Training and education

Comparison of clinicians' perceptions of the Recommended Summary Plan for Emergency Care and Treatment (ReSPECT) before and during the COVID-19 pandemic

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Abstract

Introduction: The Recommended Summary Plan for Emergency Care and Treatment (ReSPECT) process encourages collaboration between clinicians, patients, and relatives on emergency care wishes and resuscitation decisions. The impact of the COVID-19 pandemic on clinicians' views of the ReSPECT process was unknown. We examined whether there were changes in clinicians' knowledge, skills, and attitudes regarding ReSPECT during the pandemic.

Methods: We conducted a cross-sectional survey of clinicians at one acute hospital in the UK. We developed a questionnaire with a defined 5-point Likert scale and asked clinicians to recall their pre-pandemic views on ReSPECT and report their current views at the time of survey distribution (May 2020, end of the first COVID-19 wave in the UK). We compared their self-reported views before and during the pandemic.

Results: We analysed 171 questionnaire responses. Clinicians reported ReSPECT telephone discussions with relatives were more challenging (pre-pandemic median 4, IQR 3–4; during pandemic median 4, IQR 4–5; p < 0.001) and negative emotions whilst conducting these discussions with relatives increased during the pandemic (pre-pandemic median 3, IQR 2–3.5; during pandemic median 3, IQR 2–4; p < 0.001). Clinicians also reported an increase in the importance of reaching a shared understanding of decisions with patients and relatives (pre-pandemic median 4, IQR 4–5; during pandemic median 5, IQR 4–5; p < 0.001).

Conclusions: There were differences in clinicians' knowledge, skills, and attitudes scores before and during the pandemic. Our findings highlighted that clinicians could benefit from training in remote ReSPECT conversations with relatives.

Keywords: Recommended Summary Plan for Emergency Care and Treatment, Resuscitation orders, COVID-19, Education, cardiopulmonary resuscitation, DNACPR

Introduction

The Recommended Summary Plan for Emergency Care and Treatment (ReSPECT) process is a pathway in the United Kingdom (UK) for patients to collaborate with their clinicians on their emergency care wishes and resuscitation decisions.[1,2] If the patient is unable to participate then their family or next of kin should be involved.[3] This shared decision leads to a clinical recommendation which is recorded on the ReSPECT form. The recommendation is a guide for the clinician who may treat the patient for emergency care and treatment in the future.[1] The ReSPECT process can be used for any patient but is most commonly used for those with complex health needs or potential deterioration.[4] The form can be completed in any setting where there is a need and used across care settings.[1] This study is a cross sectional survey of clinicians to examine their perspectives on the ReSPECT process during the COVID-19 pandemic.

The COVID-19 pandemic disrupted numerous aspects of the ReSPECT process. Hospitals in the UK saw increased numbers of acutely unwell patients, leading to the redeployment of large numbers of healthcare professionals into new departments.[5] Hospitals implemented visiting restrictions prohibiting relatives from the bedside.[6] There was varying and sometimes conflicting local and national guidance regarding resuscitation in the COVID-19 setting with hospitals taking different approaches to resuscitation for patients with COVID-19.[7,8] Recent Care Quality Commission (CQC) reports highlighted the gap between best practice standards and observed practice during the pandemic.[9,10] The CQC cited the lack of patient and relative involvement in resuscitation decisions during the pandemic as poor practice.[9,10]

While there is research examining how resuscitation decisions have been impacted by the COVID-19 pandemic, at the time of writing there is no research evaluating the effect of the COVID-19 pandemic on clinicians' perceptions of the ReSPECT process. This study sought to examine how the pandemic impacted those perceptions, particularly focussing on the changes in their knowledge, skills and attitudes.

Methods

Research design

This was a cross sectional survey of clinicians at one acute hospital in the UK to assess their perceptions of the ReSPECT process. A search of the published literature did not identify any existing validated questionnaires or scales. The questionnaire domains were developed using Bloom's learning theory, which states that assessment of knowledge, skills, and attitudes encompass a well-rounded approach to educational assessment.[11]

A standardised questionnaire with a defined 5-point Likert scale (1 = very low, 5 = very high) was utilised. Clinicians were asked to recall their views on ReSPECT before the COVID-19 pandemic as well as report their current views at the time of survey distribution during the pandemic. Views included their knowledge of the ReSPECT process, skill level in conducting ReSPECT conversations, perceived usefulness of the process, empathy towards patients and relatives, and confidence using ReSPECT.

