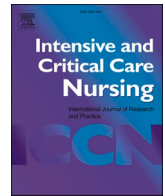




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Review Article

Family-centred care of patients admitted to the intensive care unit in times of COVID-19: A systematic review

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ABSTRACT

Objectives: To describe clinical practice interventions aimed at providing Family-Centred Care in intensive care units during the COVID-19 pandemic.

Research methodology: A systematic review was carried out following the PRISMA recommendations in various databases: PubMed, Cinahl, Web of Science, Scopus, and Google Scholar were consulted, as well as within the grey literature found on the web pages of official organizations related to Intensive Care Medicine and Nursing.

Setting: Adult intensive care unit.

Results: The search yielded 209 documents of which 24 were included in this review: eight qualitative studies, seven protocols and recommendations from official bodies, one mixed-method studies, five descriptive studies, one cross-sectional study, one pilot program and one literature review. A thematic analysis revealed four major themes: the use of communication systems, multidisciplinary interventions; the promotion of family engagement and family support. The results show different strategies that can be implemented in clinical practice to solve the difficulties encountered in Family-Centred Care in critical care units during the COVID-19 pandemic.

Conclusions: There is a great variety in the nature of the interventions developed, with the use of telecommunication systems in daily practice being the most repeated aspect. Future research should aim to assess whether the interventions implemented increase the quality of patient and family care by meeting their needs.

Implications for clinical practice

- Communication with the family is vitally important during COVID-19, both between professionals and family, professionals and patient, and patient and family.
- This review can guide the selection and evaluation of interventions aimed at increasing family-centred care, not only for COVID-19 but for any pandemic or isolating situation such as MRSA or any similar situation.
- The gaps identified in this body of literature can guide the development of new strategies to improve the quality of family-centred care during a pandemic.

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Introduction

Family-Centred Care

According to the Institute of Patient and Family-Centred Care, Family-Centred Care (FCC) can be defined as an approach for the planning, delivery and evaluation of health care which is based on mutually beneficial partnerships between health care providers, patients, and families. In this sense, FCC redefines the relationships in health care by emphasising collaboration with people of all ages, throughout all levels of care and in all care settings (Institute of Patient and Family Centred-Care, 2018). This model of care seeks to integrate the family as an integral part of the patient's care process. In other words, families are not conceived as mere visitors, but are given a place within the working dynamics of the care units (Hartog and Bodechtel, 2018; Wong et al., 2015).

FCC originated in the convention on the rights of the child in 1990, where non-separation of mother and child in paediatric units was promoted with benefits such as: involvement of parents in the care of their children during admission, a decrease in the child's anxiety and better relationship between parents and professionals from work with paediatric populations in the hospital setting (Hervás, 2017). Over time and with the increasing presence of families within hospitals, this model has been extended to other age ranges and other specialties, becoming integrated at the hospital level through the implementation of protocols, specific interventions, and daily practices (Gooding et al., 2011). In addition, this would help the well-being of family members, specifically family members of a patient admitted to ICU as they have a high prevalence of post-traumatic stress, anxiety and depression (Martín Delgado and García de Lorenzo Y Mateos, 2017; McAdam et al., 2010).

Johnson and Abraham (2012) defined the postulates on which FCC is based, which can be summarised as follows: Upholding the dignity and respect of both patients and their families and their cultural beliefs and values, the sharing of complete and truthful information, patient, and family empowerment to participate in decision-making, and the collaboration of both patients and families with caregivers in the implementation and evaluation of policies and interventions.

Intensive Care Units and Family-Centred Care

The transition towards the autonomy model began in 2001 in the USA, leaving behind the paternalistic model, and it was at this time that the concept of patient-centred care was incorporated (Rojas, 2019). In Spain, the humanisation of ICU care and FCC were not standardised until 2016 when a roadmap was drawn up with the HU-CI project (La Calle et al., 2020). In this context, intensive care units (ICUs) have been the protagonists of a transition movement from the traditional closed ICU model, in which family visits were restricted, to an open ICU model (Ning and Slatyer, 2021; Riley et al., 2014) where FCC has begun to acquire a more important role, even being considered a quality criterion (Gooding et al., 2011; Riley et al., 2014). The HU-CI project developed in Spain includes this FCC model as a key element, is the Humanisation of Intensive Care Units (HUCI) project (Grupo de trabajo de certificación de Proyecto, 2019). This project arose in a hospital in Madrid in 2014 with the aim of drawing up a roadmap to promote humanised care, to improve psychological and social support for ICU users, with the primary involvement of patients and their families (Calle and Lallemand, 2014).

In the ICU we find ourselves challenged by situations in which a patient cannot communicate and thus, we must rely on family members to support medical decision-making as most of the patients are intubated and connected to mechanical ventilation (Ten Hoorn et al., 2016). The high level of responsibility they must face, added to the life-death situation in which their loved one is kept, leads families to suffer a great

impact at a psychological level, which is diminished through the implementation of family-centred policies and interventions (Davidson et al., 2017; Wong et al., 2015). Thus, FCC makes the ICU more comfortable and humane (Escudero et al., 2014), improving family satisfaction and the comfort of patients by having their family close at hand (Garrouste-Orgeas et al., 2008). The involvement of families in the care of the ICU patients and FCC are part of the holistic vision that characterises nursing care and, also, have a positive influence on the recovery of the critically ill patient (de la Cueva Ariza, 2012).

