² and Riccardo Stucchi MD, MScDM¹

¹SSD AAT Milano, Agenzia Regionale Emergenza Urgenza (AREU), Dipartimento di Emergenza e Accettazione, ASST Grande Ospedale Metropolitano Niguarda, Milan, Italy; ²Azienda Regionale Emergenza Urgenza (AREU) Lombardia, Milano, Italy; ³Department of Anesthesia and Critical Care, ASST Grande Ospedale Metropolitano Niguarda, Milan, Italy and ⁴Department of Medicine and Surgery, University of Milan-Bicocca, Monza, Italy

Abstract

Objectives: The aims of this study were to explore the knowledge of EMS physicians (EMSPs) on the legal aspects related to the management of prehospital psychiatric emergencies, assess their degree of comfort, and measure their perceived communication skills.

Methods: A survey was distributed to the 376 EMSPs working in the prehospital setting in Lombardy, Italy. Knowledge of medico-legal aspects was measured through multiple-choice questions; the Comfort Score (CS) and perceived Communication Skills Score (CSS) were calculated using Likert Scale questions. CS ranged from 11 points (lowest) to 44 (highest); CSS ranged from 8 points (lowest) to 32 (highest).

Results: A total of 272 EMSPs answered the survey (RR= 72.3%); 45.2% were women. Mean age was 45.76 years (SD 8.8). Mean percentage of correct knowledge test answers was 52.4 (SD 12.3); 81.3% believed to have little knowledge of the Italian legislation regarding this topic. Mean CS was 29.3 (SD 5.5); mean CSS was 19.1 (SD 3.9). A higher percentage of correct answers in the knowledge test was associated with lower CS ($P = 0.019$). Higher self-appraised knowledge of the Italian legislation was associated with higher CS ($P < 0.001$) and higher CSS ($P < 0.001$).

Conclusions: These findings should prompt policy makers to ensure proper training and support for EMSPs in the matter of prehospital psychiatric emergency management.

Following the COVID-19 outbreak, the entire health system in Lombardy was rapidly reorganized. Public mental health services were deemed a priority and, therefore, their continuation was ensured through the introduction of telemedicine and remote psychosocial interventions. However, mainly due to quarantines and social isolation, the pandemic was bound to carry negative effects on relapses or exacerbations of underneath psychiatric conditions.^{1,2}

Balestrieri et al conducted a retrospective study on patients with acute psychiatric symptoms seeking consultation in hospital emergency departments during the lockdown and immediate post-lockdown.³ Nine hospitals in Italy, 4 of which in Lombardy, were included. An increase of manic episodes and suicidality attempt/ideation was seen after the lockdown. Similarly, in the survey conducted by Cuomo et al.⁴ among 1281 Italian physicians 2 years after the first COVID-19 case in Italy, 81% affirmed that the number of people with mental illness seeking their service had increased during the pandemic. There was also the strong perception that the severity of pre-existing mental diseases had worsened during the pandemic and that an upward trend of stress-related conditions had to be expected.

The management of psychiatric emergencies is complex and requires training in communication skills.⁵ Besides, treatment should start as soon as the patient manifests the first symptom or sign of decompensation⁶ to avoid harm, either to the patient or to others. Nevertheless, “who” must handle these cases and “how” they must be handled are subjected to national and local regulations and depend heavily on “where” the emergency occurs. Therefore, knowledge on the specific regulatory frameworks is paramount. In Lombardy, Emergency Medical Service physicians (EMSPs) will be in charge if the patient is deemed to be acutely in need of medical assistance outside health facilities.⁷ The baseline psychosocial work stress in EMS is known to be high⁸ and it has been further exacerbated by the COVID-19 pandemic.⁹ The aim of this study was to explore the knowledge among EMSPs on the legal aspects related to psychiatric disorders and gain an understanding of the degree of comfort and perceived communication skills of these professionals.

Methods

This was a cross-sectional study based on an on-line survey.

Population

All 378 EMSPs in Lombardy operating in the out-of-hospital setting were included in the study.