Prior to survey distribution the questionnaire was piloted with two Palliative Medicine Consultant physicians (specialist senior physicians) and one Medical Specialty doctor with clinical and academic backgrounds at University Hospitals Coventry & Warwickshire NHS Trust. They provided subject matter expert review and were asked to provide feedback through aspects of cognitive interview technique.[12] The participants in the pilot study answered the original survey questions then were asked emergent probing questions about their interpretation of the survey questions, answer choices, and their selected responses. Their feedback revealed unintended interpretation of some questions due to vague word choices, so word choices were revised based on their feedback.

Setting and participants

The study was conducted at University Hospitals Coventry & Warwickshire NHS Trust (UHCW), an acute hospital in the UK. The questionnaire was sent via SurveyMonkey to 600 senior doctors from all adult specialties at UHCW who were in or have completed their third year of specialty training (Specialty Trainee grade 3, or ST3), as this is the level of training required at UHCW to be eligible to complete and endorse ReSPECT forms. They were identified using the UHCW email database categorised by medical grade. Paediatric and neonatal clinicians were excluded as they do not use ReSPECT.

Data collection

The survey was performed during the last two weeks of May 2020, towards the end of the first COVID-19 wave in the UK.[13] SurveyMonkey was used to distribute the email link and collect responses. Completion of the questionnaire was established as evidence of consent to using the data for the research. The clinicians were informed in the email invitation prior to completing the questionnaire that all data would remain confidential and anonymous.

Statistical analysis

Data are presented as median (interquartile range) as appropriate. The characteristics of the respondents were summarised using count and percentages. For the primary aim of comparing knowledge, skill, and attitude scores before and during the COVID-19 pandemic Wilcoxon signed rank tests were used. All statistical analyses were conducted using IBM® SPSS V26.0 software (Version 26, IBM Corp., UK). In all tests, a p value of <0.05 was determined as statistically significant.

Ethics approval

This study was approved by the COVID-19 Research Committee of UHCW Research & Development department (GF0390). As staff were approached based on the nature of their role, NHS Research Ethics Committee (REC) approval was not required.

Results

The survey received a total of 171 responses from eligible clinicians, representing a 28.5% response rate.

Baseline characteristics

From the survey respondents, 68% were Consultants (Table 1). Usual departments before the pandemic included medical specialties (35%), surgical specialties (19%), anaesthetics (16%), emergency medicine (7%), and critical care (6%). Seven percent of respondents had never worked with ReSPECT before the pandemic, and 28% had engaged in the process over 100 times. Approximately half of respondents were redeployed during the pandemic, with 25% redeployed into hospital wards, 17% into the Emergency Department, and 14% into Critical Care.

Comparison of scores before and during COVID-19

There were differences in clinicians' knowledge, skills, and attitudes scores before and during the pandemic, for all but three of the questions explored (Table 2).

During the pandemic clinicians reported increases in knowledge (pre-pandemic median 4, IQR 3–5; during pandemic median 4, IQR 4–5; p < 0.001) in conducting ReSPECT discussions. They reported increases in skill (pre-pandemic median 3, IQR 3–4; during pandemic median 3, IQR 3–4; p < 0.001) and confidence (pre-pandemic median 3, IQR 3–4; during pandemic median 3, IQR 3–4; p < 0.001) in conducting ReSPECT discussions with relatives over the phone. Clinicians did not report a change in skill (pre-pandemic median 4, IQR 3–5; during pandemic median 4, IQR 3–5; p = 0.20) or confidence (pre-pandemic median 4, IQR 3–5; during