COVID-19 and Family-Centred Care

On 11 March 2020, the World Health Organisation (WHO) declared a pandemic state due to a new virus called SARS-COV-2 detected for the first time in the Chinese province of Wuhan (World Health Organization, 2020). This virus is the cause of the disease called COVID-19 (Ministry of Health, Equality and Social Affairs, 2021).

Due to the high rate of contagion of this disease, we are currently facing one of the greatest global health emergencies in history, with more than three million people infected in Spain and more than 70,000 deaths (Secretaría General de Sanidad y Consumo, 2021). The fast and wide dissemination of this disease has led hospital services to record high levels of saturation, being the ICU one of the most affected hospital units (Haas et al., 2020; Phua et al., 2020; Secretaría General de Sanidad y Consumo, 2021).

To mitigate the chain of infection, a series of exceptional contingency measures have been taken by healthcare institutions. Within these, and with the aim of decreasing the flow of people within hospital environments visits were totally restricted with some exceptions that could vary from hospital to hospital, but the main exclusion was end-of-life accompaniment, a measure that was also extended to Critical Care Units (Ning and Slatyer, 2021; Rose et al., 2021).

In this way, the COVID-19 pandemic has reversed all the advances made in FCC within these units, putting both families and healthcare professionals in a completely new scenario (Hart et al., 2020; Montauk and Kuhl, 2020; Ning and Slatyer, 2021).

For all these reasons, the focus of this paper is on investigating strategies implemented by Intensive Care Units to provide FCC in times of the COVID-19.

Objective

To describe clinical practice interventions aimed at providing Family-Centred Care in intensive care units during the COVID-19 pandemic.

Methods

A systematic literature review was conducted, which seeks to bring together the existing information on a specific topic. This review was based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) methodology (Page et al., 2021).

Search strategy

The PICO (Population, Intervention, Comparison and Outcome) strategy (Richardson et al., 1995) was used to guide the information search process in formulating a research question, and in turn, inclusion and exclusion criteria were established in relation to each of the above points (Table 1).

Since this is a newly emerging problem, a wide variety of study designs are included: systematic reviews, pilot studies, mixed-method studies, qualitative studies, single-case studies, descriptive studies, etc. This review also included articles published in English, Spanish, Portuguese or Italian, as well as those with the option of English translation.

Two methods were used to obtain the information for systematic

Table 1
PICO question analysis.

PICO	Inclusion criteria	Exclusion criteria
Population	<ul style="list-style-type: none"> - Adult patients and relatives. - Family members of patients admitted to adult Intensive Care Units, as well as surgical, cardiac or neurological critical care units during the SARS-COV2 pandemic. 	<ul style="list-style-type: none"> - Paediatric patients and minor relatives. - Relatives of non-intensive care unit patients.
Intervention	<ul style="list-style-type: none"> - Studies addressing FCC interventions during the SARS-COV-2 pandemic. - Pilot tests, strategic and contingency plans, clinical experience, etc. 	
Scope	<ul style="list-style-type: none"> - Adult intensive care units, surgical, cardiac, or neurological critical care units. 	<ul style="list-style-type: none"> - Non-critical hospitalisation units. - Paediatric units. - Home care.
Outcome	<ul style="list-style-type: none"> - Impact of interventions on outcomes for family members, patients, and healthcare staff. 	

search between March 2020 and March 2021. One search was carried out through several databases, including Pubmed, Cinahl, Web of Science, Scopus, and Google Scholar. The other search was carried out within the existing and available grey literature. For this last, resources from various journals were explored, documents through the Scopus database, as well as the websites of Intensive Care and Critical Care Medicine and Nursing associations that share similarities with the European care model. A total of 11 associations and 22 online journals were consulted. In the case of associations, those presenting written resources related to FCC and COVID-19 were chosen, with a total of 6 associations selected.

Search

To focus the search for information in relation to the subject of the study within the literature, the following terms were chosen: “Family-Centred-Care”, “intensive care” and “COVID-19”, which were indicated in the field’s title/title, abstract/abstract, and key words. At the same time, to narrow down the search further, Boolean AND and OR operators were used. As an example, the search strategy for the WOS database can be found as follows: TS=(family OR family centred) AND TS=(intensive care OR critical care OR icu) AND TS=(covid 19 OR coronavirus).

Grey literature obtained from various websites of Intensive and Critical Care Medicine and Nursing associations was explored in the section reserved for resources related to coronavirus or COVID-19 in each of them.

Study selection

All studies retrieved through search strategy were imported in to MendeleyTM bibliographic manager and removed duplicated studies. The resulting articles were sorted using ExcelTM software for their selection. This document was composed of different sections: title, authorship, type of resource, date of publication, aim/purpose, method used, results obtained (and form of measurement, if any), professionals involved and country. Those documents in which it was not possible to

collect the data were eliminated from the systematic review. Two reviewers (EFM and EAM) independently screened the studies. Disagreements were solved by discussion.

Selected articles were analysed using a series of quality assessment checklists developed by Joanna Briggs Institute (JBI) which analyse the reliability, relevance, and results of published articles. The JBI quality assessment tool has nine items with response option of yes, no, unclear or not applicable. In this paper we made use of the checklists created for the assessment of systematic reviews (Munn et al., 2015), qualitative studies (Lockwood et al., 2015), descriptive studies (Munn et al., 2015) and opinion pieces (McArthur et al., 2015). Only articles that fulfilled the criteria on these scales were selected.

Regarding the quality of the articles reviewed, those that did not respond to one or more of the questions in the questionnaires assigned were excluded, and a total of 11 documents were finally eliminated.