Development

In Italy, the prehospital system is run by the Regional Emergency Agency (AREU); a working group of AREU composed of 3 EMSPs, 2 psychologists, and 2 experts in legal medicine generated an itemized list of statements. A Delphi approach was adopted to seek agreement on the statements to be included in the survey through 3 cycles of iterative group discussions; these rounds involved all the aforementioned professionals plus an additional pool of 10 senior EMSPs.¹⁰ A senior EMSP was defined as having more than 15 years of experience in prehospital work. The level of adequacy of every item was rated as 1 = not adequate or 2 = adequate. To ensure validity, only items reaching at least 70% consensus were included in the questionnaire.¹¹ The final product was a 54-item survey (available upon request).

Design

The final version of the survey included 5 sections.

Section A. measured the knowledge in medico-legal aspects related to psychiatric emergencies. This section included 18 multiple-choice questions based on national and regional jurisprudence regarding, for example, the indications and timing for the execution of compulsory treatments. Results were reported as the mean of the 18 multiple-choice questions responses.

Section B. measured EMSPs' self-appraisal of knowledge of the Italian legislation on psychiatric emergencies (1 4-point Likert scale question). In addition, they were required to rate the quality of the training received so far in this specific topic and their fear of being harmed when facing these emergencies. This section included 9 4-point Likert scale questions.

Section C. measured the Comfort Score (hereinafter CS) of EMSPs when dealing with psychiatric patients. This section included 11 4-point Likert scale questions, e.g., "To what extent are you anxious about managing a psychiatric emergency?" and "To what extent do you feel overwhelmed when managing a psychiatric emergency?" Each response added a maximum of 4 points and a minimum of 1. Therefore, CS ranged from 11 points (lowest CS) to 44 (highest CS).

Section D. measured EMSPs perceived Communication Skills Score (hereinafter CSS). This section included 8 4-point Likert scale questions, e.g., "To what extent do you feel you have the necessary communication skills to handle aggressive patients?" and "To what extent do you feel you have the necessary communication skills to handle patients effected by paranoid disorders?" Each response added a maximum of 4 points and a minimum of 1. Therefore, CSS ranged from 8 points (lowest CSS) to 32 (highest CSS).

Section E, demographics. Nine questions inquiring about gender, age, qualification, experience in the prehospital setting, and sector of practice (only prehospital or both prehospital and in-hospital).

Questionnaire distribution. The questionnaire was distributed using the Google forms platform (Google, LLC; Mountain View, California USA). The email invitation included a short presentation of the study, a confidentiality disclosure statement and a link to the

survey. Filling in the web-based survey implied agreement to participate in the study. Following the initial invitation, a total of 3 reminders followed. Each respondent was allowed to fill the survey once. The participation in the questionnaire was voluntary, anonymous, and independent. No financial incentives were offered.

Confidentiality. Access to data stored in the internal server was only possible after entering the authors' authentication credentials and not from public IP addresses. Prior to statistical analysis, all data were anonymized and reported in aggregate.

Statistical Analysis

Statistical analysis was carried out using SPSS (version 28). Prior to analyses, variable distribution was assessed using the Kolmogorof-Smirnov test, and accordingly, non-parametric analyses were then applied as adequate. After collection of the first 30 responses, the indices generated, namely, CS and CSS, were evaluated for reliability using the Cronbach's Alpha test. In the overall sample, Cronbach's alpha for CS and CSS were 0.838 and 0.870, respectively, indicating very good internal consistency. Association between continuous variables was assessed using the Spearman correlation. Mean differences between categories were assessed using the Mann-Whitney *U* test for dichotomous variables or the Kruskal-Wallis for more than 2 categories. Differences between categorical variables were assessed using the Chi-square test or Fisher's exact test. Multivariate analysis was performed using a linear regression model to predict CS and CSS. In all statistical analyses, a *P* value of 0.05 was deemed significant.

Ethics Committee Approval

This study was approved by the Institutional Review Board Comitato Etico Territoriale Lombardia 3 (December 18, 2023; study n°3474).