Table 1 – Baseline characteristics of survey respondents.	
Characteristic	n (%)
Clinician grade[1]	
ST3	16 (9.4%)
ST4	8 (4.7%)
ST5	8 (4.7%)
ST6	4 (2.3%)
ST7	5 (2.9%)
ST8	2 (1.2%)
Associate Specialists	7 (4.1%)
Consultant	116 (67.8%)
Other	3 (1.8%)
Undeclared	2 (1.2%)
Numbers of years of experience as a doctor	
5–9 years	28 (16.4%)
10–14 years	35 (20.5%)
15–19 years	37 (21.6%)
20 + years	67 (39.2%)
Undeclared	4 (2.3%)
Usual department before COVID-19 redeployment	
Surgical Specialty	32 (18.7%)
Anaesthetics	28 (16.4%)
Emergency Medicine	12 (7.0%)
Acute Medicine	11 (6.4 %)
Critical Care	10 (5.8%)
Clinical Sciences	3 (1.8%)
Other Medical Specialties	60 (35.1%)
Undeclared	15 (8.8%)
Redeployment during COVID-19	
Redeployed	83 (48.5%)
Not re-deployed	88 (51.5%)
Department(s) redeployed to during COVID-19 (Select all options that apply)	
Wards	
Emergency Department	43 (25.1%)
Critical Care	29 (17.0%)
Other	24 (14.0%)
	16 (9.4%)
Number of ReSPECT processes involved with before COVID-19	
0	12 (7.0%)
1–4	22 (12.9%)
5–9	13 (7.6%)
10–24	25 (14.6%)
25–49	16 (9.4%)
50–100	33 (19.3%)
100+	47 (27.5%)
Undeclared	3 (1.8%)
Number of ReSPECT processes involved with during COVID-19	
0	33 (19.3%)
1–4	38 (22.2%)
5–9	32 (18.7%)
10–24	26 (15.2%)
25–49	23 (13.5%)
50–100	11 (6.4%)
100+	5 (2.9%)
Undeclared	3 (1.8%)

ST3-ST8 = Doctor in their 3rd-8th year of specialty training, respectively. Associate Specialist = non-training specialty doctor. Consultant = Specialist senior physician.

pandemic median 4, IQR 3–5; p = 0.66) in conducting face-to-face discussions with relatives during the pandemic.

Clinicians reported significant increases in the importance of ensuring the process and documentation are completed correctly (pre-pandemic median 4, IQR 3–5; during pandemic median 5, IQR 4–5; p < 0.001) and reaching a shared understanding of deci-sions with patients and relatives (pre-pandemic median 4, IQR 4–5; during pandemic median 5, IQR 4–5; p < 0.001). Clinicians reported increases in finding ReSPECT telephone discussions with relatives challenging (pre-pandemic median 4, IQR 3–4; during pan-demic median 4, IQR 4–5; p < 0.001) and in experiencing negative emotions during these conversations with relatives (pre-pandemic

Table 2 – Primary analysis: Wilcoxon signed rank test comparing clinicians' self-reported knowledge, skills and attitudes before and during the COVID-19 pandemic.

Themes	Median (IQR)		Wilcoxon Signed Rank p-value
	Before COVID-19	During COVID-19	
Knowledge[2]			
Your understanding of how to conduct a ReSPECT discussion	4 (3–5)	4 (4–5)	<0.001
Your understanding of how to complete ReSPECT forms	4 (3–5)	4 (4–5)	<0.001
Your understanding of ReSPECT as a holistic process and not as a DNACPR form	4 (3.25–5)	4 (4–5)	<0.001
Skill			
Your skill level to conduct ReSPECT discussions with patients	4 (3–5)	4 (3–5)	0.004
Your skill level to conduct ReSPECT discussions with relatives face-to-face	4 (3–5)	4 (3–5)	0.20
Your skill level to conduct ReSPECT discussions with relatives over the phone	3 (3–4)	3 (3–4)	<0.001
Your skill level to complete a ReSPECT form	4 (3–5)	4 (3–5)	<0.001
Attitude – Value of the process[3]			
Usefulness of forms to clinicians and the care team	4 (3–4)	4 (4–5)	<0.001
Usefulness of forms to patients	4 (3–4)	4 (4–5)	<0.001
Value of the process for holistic patient care	4 (3–4)	4 (3–5)	<0.001
Importance of ensuring that the process and documentation are completed correctly	4 (3–5)	5 (4–5)	<0.001
Importance of reaching a shared understanding of decisions with patients and relatives	4 (4–5)	5 (4–5)	<0.001
Attitude – Empathy			
Empathy towards patients as they consider ReSPECT decisions	4 (4–5)	4 (4–5)	<0.001
Attitude – Confidence			
Your confidence in having ReSPECT discussions with patients	4 (3–4.75)	4 (3–5)	0.14
Your confidence in having ReSPECT discussions with relatives face-to-face	4 (3–5)	4 (3–5)	0.66
Your confidence in having ReSPECT discussions with relatives over the phone	3 (3–4)	3 (3–4)	<0.001
Attitude – Challenges and negative emotions[4]			
ReSPECT conversations are challenging	4 (3–4)	4 (3.75–4)	<0.001
I feel negative emotions at the thought of conducting a ReSPECT conversation	3 (2–4)	3 (2–4)	<0.001
I feel negative emotions whilst conducting ReSPECT conversations with patients	3 (2–4)	3 (2–4)	0.006
I feel negative emotions whilst conducting ReSPECT conversations with relatives	3 (2–3.5)	3 (2–4)	<0.001
ReSPECT conversations over the phone with relatives are challenging	4 (3–4)	4 (4–5)	<0.001
I have been negatively affected at home by ReSPECT conversations	2 (2–3)	2 (2–3)	<0.001

[2] Likert scale for Knowledge and Skill: 1 = very poor; 2 = poor; 3 = acceptable; 4 = good; 5 = very good.