Analysis process

In order to be able to describe and compare the different studies, a thematic analysis approach was adopted, where the main themes of the articles were collected. To this end, the matrix proposed by Webster and Watson (2002) was incorporated to help clarify the concepts of the review. Subsequently, information from the included studies was extracted, specifying: Name of the first author, year of publication, type of resource, objective and relevant results of each document.

Results

A total of 209 resources were obtained from this search, 172 of them from scientific databases, while the other 37 came from other sources (Fig. 1).

By screening the documents based on their subject matter, the target population and compliance with a series of quality criteria, a total of 24 documents were obtained and included in this study. Of these, 19 were obtained from the search conducted in the different databases and five from the grey literature, as well as from other sources (Table 2).

All included studies were subjected to quality review. These data can be found in Appendix 1, which includes the database for each of the documents, author, date of publication, journal and country, and the score obtained based on the quality checklist. In general, all the selected studies have a quality of more than 70% except for two papers, which have a quality of 60 and 67%. In terms of the countries of origin of the selected documents the highest percentage of these, 50%, were published in the United States, followed by the United Kingdom (25%), Italy (8%), Spain (8%), France (4%), Australia (4%), and finally Canada (4%).

Similarly, in relation to the publication date of the documents collected, 41.6% of these were published in the second half of 2020, 25% in the first half of 2020 and 33.4% in the first three months of 2021.

According to the typology of the resources obtained, we found: Qualitative studies (eight), protocols and recommendations from official bodies (seven), mixed-method study (one), descriptive studies (five), cross-sectional study (one), pilot program (one) and literature review (one).

After a thorough reading of all the documents, the information contained within them was subjected to a thematic analysis from which repeated patterns emerged in four main groups: the use of communication systems, multidisciplinary interventions, the promotion of family engagement and family support (see Table 3).

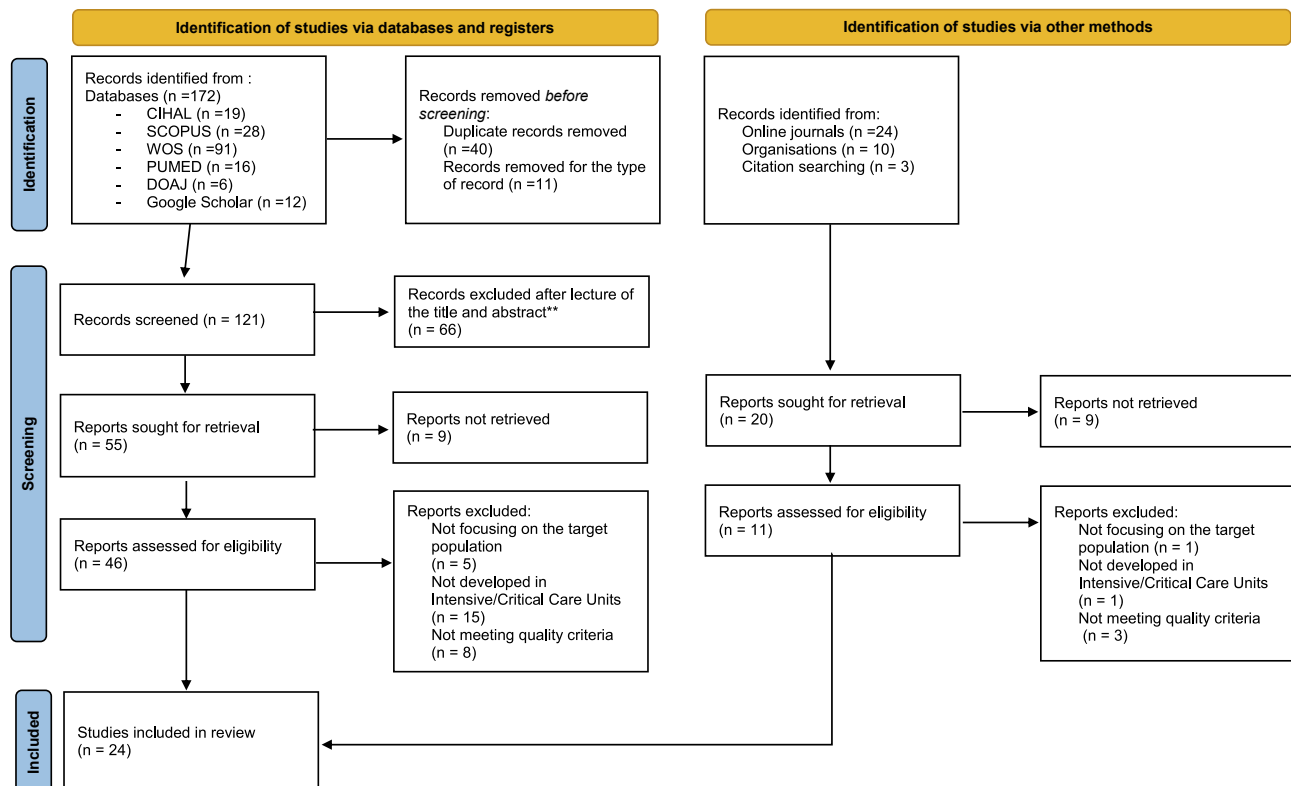


Fig. 1. Systematic review flowchart.