Results

Population Characteristics

A total of 272 EMSPs answered the survey (RR = 72.3%); 45.2% were women. Mean age was 45.76 years (SD 8.8). A total of 223 were anesthetists (82%), 27 (9.9%) were ER doctors, and 22 (8.1%) had another medical background; 101 (37.1%) worked exclusively in the prehospital setting while 171 (62.9%) worked both at prehospital and in-hospital level. On average, participants had 13.8 years (SD 9.1) of experience working in the prehospital setting.

Legal knowledge of physicians

The mean percentage of correct answers in the legal knowledge test was 52.4% (SD 12.3) and the median was 50%; in terms of self-appraisal, 221 respondents (81.3%) did not feel knowledgeable enough ("nothing" or "a little") on the provisions of the Italian legislation on this topic. A low percentage of correct answers in the legal knowledge test was not associated with a perceived poor knowledge of the Italian law ($R = 0.009$, $P = 0.876$). There was no association either between the percentage of correct answers and years of experience in the prehospital setting ($R = 0.012$, $P = 0.844$), setting of practice, (according to Mann-Whitney *U* test; $U = 7893.00$, $W = 22\ 599.00$, $P = 0.232$) or specialty (according to Kruskal-Wallis test; $H = 3.151$, $df = 2$, $P = 0.207$). Only 80 (29.4 %) and 90 (33.1%) were familiar with, respectively, the legal aspects concerning compulsory treatment and therapeutic necessity

procedures. From a legal standpoint, 236 (86.8%) did not know what to do when a patient posed a danger to himself or others.

Physicians' training

A total of 246 (90.5%) rated the training on the management of psychiatric emergencies received so far as *insufficient or scarce*. Similarly, 195 (71.7%) stated that these emergencies were not at all or only slightly receiving attention from political stakeholders. In addition, 139 (51.1%) were extremely or moderately afraid of being assaulted when dealing with a psychiatric patient with females being significantly more afraid than males (according to Mann-Whitney's *U* test; $U = 7790.00$, $W = 15\ 416.00$, $P = 0.02$).

Comfort score and communication skills score

For illustration purposes, the results obtained for CS score were categorized into "very low" (11-17 points), "low" (18-24 points), "medium" (25-31 points), "high" (32-38 points), and "very high" (39-44 points) (Figure 1). Likewise, CSS score ranged from "very high" (28-32 points), "high" (23-27 points), "medium" (18-22 points), "low" (13-17 points), and "very low" (8-12 points) (Figure 2). Mean CS among respondents was 29.3 (SD 5.5) while mean CSS was 19.1 (SD 3.9). Females showed lower CS ($28.43 \pm 5.15SD$) than males ($30.02 \pm 5.77SD$), according to Mann-Whitney's *U* test ($U = 7739.00$, $W = 15\ 365.50$, $P = 0.027$). There was no statistical difference between females and males concerning CSS ($P = 0.078$). A higher percentage of correct answers in the legal knowledge test was associated with lower CS ($R = 0.142$, $P = 0.019$) but not with a higher CSS ($R = -0.410$, $P = 0.502$). Conversely, a higher perceived knowledge of the Italian legislation was associated with a higher CS ($R = 0.295$, $P < 0.001$) and higher CSS ($R = 0.300$, $P < 0.001$). Finally, there was no association between sector of practice and either CS or CSS ($P = 0.200$ and $P = 0.663$, respectively).

Multivariate Analyses

In order to predict CS and CSS, 2 linear regression models were employed. Variables were entered into the models based on association

in the univariate analysis and following negation of multi-collinearity (all variables met the model's assumptions). The results of these analyses are provided in Table 1. The results show that for each of the dependent variables (CS and CSS), the strongest predictor is the other dependent variable.

Limitations

This study has several limitations; first, even though results showed that knowledge on legal aspects among EMSPs was low, this study was not designed to inquire about the cause at the root of this fact. Therefore, although it would be reasonable to think that poor training was, at least in part, responsible for these results, lack of interest among EMSPs in the medical treatment of this type of patient could be also a plausible explanation. Actual knowledge was included in the multivariate analyses while self-appraisal of knowledge was not. Therefore, whether perceived knowledge was a predictor of comfort or communication skills remains unknown.