[3] Likert scale for Attitude – Value, Empathy, and Confidence: 1 = very low; 2 = low; 3 = average; 4 = high; 5 = very high.

[4] Likert scale for Attitude – Challenges and negative emotions: 1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; 5 = strongly agree.

median 3, IQR 2–3.5; during pandemic median 3, IQR 2–4; $p < 0.001$).

Free text comments from the open-ended question "Is there anything else you would like to share about your thoughts on ReSPECT during COVID-19?" were synthesised from the surveys. The main themes from the free-text comments were the identification of increased training needs, challenges in following good practice during the pandemic, and involvement of relatives during the COVID-19 pandemic.

Discussion

This is the first study to examine the impact of COVID-19 on clinicians' views on ReSPECT. Our findings provide valuable insights into how clinicians perceived the COVID-19 pandemic impacted their knowledge, skill, and attitudes on the ReSPECT process. Clinicians reported increased knowledge and skill managing the ReSPECT process with patients during the COVID-19 pandemic. Treatment of high-acuity patients and redeployment into high-acuity areas during the pandemic [14–16] may have increased their awareness and involvement with resuscitation decision-making processes. Varying and sometimes conflicting local and national resuscitation guidance

provided during the pandemic [7,8] may have prompted clinicians to examine the guidance to shape their own practice. Clinicians reported increased skill and confidence managing the ReSPECT process with relatives over the phone, which may be reflective of clinicians adapting to new ways of working and conducting these important discussions with relatives on the phone with hospital visiting restrictions in place. [17]

There was no change in skill or confidence conducting face-to-face conversations with relatives, most likely due to visiting restrictions preventing these discussions from occurring. [6] There was no change in confidence managing these discussions with patients. Self-reported confidence levels speaking with patients and relatives face-to-face were relatively high compared to speaking with relatives over the phone, which may indicate robust levels of training and availability of learning resources in place prior to the pandemic for face-to-face conversations provided nationally by the Resuscitation Council UK, in medical education programmes, and locally by the Trust.

Clinicians reported finding more value in the ReSPECT process, reaching a shared understanding of the decision with patients and relatives, and understanding that ReSPECT is a holistic process and not merely completion of a Do Not Attempt Resuscitation form. This may indicate that ReSPECT supports the creation of an

individual holistic plan for each patient as it encourages clinicians to avoid the application of blanket resuscitation decisions for entire patient groups.[3,9,17] Clinicians reported finding the ReSPECT process more challenging and experienced increased levels of negative emotions when they engaged with ReSPECT during the pandemic. Redeployment into new areas, increased clinical workloads, and use of unfamiliar processes under high pressure during the pandemic may have led to increased stress and a decline in mental health.[14,15,18] Managing resuscitation decisions in high pressure environments may have contributed as an additional stressor. Additional pastoral and mental health support may be beneficial for healthcare professionals during this time.[15,18]

Our findings identified that clinicians could benefit from additional support in conducting ReSPECT discussions with relatives over the phone. Before the pandemic, clinicians would have conducted these conversations face-to-face.[19] Despite their increases in skill and confidence during the pandemic, clinicians reported they were less skilled and less confident managing phone conversations than face-to-face conversations by the end of the first wave. These findings highlight that although there may have been sufficient training programmes for face-to-face ReSPECT conversations in place before COVID-19, there is now a training need to support clinicians in managing these conversations remotely.

During COVID-19, many healthcare systems have increased their use of telehealth, allowing patients to attend virtual consultations and allowing relatives to be present virtually during end-of-life care.[20–22] The pandemic has also highlighted new ways of utilising technology to deliver effective care and communicate with patients and relatives.[19] Challenges in remote consultations that need to be addressed include potential security risks of technology platforms, willingness of clinicians and patients, and accessibility for all levels of education and health literacy.[20,23] Maintaining clinical standards and engaging in communication with relatives is an important aspect of healthcare delivery that should continue even in times of crisis,[2] and recent CQC Reports demonstrate that best practice standards involving relatives in resuscitation decisions should continue during the COVID-19 pandemic.[9–10] Ongoing COVID-19 pressures, hospital visiting restrictions, and relatives self-isolating at home from COVID-19 exposure may result in an increased reliance on remote discussions. As healthcare systems adapt to increased use of technology and various modes of telecommunications become more accessible in hospital settings, training and educational programmes should be updated to reflect these changes.