Communication systems

Within the selected documents, the use of telecommunication systems is the main mode used to contact families (Aziz et al., 2020; Cattelan et al., 2021; Dhala et al., 2020; Mistraletti et al., 2020; Suresh et al., 2020). In many cases, telephone calls are used (Mistraletti et al., 2020; Wendel et al., 2020), although video calling is the most recommended and used system when available (Hwang et al., 2021a; Intensive Care Society, 2020; Mistraletti et al., 2020; Piscitello et al., 2021; Valley et al., 2020). Videocalls are used to connect families with their loved ones, for contact with healthcare staff during rounds and for clarification of doubts among other functions (Dhala et al., 2020; Griffin et al., 2020; Mendiola et al., 2021). The benefits of videocalling include the possibility of a visualisation of the patient and the attending staff, as well as their non-verbal language (Kennedy et al., 2020). Applications such as Facetime, Skype, Youtube or applications developed by the hospitals themselves are the most used through tablet or mobile devices (Dhala et al., 2020; Sasangohar et al., 2020).

Other applications of the described communication systems include adapting available resources within virtualised ICUs, such as video surveillance cameras or room microphones to directly connect the family to the patient's room (Dhala et al., 2020; Sasangohar et al., 2020). Written communication such as emails or letters were also recommended (Aziz et al., 2020; Intensive Care Society, 2020; Mistraletti et al., 2020). If video call or video conferencing systems are not available, the use of audio systems is recommended, even in unconscious patients (Intensive Care Society, 2020; Valley et al., 2020).

Regarding the communication process with families, the documents

consulted highlight the importance of its correct development. Thus, it is recommended that communication should always be direct, clear, truthful, and adapted to the characteristics of each family member (Kennedy et al., 2020; Mistraletti et al., 2020; Selman et al., 2020).

Among the various suggestions made is the use of checklists when establishing contact with families by telephone or video, ensuring standardised information for all of them (Mistraletti et al., 2020).

Similarly, the use of communication skills training for both ICU staff and professionals from other specialties is considered important (Intensive Care Society, 2020; Mistraletti et al., 2020; Sasangohar et al., 2020; Taylor et al., 2020), as well as taking care of the mental state of the professionals in charge of this task. Some documents recommend removing psychologically exhausted professionals from communication tasks (Mistraletti et al., 2020).

Multidisciplinary interventions

To provide FCC during the pandemic, a number of figures emerged who could provide support to ICU teams to enhance communication with the family, thus facilitating multidisciplinary interventions. Among the selected studies, the figures mentioned were the Palliative Care team (Griffin et al., 2020; Lipworth et al., 2021; Mendiola et al., 2021; Piscitello et al., 2021; Selman et al., 2020), Social Work, Spiritual Guides, volunteers (Aziz et al., 2020) or other medical specialties with re-assigned roles due to the pandemic (Suresh et al., 2020; Taylor et al., 2020; Wendel et al., 2020).

The main functions of these figures can be grouped based on three objectives: support or consultation to the ICU team (Dhala et al., 2020;

Table 2
Selected document overview.

Author, year, and type of resource	Aim	Relevant results
(Taylor et al., 2020). Qualitative study	Pre-implementation evaluation of a programme aimed at training medical students to promote the involvement of ICU patients' relatives during COVID-19 restrictions on visits.	<ul style="list-style-type: none"> - Family involvement is considered an important component of quality care. - Rapid training of facilitators provides them with necessary skills to inform families. - The existence of a facilitator programme reduces the workload of the ICU care team. - Attention to the needs of families is a major investment of time.
(Dhala et al., 2020). Descriptive study.	Describe in detail the adaptations of the virtual ICU for patient-centred care aiming at the protection of healthcare staff and families.	<ul style="list-style-type: none"> - A virtual family visit was implemented via the Consultant Bridge application, and at the same time, palliative care and specialist consultation was provided virtually. - The opportunity to see their loved ones had a positive impact on the patients' emotional state and mood. - Families were grateful for the possibility to see their relatives.
(Suresh et al., 2020) Qualitative study	Creation of a "COVID-19 Compassion Commission" made up of medical students, which through videoconferencing aims to reduce the stress that relatives of hospitalised patients may feel at not being able to see their loved ones.	<p>The programme:</p> <ul style="list-style-type: none"> - Reduces burnout of healthcare staff. - Improves communication with relatives of COVID-19 patients. - Enables more sympathetic patient-centred care.
(Aziz et al., 2020) Quick guide of recommendations	To answer key questions regarding the management of COVID 19 emergencies in Intensive Care Units.	<p>Recommended:</p> <ul style="list-style-type: none"> - The use of available technology (mobile phone, videoconferencing) to connect families with patients and care staff. - Maintain lines available 24 h a day for information queries and to resolve doubts. - Involve families in rounds with virtual presence. - Encourage the participation of other professionals in supporting families: spiritual guides, social workers, ethics committees, etc.
(Cattelan et al., 2021). Descriptive study	Study of the levels of satisfaction and anxiety of relatives of ICU patients during the stay and after 3 months.	83% and 73% of patient representatives report anxiety and depression respectively. The role of patient representative in a remote communication context is seen as negative, due to the specific responsibility it entails.
(Bloomer and Bouchoucha, 2021). Recommendations.	Guidelines for intensive care nurses to facilitate the presence of the closest relatives of patients with COVID-19.	<ul style="list-style-type: none"> - Family visits should be limited to one person. Any type of limitation must be justified. - Visiting hours should be agreed between the professional team and the families. - The visit should be always guided by the care staff. - Prior psychological preparation of the family member must be carried out before entering the box. - ICU staff must be prepared to offer psychological support to the family.
(Piscitello et al., 2021). Retrospective descriptive study.	To assess the number of videoconferences, in-person or telephone meetings with family members of intensive care patients during COVID-19 pandemic visitation restrictions. As well as to assess changes in patient care goals based on whether meetings with family members are conducted in person or by video, their duration, racial differences, and time spent by palliative care teams.	<ul style="list-style-type: none"> - Reduced communication with families can potentially affect patient mortality. - Meetings with family members have decreased during the pandemic and most of them occur via videoconferencing. - Fewer changes in patient care goals occur when meetings are by video call compared to face-to-face visits. - Use of palliative care teams as a source of counselling is minimal and is associated with premature initiation of life-sustaining treatments, prolonged use of life-sustaining treatments and delayed referral.