This survey was not designed to investigate whether EMSPs reckoned their duty to manage psychiatric emergencies to be ethical. In Italy, because EMSPs have usually a background in anesthesia and critical care, psychiatry clearly falls outside their medical background; this could arguably contribute to their lack of preparation and moderately low comfort. Finally, authors did not compare the CS caused by psychiatric emergencies to that caused by other regular EMS emergencies (e.g., cardiac arrest, trauma, etc.). Therefore, even though EMSPs should reasonably be more familiar with the latter, no assumptions can be made.

Discussion

The burden of psychiatric emergencies continues to increase¹² with 60% of the cases in need of medical consultation occurring in non-psychiatric facilities.¹³ At the time of writing, this was the first manuscript inquiring about knowledge and feelings of EMS practitioners when managing these emergencies in Lombardy.

Participation in this online survey was high compared to the mean response rate reported in literature.¹⁴ This might be because psychiatric emergencies represent a relevant part of the total number of

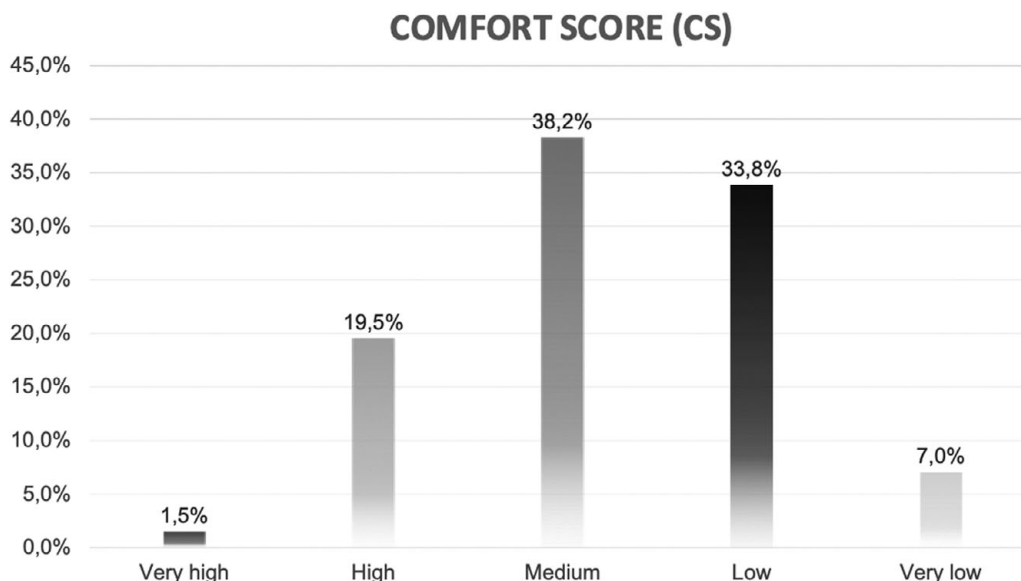


Figure 1 Comfort Score (CS).