At UHCW we developed and implemented a training programme in January 2021 utilising Bloom's learning domains to increase clinicians' knowledge, skills, and confidence conducting telephone and video ReSPECT discussions with relatives. Video calls allow clinicians improved communication and increased rapport with patients and families.[24] Our training supplemented existing training for face-to-face ReSPECT conversations and included effective remote communication techniques, opportunity to debrief on difficult remote conversations and receive pastoral support, and practical training in utilising secure hospital iPads and video-calling applications.

While a strength of our study is that we used Bloom's learning theory[11] as a framework to underpin our questionnaire design, our study also has several limitations. Although some aspects of cognitive interviewing were utilised in the pilot, a cognitive interview approach during survey development could have strengthened our survey. A qualitative or mixed-method design would have allowed the inference of dynamic relationships between the pandemic and ReSPECT. This was not considered feasible at the time due to restraints on clinicians' time and resources during the pandemic so a quantitative approach was utilised, and clinicians were given the option of providing free-text comments. Due to the unexpected nature of the COVID-19 pandemic, pre-pandemic scores were obtained retrospectively and use of recall for pre-pandemic experiences may not be as accurate as current experiences. To minimize recall bias and limitations of self-rating, a well-defined Likert scale and careful selection of words in the questionnaire were used.

Clinicians with particular interest in ReSPECT may have been more likely to respond to the survey thus causing response bias. The study was conducted at a single hospital site and received a low response rate of less than 30% which impacts external validity and makes it difficult to generalise findings. We did not follow specific groups of clinicians to examine how specific demographic factors influenced their knowledge, skill, and attitude self-ratings.

As the study was conducted at a single point in time at a single hospital, it would be beneficial to reproduce the study in subsequent follow-up periods and at multiple hospitals. Future studies should focus on exploring how demographic variables affect clinicians' knowledge, skills, and attitudes during the pandemic and focus on establishing the correlational effect between the COVID-19 pandemic and clinicians', relatives', and patients' views on ReSPECT over time.

Conclusions

Clinicians' views on the ReSPECT process changed during the COVID-19 pandemic. Their self-reported knowledge managing the ReSPECT process with patients increased during the pandemic. Clinicians reported increases in the importance of reaching a shared understanding of ReSPECT decisions with patients and relatives during the pandemic. Clinicians reported they were more likely to experience negative emotions during ReSPECT discussions with relatives during the pandemic and find these telephone conversations challenging. Clinicians could benefit from training in remote ReSPECT conversations as well as pastoral support after ReSPECT conversations.

CRediT authorship contribution statement

Michelle Hartanto: Methodology, Investigation, Validation, Formal analysis, Writing – original draft, Writing – review & editing, Supervision, Project administration. **Risheka Suthantirakumar:** Validation, Formal analysis, Resources, Writing – original draft, Writing – review & editing.

Declaration of Competing Interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: M. Hartanto is employed as a Resuscitation Practitioner at UHCW. None of the other authors have any conflicts of interest to declare.

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Authors' contribution

Appendix A. Supplementary material

Supplementary data to this article can be found online at https://doi.org/10.1016/j.resplu.2022.100206.