(continued on next page)

Table 2 (continued)

Author, year, and type of resource	Aim	Relevant results
(Valley et al., 2020). Descriptive study	Study changes in visiting policies and strategies in ICUs to maintain communication with families due to COVID-19.	<ul style="list-style-type: none"> - All the hospitals surveyed showed changes in their visiting policy. - In 31% of the hospitals a family member was allowed to visit at the end of life. - The change in communication strategies of healthcare professionals with relatives was the use of the telephone and virtual communication systems. - Videocalls were the most frequently used strategy to establish communication between patient and family.
(Rascado et al., 2020b). Recommendation guide	Recommendations for an adequate, programmed and organised response to the health care of patients with severe COVID-19, coordinated with the Scientific Societies of SEMYUC and SEEUC, along with the Spanish health authorities.	<ul style="list-style-type: none"> - Relatives should receive daily information outside the unit and informed and informed of any changes in accompanying policies. - Family members should be trained in advance in the use of personal protective equipment in case they enter to see the patient. - The transmission of information must be accurate, transparent and calm. - The accompaniment policies of each ICU will be assessed according to their structure and the presence of a SARS-COV-2 case. <p>Visits to COVID-19 patients will be assessed according to ethical criteria (e.g. end-of-life situation).</p>
(Lipworth et al., 2021). Pilot programme.	Development of a Remote Link programme for communication between ICU teams, palliative care teams and patients' relatives during the COVID-19 pandemic.	<ul style="list-style-type: none"> - The model allows for the training of a wide range of caregivers in supporting the families of critically ill patients, thus relieving ICU professionals of the burden of care. - This model allows the training of people who have had no contact with critical care or palliative medicine.
(Griffin et al., 2020). Action guide.	Creation of a series of protocols focused on infectious control, challenges in clinical management, ICU capacity building, staffing, ethics and staff welfare.	<ul style="list-style-type: none"> - Technology was promoted to facilitate family involvement and decision-making at the end of life. - Limited number of family members able to speak to the physician. - Families were offered support from palliative care teams. - If visits were not possible, staff contacted families via video call. - A companion is allowed to visit in end-of-life situations.
(Mendiola et al., 2021). Qualitative study.	A Programme for improving communication, satisfaction, and healthcare experience	<ul style="list-style-type: none"> - Video visits allowed relatives to have a closer view of their loved one's progress. - Virtual family visits enabled informed decision-making about the care of the patient. - A support system was established in collaboration with the palliative care teams.
(Sasangohar et al., 2020). Qualitative study.	Collect the results of the interviews with patients' relatives in three categories: feelings experienced during the visit, barriers or challenges, and points for improvement in care.	<ul style="list-style-type: none"> - The experience during the virtual visits was rated in most cases (86%) as positive. - The main obstacles reported were inability to communicate with loved ones due to their condition, technical difficulties, lack of contact and physical presence, frequency and clarity of communication with the care team. - Suggestions for improvement included: access on demand, improvement of technical services and feedback systems, and better communication with care staff.
(Kennedy et al., 2020). Qualitative study.	To describe the experiences and attitudes of physicians and ICU patients' families in relation to telephone and video calls during the COVID-19 pandemic in the context of visiting restrictions.	<ul style="list-style-type: none"> - Participants rated the phone and video call experience as effective, but much less so than the face-to-face experience. - Phone calls were preferred for minor updates and general information. - Video calls were preferred when making clinical decisions. - Suggestions for improving remote communication by relatives and professionals included: identifying a family reference person, maintaining frequent contact, ensuring the family's level of understanding, or using the video camera to allow relatives to see their loved one by providing time alone.
(Rascado et al., 2020a). Recommendations guide.	Development of a contingency plan to respond to the needs arising in intensive care units in the management of COVID-19.	<ul style="list-style-type: none"> - It is advisable to reduce accompaniment by relatives in the ICU. - Face-to-face visits should only be allowed in specific cases, whether for clinical, ethical/ humanitarian reasons, etc.