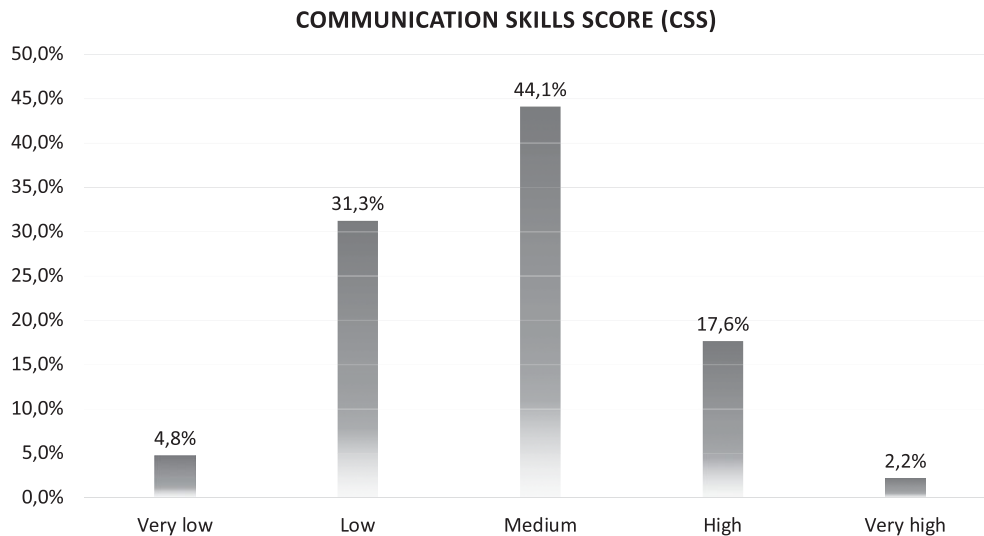


Figure 2 Communication Skills Score (CSS).

Table 1. Results of linear regression model to predict (1) Comfort Score (CS) and (2) Communication Skills Score (CSS)

Model predicting	Variable	Unstandardized coefficients		Standardized coefficients		Model summary	
		B	SD	Beta	t	F	R ²
1. CS	Constant	15.067	2.464		6.116***	29.012***	35.5%
	Gender	-0.652	0.564	-0.059	-1.158		
	Age	0.033	0.042	0.052	0.785		
	Actual knowledge	-0.42	0.023	-0.093	-1.827		
	CSS	0.733	0.073	0.546	10.532***		
	Experience	0.027	0.039	0.044	0.686		
2. CSS	Constant	3.703	1.840		2.012*	29.278***	35.8%
	Gender	-0.146	0.398	-0.019	-0.366		
	Age	0.069	0.029	0.154	2.356*		
	Actual knowledge	0.022	0.016	0.070	1.378		
	Experience	-0.002	0.028	-0.005	-0.077		
	CS	0.384	0.036	0.544	10.532***		

Analysis was performed in Enter mode and included only variables associated with the dependent variable in the univariate analysis following negation of multi-collinearity (VIF values < 2.5).

Notes: Gender (Male = 0, Female = 1)

***P value is significant at the 0.05 level (2-tailed)

P value is significant at the 0.001 level (2-tailed) CS: Comfort Score CSS: Communication Skills Score.

medical prehospital events while, at the same time, pose unique challenges for EMSPs.^{15,16} In Italy, the medical approach to psychiatric emergencies is subject to specific laws. When patients require immediate mental health treatment and access to the hospital does not occur on voluntary basis, compulsory treatment might be required in the absence of any outpatient treatment alternative.³ In these cases, cooperation with the police department is mandatory and good knowledge of the legal and administrative procedures is also required to safeguard patient's dignity and rights while protecting EMSPs professionalism.

The present study highlighted that knowledge and self-appraisal of knowledge of the Italian legislation on the topic of psychiatric emergencies were low. This was in line with the results obtained by Mothibi *et al.* and Pajonk *et al.* in similar studies conducted in South Africa and Germany.^{17,18} Extremely worrisome was that

most respondents didn't know how to clinically address a dangerous patient according to the Italian law.⁷ Interestingly, neither long experience doing prehospital emergency care nor practicing exclusively in the prehospital setting were associated with better performance in the knowledge test. At the current stage, the authors cannot give an explanation for these results. These data may support the complexity of these cases and also draw attention to the fact that correct management of psychiatric emergencies cannot rely only upon personal experience but must be supported by solid training.

Italian Law establishes that every physician licensed to practice must be able to first, recognize and assess a patient in acute mental health decompensation and second, choose the safer approach according to his actual clinical condition and in full respect of his rights.⁷ However, the vast majority of EMSPs admitted feeling

unprepared. Aside of legal aspects, it's important to remember that psychiatric disorders embrace a big variety of underlying clinical conditions e.g., anxiety, depression, bipolar disorder, substance abuse, and schizophrenia to name but a few. None of these clinical presentations are included in the regular training of EMS doctors in Italy. Without proper training including psychological, clinical, legal, and ethical aspects, the management of psychiatric emergencies will continue to be heterogeneous and even harmful for patients and EMSPs.