REFERENCES

1. Working Group of the Resuscitation Council (UK). ReSPECT for Healthcare Professionals. London, Resuscitation Council (UK); 2020. [accessed 23 December 2020, at https://www.resus.org.uk/respect/respect-healthcare-professionals].
2. Working group of Resuscitation Council (UK). COVID-19 family discussions and clinical decision making. London,Resuscitation Council (UK); 2020. [accessed 8 May 2021 at https://www.resus.org.uk/sites/default/files/2020-06/COVID%20ReSPECT%20Crisis%20Conversations%2008080420.pdf].
3. Working group of Resuscitation Council (UK). Resuscitation Council UK Statement on the role of the ReSPECT Process during COVID-19. London, Resuscitation Council (UK); 2020. [accessed 20 April 2021, at https://www.resus.org.uk/sites/default/files/2020-06/COVID%20ReSPECT%20Guidance%2023042020_0.pdf].
4. Fritz Z, Slowther A, Perkins GD. Resuscitation policy should focus on the patient, not the decision. BMJ 2017;356:813.
5. Sykes A, Pandit M. Experiences, challenges and lessons learnt in medical staff redeployment during response to COVID-19. BMJ Leader 2021;5:98–101.
6. Downar J, Kekewich M. Improving family access to dying patients during the COVID-19 pandemic. Lancet Respir Med 2021;9:335–7.
7. Fritz Z, Perkins GD. Cardiopulmonary resuscitation after hospital admission with Covid-19. BMJ 2020;369:1387.
8. Mahase E, Kmietowicz Z. Covid-19: Doctors are told not to perform CPR on patients in cardiac arrest. BMJ 2020;368:1282.
9. Care Quality Commission. Review of DNAPR decisions during the COVID-19 pandemic: Interim report. Care Quality Commission (UK); 2020. [accessed April 30 2021 at https://www.cqc.org.uk/sites/default/files/20201204%20DNACPR%20Interim%20Report%20-%20FINAL.pdf].
10. Care Quality Commission. Protect, respect, connect – decisions about living and dying well during COVID-19: CQC's review of 'do not attempt cardiopulmonary resuscitation' decisions during the COVID-19 pandemic. Care Quality Commission (UK); 2021 [accessed April 30 2021 at https://www.cqc.org.uk/publications/themed-work/protect-respect-connect-decisions-about-living-dying-well-during-covid-19].
11. Bloom BS, Engelhart MD, Furst EJ, Hill WH, Krathwohl DR. Taxonomy of educational objectives, Handbook I: The cognitive domain. New York: David McKay Co Inc; 1956.
12. Scott K, Ummer O, LeFevre A. The devil is in the detail: reflections on the value and application of cognitive interviewing to strengthen quantitative surveys in global health. Health Policy Plan 2021;36:982–95.
13. World Health Organisation. WHO Coronavirus (COVID-19) Dashboard. Covid19.who.int; 2019 [accessed 12 March 2021 at https://covid19.who.int].
14. Payne A, Rahman R, Bullingham R, Vamadeva S, Alfa-Wali M. Redeployment of surgical trainees to intensive care during the COVID-19 pandemic: evaluation of the impact on training and wellbeing. J Surg Educ 2021;78:813–9.
15. Coughlan C, Nafde C, Khodatars S, et al. COVID-19: lessons for junior doctors redeployed to critical care. Postgrad Med J 2021;97:188–91.
16. Oakley C, Pascoe C, Balthazor D, et al. Assembly line ICU: what the long shops taught us about managing surge capacity for COVID-19. BMJ Open Quality 2020;9:1117.
17. Working group of Resuscitation Council (UK). Frequently asked questions about the ReSPECT process and COVID-19. London, Resuscitation Council (UK); 2020. [accessed 20 April 2021, at https://www.resus.org.uk/sites/default/files/2020-06/COVID%20ReSPECT%20FAQs%2008080420%20%281%29.pdf].
18. Greenberg N, Docherty M, Gnanapragasam S, Wessely S. Managing mental health challenges faced by healthcare workers during covid-19 pandemic. BMJ 2020;368:1211.
19. Cattelan J, Castellano S, Merdji H, et al. Psychological effects of remote-only communication among reference persons of ICU patients during COVID-19 pandemic. J. Intens. Care 2021;9:5. https://doi.org/10.1186/s40560-020-00520-w.
20. Blandford A, Wesson J, Amalberti R, AlHazme R, Allwihan R. Opportunities and challenges for telehealth within, and beyond, a pandemic. Lancet Global Health 2020;8:1364–5.
21. Wosik J, Fudim M, Cameron B, et al. Telehealth transformation: COVID-19 and the rise of virtual care. J Am Med Inform Assoc 2020;27:957–62.
22. Golinelli D, Boetto E, Carullo G, Nuzzolese A, Landini M, Fantini M. Adoption of digital technologies in health care during the COVID-19 pandemic: systematic review of early scientific literature. J Med. Int. Res. 2020;22:22280.
23. Fagherazzi G, Goetzinger C, Rashid MA, Aguayo GA, Huiart L. Digital health strategies to fight COVID-19 worldwide: challenges, recommendations, and a call for papers. J. Med. Int. Res. 2020;22:19284.
24. Donaghy E, Atherton H, Hammersley V, et al. Acceptability, benefits, and challenges of video consulting: a qualitative study in primary care. Br J Gen Pract 2019;69:586–94.