(continued on next page)

Table 2 (continued)

Author, year, and type of resource	Aim	Relevant results
(Rose et al., 2021) Cross-sectional mixed-method study.	Collect the ways of communication between relatives, patients and ICU team during the COVID-19 pandemic.	<ul style="list-style-type: none"> - Families should be provided with daily information on the clinical situation of their relative and on any changes in the unit. - Visits were forbidden in most of the hospitals. - Nursing was less involved in communication with relatives during restrictions. - In 50% of the hospitals a family liaison team was formed. - Virtual visits were the most used mode of communication. - Benefits of virtual communication included: improved stress (78%), increased morale of care staff (68%) and better management of patients with delirium (47%).
(Lissoni et al., 2020). Qualitative observational study.	To observe the psychological needs of both healthcare professionals and relatives of patients with COVID-19 and to describe different interventions implemented to address these needs.	<ul style="list-style-type: none"> - Among the needs detected in the relatives are the need for information, reassurance, support and listening, maintaining the connection with their loved one or the need for accompaniment in the grieving process. - Interventions include daily phone calls to families, clear and truthful information, accompaniment by psychologists, training of care staff in communicating bad news.
(Creutzfeldt et al., 2020) Qualitative study.	To explore the experiences of relatives of severely brain-injured patients with a focus on the impact of their presence in hospital.	It was observed that visits by relatives encouraged coping with the situation, generated a bond of trust with the professionals and allowed them to receive emotional support from the ICU team.
(Wendel et al., 2020) Qualitative study.	Description of the formation and implementation of a Family Medical Communication Team to liaise between families and intensive care teams.	<ul style="list-style-type: none"> - Families appreciated the constant communication and the importance of this in alleviating their fear of leaving their loved one alone. - The programme provided families with a system of information and documentation about the patient's care. - Families benefited from understanding the type of care being offered to the patient.
(Mistraletti et al., 2020) Action guide.	A document to help teams of professionals in communicating with relatives of completely isolated patients.	<ul style="list-style-type: none"> - Family members should receive information daily. - The professional in charge of communication must be properly trained. Exhausted staff must be protected from carrying out communication tasks. - The professionals and the hospital should work together to establish the most effective communication system. - The mental and emotional health of health workers must be taken care of. - Written communication (email/letter) is helpful in allowing families to re-read information about their loved one. - Communication should be truthful, direct as well as accurate and adapted to the comprehension abilities of each family member. - Always consider the patient's preferences. - Allow time alone between family and patient whenever possible.
(Intensive Care Society, 2020) Good practice guidelines.	Good practice guidelines on the use of video call systems in Intensive Care Units.	<ul style="list-style-type: none"> - Good practices include the following: <ul style="list-style-type: none"> - Preventing and managing possible discomfort generated by the video call. - Choosing the right place and time for the video call to take place. - Adapting video calls to the work dynamics of the unit, so that these are not affected. - Assessing the patient's condition when establishing communication. - If a video call is not available, always encourage the use of audio systems. - Identify the reference relative. - Choose a single means of communication to facilitate the acquisition of skills by professionals. - Always take the patient's preferences into account. - Document everything that happens during the video call.

(continued on next page)

Table 2 (continued)

Author, year, and type of resource	Aim	Relevant results
(Selman et al., 2020). Literature review.	Review of bereavement risk factors in COVID-19 and evidence-based recommendations on support for family members.	<p>Among the activities to be carried out before death:</p> <ul style="list-style-type: none"> - Plan in advance of the patient's situation and goals of care. - Communicate proactively, respecting the time and feelings of the relatives. - Choose the person of reference. - Work together with the palliative care teams. - Ensure emotional, psychological and spiritual support for families. - Among the activities to be carried out after the death: <ul style="list-style-type: none"> - Offer relatives the patient's personal belongings. - Assess relatives at risk of complicated bereavement. - Provide psychological and emotional support. - Make use of professionals from other specialties for the emotional management of relatives.
(Hwang et al., 2021a). Descriptive study.	To investigate changes in communication with ICU patient relatives during the COVID-19 pandemic.	<ul style="list-style-type: none"> - Visiting policies varied from hospital to hospital, with end-of-life situations being the major exception. - At least half of the hospitals allow a relative to visit non-COVID patients at a certain time. - 95% of the hospitals used videoconferencing as a means of communication with families. - The ratio of devices per ICU bed was 1 in 13.
(Hwang et al., 2021b). Cross-sectional study.	To describe the impact of COVID-19 on the participation of families in a multi-centre FCC project implementation project.	<ul style="list-style-type: none"> - The COVID-19 pandemic has prevented the implementation of projects. - Units with sufficient communication devices must be available to cope with restriction policies. - Adequate numbers of personal protective equipment are required for face-to-face visits.

Piscitello et al., 2021), workload relief to the ICU team (Lipworth et al., 2021; Suresh et al., 2020) and work integrated into ICU dynamics (Aziz et al., 2020; Griffin et al., 2020; Mendiola et al., 2021; Selman et al., 2020).

Engagement of families

Methods to encourage family engagement described in the reviewed literature include the creation of liaison groups between intensive care units and families, which are responsible for carrying out the process of communication and resolving doubts (Dhala et al., 2020; Lipworth et al., 2021; Rose et al., 2021; Suresh et al., 2020; Taylor et al., 2020; Wendel et al., 2020).

Another method of participation described is involvement in unit rounds either virtually or in person, as well as in joint decision-making with the care team (Aziz et al., 2020; Mendiola et al., 2021; Piscitello et al., 2021; Rascado et al., 2020a).

Similarly, videoconferencing was used in the documents analysed as an alternative to family visits from both the unit and the loved one's box (Creutzfeldt et al., 2020; Griffin et al., 2020; Hwang et al., 2021a; Hwang et al., 2021b; Kennedy et al., 2020; Mendiola et al., 2021; Rascado et al., 2020a; Valley et al., 2020). One of the most important aspects highlighted in several studies is the end of life, where the possibility of an in-person farewell by at least one family member is recommended (Hwang et al., 2021a; Piscitello et al., 2021; Rascado et al., 2020b, 2020a; Valley et al., 2020). At the same time, prior training of the visiting family member in the use of personal protective equipment is indicated, as well as psychological preparation prior to contact with the patient (Rascado et al., 2020b, 2020a).