Interestingly, a cumulative percent of 59, 2% expressed a medium to a very low CS when asked to manage psychiatric patients. Considering that these professionals are required to treat life-threatening emergencies on daily basis (e.g., severe trauma, sudden cardiac arrest or acute respiratory failure), these results deserve special consideration. Psychiatric emergencies can, as such, be grouped into declared suicidal ideation or acute excitement with psychomotor agitation.¹³ Therefore, they seldom represent an actual life-threatening emergency unless the patient is actually on the brink of committing suicide. The fact that they lead to psychological stress could arguably be an alarming hint of the global unpreparedness of our target population. It's also interesting to note that EMSPs who performed better in the legal knowledge test also manifested lower CS. A plausible explanation could be that these professionals were simply more aware of the difficulties entailed by these cases and thus, enhanced their preparedness on the topic. Nevertheless, this explanation should be made with caution, given that actual knowledge did not emerge as a significant predictor of neither CS nor CSS in the multivariate analysis.

It is worth noting that most EMSPs weren't confident with their communication skills. When dealing with acute psychiatric disorders, physicians must establish a personal approach with the patient and collect key information faster than in a regular medical interview. Apart from patients' complaints, observing patients' behavior and speaking to relatives or patient's acquaintances to inquire about similar episodes in the past are important.¹³ Moreover, a respectful, rational, and empathetic attitude is a cornerstone in the management of psychiatric emergencies as it may determine the therapeutic measures that will follow next.¹³

Finally, this study aimed to draw attention to the worryingly poor preparedness of EMS when it comes to psychiatric emergencies. Given that the EMS health care personnel in Lombardy is mainly medical and not paramedical, no published training programs seem to match the needs of our target population. Moreover, the challenges posed by acute psychiatric disorders and the specificities of the national and regional jurisprudence impose the development of a training program involving AREU, the police department, and municipalities. In addition, shared guidelines are urgently needed to ensure a good clinical approach and reduce the variability in operational practices.

Conclusions

Knowledge and perceived knowledge of Italian Law concerning psychiatric emergencies was low among EMSPs in Lombardy. There was no association between legal knowledge and work experience in the prehospital setting. The majority of respondents defined the training received on the management of these cases as insufficient and stated that these emergencies deserved more attention. Most doctors were afraid of being physically assaulted. Comfort and self-appraisal of communication skills were low across our target population. Higher legal knowledge was associated with

lower comfort but not with a higher perception of communication skills. Higher perceived knowledge of the Italian legislation was associated with a higher comfort and higher perceived communication skills.

Acknowledgments. The authors thank Enzo Grifone, Gianni Maggioni, Grazia Marziale, Marta Norelli, Michele Franchini, Gianluca Diletto, Riccardo Cusmà Piccione, Riccardo Maruzzo, Silvia Gennari, Barbara Porro, Alessandra Cozzi, Giovanni De Luca, Barbara Massasogni, Roberto Bertelè, Gaia Radici, Marco Malaffo, Andre Colombini, Elisabetta Samperisi, Chaira Trione, Valerio Bernardi, Elisa Ghezzi, Arianna Albuzzi, Giovanna Durante, Giacomo Ricca, Luigi Dolcino, Paola Plebani, Stefano Vanzini, Gianluca Donati, Matteo Vargiu, Davide La Leggia Davide, Orietta Mapelli, Lara Barbin, Matteo Giacovelli, Cristian Rampin, Franco Lorito, and Pelà Simone for their interest and priceless contribution to ensure the validity and reliability of this survey.

Author contribution. Ripoll-Gallardo A- Designed and directed the project. Wrote the first draft of the manuscript.

Scarpolini E- Contributed to the design of the study. Performed the data collection. Approved the version to be published.

Colzani G- Approved the version to be published.

Biella R- Contributed to the design of the questionnaire. Approved the version to be published.

Offredi I- Contributed to the design of the questionnaire. Approved the version to be published.

Di Silvestre R- Contributed to the design of the questionnaire. Approved the version to be published.

Giannotti C- Approved the version to be published.

Sechi GM- Approved the version to be published.

Fumagalli R- Approved the version to be published.

Fioravanzo R- Approved the version to be published.