Support for families

The admission of a loved one is defined as stressful and complicated for families (Cattelan et al., 2021). In relation to their care, early identification of families' needs from the moment of admission is recommended (Lissoni et al., 2020; Sasangohar et al., 2020; Taylor et al., 2020; Wendel et al., 2020) as well as prevention and early detection of possible psychological disorders (Bloomer and Bouchoucha, 2021; Cattelan et al., 2021; Dhala et al., 2020; Rose et al., 2021; Suresh et al., 2020).

Another element described is the availability of psychological support, either by the prepared ICU team (Creutzfeldt et al., 2020; Rose et al., 2021) or by psychologists (Aziz et al., 2020; Selman et al., 2020).

One of the most prominent moments within the documents consulted is end-of-life care, where a different approach than usual is indicated, allowing in most cases a face-to-face farewell by at least one member (Hwang et al., 2021a; Piscitello et al., 2021; Rascado et al., 2020a, 2020b; Valley et al., 2020).

Discussion

A total of 24 documents describing interventions and recommendations related to FCC in Intensive Care Units during the COVID-19 pandemic were selected for this review. This search resulted in four groups which were: the use of communication systems, multidisciplinary interventions, engagement of families and support for families.

The COVID-19 pandemic has created a complicated scenario for FCC as it was conceived until now. The distancing and withdrawal of families from hospitals has turned their maintenance and development into a new healthcare challenge in addition to those caused by the disease itself.

Within the studies consulted, communication is conceived as the fundamental pillar in preserving FCC in intensive care units, and this is the basis for most of the proposed interventions and recommendations. Within this context we can see how special attention is paid to the development of effective communication, which leads to relegating this

Table 3
Concept matrix identifying main themes.

Study	Theme			
	Communication systems	Multidisciplinary interventions	Engagement of families	Family support
(Aziz et al., 2020)	X	X	X	X
(Cattelan et al., 2021)	X			X
(Dhala et al., 2020)	X	X	X	X
(Mistraletti et al., 2020)	X			
(Suresh et al., 2020)	X	X	X	X
(Wendel et al., 2020)	X	X	X	X
(Hwang et al., 2021b)			X	
(Intensive Care Society, 2020)	X			
(Piscitello et al., 2021)	X	X	X	X
(Valley et al., 2020)	X		X	
(Griffin et al., 2020)	X	X	X	
(Mendiola et al., 2021)	X	X	X	
(Kennedy et al., 2020)	X		X	
(Sasangohar et al., 2020)	X			X
(Selman et al., 2020)	X	X		X
(Taylor et al., 2020)	X	X	X	X
(Lipworth et al., 2021)		X	X	
(Suresh et al., 2020)		X	X	X
(Rose et al., 2021)			X	X
(Rascado et al., 2020b)			X	X
(Creutzfeldt et al., 2020)			X	X
(Hwang et al., 2021a)	X		X	X
(Rascado et al., 2020a)			X	X
(Lissoni et al., 2020)				X
(Bloomer and Bouchoucha, 2021)				X

task to trained persons, and failing that, to the training of health care staff in this area. This first aspect leads to synergy between the staff of critical care units and other services such as the palliative care team or the team of psychologists, among others (Pasricha et al., 2020), while the second aspect leads to the need for a unified communication system that reinforces its basis in the use of checklists in many cases.

There is a wide disparity of interventions and recommendations, which may be influenced by various factors such as cultural factors (Al-Motlaq et al., 2019), but many of them, according to the selected studies, are influenced by the number of resources available in the units, ranging from the creation of support groups to the use of the resources contained in the visualised ICU, among others. But despite the disparity of interventions and recommendations, after analysing the texts, they reflect the approach of four major thematic lines, which coincide with several of the postulates proposed by the Society of Critical Care Medicine (Judy et al., 2017), including the presence of families in the ICU, family support, communication with families, the involvement of other specialist members together with the ICU team and the implementation of environmental measures. The selected studies value communication as the most important element within FCC. The need for communication has become visible with COVID-19, as families have been side-lined, in many cases completely, which highlighted the importance of the family in meeting the needs of both the patient and the family itself. The process of health information to patients and communication with relatives has also been affected. Previously, information and visits were carried out in person, but during the pandemic they have been carried out by telephone, and not always systematically, given the pressure of care. Establishing channels of communication to provide health information to relatives and achieving the closest possible communication between patient and relatives, is essential to cover certain needs that arise in critical situations (Allande Cussó et al., 2020). Not being able to cover this need is what makes its essentiality so visible.

During the months of the pandemic, the importance of

communication came to the fore, and it was the failure to meet this need that made its essentiality so apparent (Allande Cussó et al., 2020). Critically ill patients may often be incapacitated, and information is often given to family members (Davidson et al., 2017). Communication skills are a crucial element in the humanization process (Wilson et al., 2019). Excellent communication is fundamental for recognising the patient as a person and placing them at the centre of the system (Kiwunuka et al., 2019). Effective communication between professionals and multidisciplinary teams is essential to improve patient outcomes and increase family and professional satisfaction (Kim et al., 2010). Conflicts between professionals in the ICU are frequent, many of them due to communication failures. They also threaten the concept of teamwork and directly influence patient and family well-being, generating professional burnout and negatively influencing outcomes (Azoulay et al., 2009). Information is one of the main needs expressed by patients and relatives in the ICU (Alonso-Ovies et al., 2014). The inability to communicate with many critically ill patients generates negative feelings and is an essential source of stress and frustration for patients, relatives and professionals (Happ et al., 2004). Fostering communication, tailored to the needs of each patient, through communication systems is essential to humanise care and allows the patient to participate in the critical process (Garry et al., 2016). During the pandemic months, the same communication needs continue to exist, but these were impaired by isolation measures to contain the spread of covid-19. This is a fundamental pillar of FCC.