Stucchi R- Approved the version to be published.

Funding. None.

Competing interest. None.

References

1. Cénat JM, Moshirian Farahi SMM, Dalexis RD et al. The global evolution of mental health problems during the COVID-19 pandemic: a systematic review and metaanalysis of longitudinal studies. *J Affect Disord.* 2022;15; **315**:70–95.
2. Luo M, Guo L, Yu M et al. The psychological and mental impact of coronavirus disease 2019 (COVID-19) on medical staff and general public—a systematic review and meta-analysis. *Psychiatry Res.* 2020;**291**: 113190.
3. Balestrieri M, Rucci P, Amendola D et al. Emergency psychiatric consultations during and after the COVID-19 lockdown in Italy. A multicentre study. *Front Psychiatry.* 2021;15;**12**:697058.
4. Cuomo A, Amore M, Arezzo MF et al. Mental health in Italy after two years of COVID-19 from the perspective of 1281 Italian physicians: looking back to plan forward. *Ann Gen Psychiatry.* 2022;10;**21**(1):30.
5. Papageorgiou A, Loke YK, Fromage M. Communication skills training for mental health professionals working with people with severe mental illness. *Cochrane Database Syst Rev.* 2017;**13**:6(6).
6. Murphy SM, Irving CB, Adams CE, et al. Crisis intervention for people with severe mental illnesses. *Cochrane Database Syst Rev.* 2015;**3**: 2015(12).
7. Trattamenti Sanitari Obbligatorie e Accertamenti Sanitari Obbligatorie: Documento Regionale d'Indirizzo per L'esecuzione. Accessed July 26, 2023. https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjQoMOUt7GAAXUDtqQKHQFeDMAQFnoECBIQAQ&url=http%3A%2F%2Fnormativasan.servizirl.it%2Fport%2FGetNormativaFile%3FfileName%3D13940_procedure_ASO_TSO.pdf&usq=AOvVaw2iUup9SmlpX99ziHHEmQo&opi=89978449.

8. Afshari A, Torabi M, Navkhasi S et al. Navigating into the unknown: exploring the experience of exposure to prehospital emergency stressors: a sequential explanatory mixed-methods. *BMC Emerg Med.* 2023;15;23(1):136.
9. Bardhan R, Traci Byrd T. Psychosocial work stress and occupational stressors in emergency medical services. *Healthcare (Basel).* 2023;11(7):976.
10. Nasa P, Jain R, Juneja D. Delphi methodology in health care research: How to decide its appropriateness. *World J Methodol.* 2021;11:116–129.
11. Diamond IR, Grant RC, Feldman BM et al. Defining consensus: a systematic review recommends methodologic criteria for reporting of Delphi studies. *Clin Epidemiol.* 2014;67:401–409.
12. World Health Organization. Mental disorders. 2022. Accessed June 13, 2023. <https://www.who.int/news-room/fact-sheets/detail/mental-disorders>.
13. Mavrogiorgou P, Brüne M, Juckel G. The management of psychiatric emergencies. *Dtsch Arztebl Int.* 2011;108:222–230
14. Wu MJ, Zhao K, Fils-Aime F. Response rates of online surveys in published research: a meta-analysis. *Comp Hum Behav Rep.* 2022;7:100206.
15. Shaban R. Mental health assessments in paramedic practice: a warrant for research and inquiry into accounts of paramedic clinical judgment and decision-making. *J Emerg Prim Health Care.* 2004;2:1–8.
16. Roberts L. *The implications of mental health call outs on paramedic practice.* Dep Paramed Soc Health Sci. Adelaide, Flinders University; 2007.
17. Pajonk FG, Bartels HH, Biberthaler P et al. Psychiatric emergencies in preclinical emergency service; incidence, treatment and evaluation by emergency physicians and staff. *Nervenarzt.* 2001;72:685–692.
18. Mothibi JM, Jama M, Adefuye AO. Assessing the knowledge of emergency medical care practitioners in the Free State, South Africa, on aspects of pre-hospital management of psychiatric emergencies. *Pan Afr Med J.* 2019; 33:132.