In turn, the development of effective communication is seen as a key aspect of FCC, which requires a trained team and, as previously recommended by Pasricha et al. (2020), the use of guidelines or checklists to provide structured information to families. Telecommunication systems are described as the most widely used and widespread mode of communication, but as Hwang et al. (2021a,b) reflect, the availability of these systems is not uniform in all hospitals. The development of effective communication, which requires a trained team and the use of

checklists to ensure a comprehensive approach to contacting families, is one of the most important aspects of communication in the literature (Akgün et al., 2020; Lissoni et al., 2020; Mistraletti et al., 2020; Taylor et al., 2020). Likewise, in relation to the care team, it is worth highlighting the importance given to the team's mental health when carrying out psychologically demanding tasks such as communication, being again the multidisciplinary work a key point in distributing the workload and offering the highest possible quality of care in these situations of physical and mental exhaustion caused by the COVID-19 pandemic (Lipworth et al., 2021; Mistraletti et al., 2020; Rose et al., 2021; Suresh et al., 2020).

In this challenging context, telecommunication systems have come to play an even more prominent role within the dynamics of unit functioning, being conceived in most studies as an important element to break down part of the barriers created by COVID-19 in the implementation of FCC (Hwang et al., 2021a, 2021b), thus favouring the "virtual" approach of families to the ICU, with this approach having a great impact on families and helping them to make decisions together with healthcare teams (Chapman et al., 2016; Mangram et al., 2005).

In relation to the increasing importance of FCC during the COVID-19 pandemic, there has been an increase in the number of articles published, reaching the point where in the first three months of 2021 a greater number of documents have been published in this regard than in the first six months of 2020. One of the main recommendations is the use of telecommunication systems but it should be noted that these strategies are highly dependent on the patient's or family's smartphones and computers, as well as the stability of the internet. These strategies may lead to differential access to FCC (Hart et al., 2020). Another issue regarding the communication of a multidisciplinary team for family support is the drastic cessation of family support as soon as the patient left the ICU or died (Klop et al., 2021).

Despite this terrible situation we have been able to learn about measures that help to maintain FCC. Since covid 19, the need to respect the role of the family, the collaboration of family and professionals and the maintenance of family integrity as far as possible has been demonstrated (Hart et al., 2020). Innovative approaches that engage family members in hospital care during the COVID-19 pandemic may lead to lasting progress, rather than regression, from the family-centered standards of care that the health care community has recently achieved (Hart et al., 2020).

Limitations

Despite the rigour with which this review was conducted some limitations need to be acknowledged. Firstly, the recent emergence of the problem described in this paper leads to a limited number of documents. Furthermore, the lack of a unified definition of FCC requires the analysis of various types of interventions and recommendations.

With the selected keywords and the inclusion and exclusion criteria the results only yielded Western studies. This may be due to the language of publication or to the greater research on this topic in the West.

We assume that in other countries the situation will be similar due to restrictions on isolation as a gold standard measure to curb COVID-19 infection. Following these measures and the high hospital demand with the increased burden of care make communication measures with the family difficult. However, country-specific measures should be analysed in depth.

Conclusion

The findings of this review can help to understand, evaluate, and target interventions during the pandemic, and guide the development of new strategies to provide delivering quality care in the context of future pandemics with similar characteristics. There is a great variety in the nature of interventions developed, with the use of telecommunication systems in daily practice being the most repeated aspect. The main application of the results of this research is to be able to respond to the needs of the family in the best possible way, to ensure that they receive good care in the ICU in any similar situations that may arise in the future. In this way, it is possible to have lines of action for exceptional situations that allow, as far as possible, the family attention and to be present in the patient's day-to-day life.

From the results obtained in the present work, the following recommendations for the future can be made: (a) create protocols to establish communication with relatives taking into account the resources of the centre, (b) including a checklist to inform the family in a clear way so that they can be involved in decision-making, having technological means to bring the patient and family closer together, (c) ensuring the availability of material resources for face-to-face visits for infectious patients and (d) counting on multidisciplinary teams in case of need for support.

Ethical consideration

Ethical approval was not required as this study only draws on material that has already been published.

CRediT authorship contribution statement

Elena Fernández-Martínez: Conceptualization, Methodology, Writing – original draft, Writing – review & editing, Supervision. **Estefanía Afang Mapango:** Conceptualization, Methodology, Writing – original draft, Writing – review & editing. **María Cristina Martínez-Fernández:** Writing – review & editing, Supervision. **Verónica Valle-Barrio:** Conceptualization, Methodology, Writing – original draft, Writing – review & editing.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix 1. Quality assessment of the documents included in the systematic review.

Search engine	Author	Date of publication	Journal	Country of publication	JBIC checklist
DOAJ	(Taylor et al., 2020)	12/2020	<i>Implementation Science Communications</i>	United Kingdom	8/10
	(Dhala et al., 2020)	09/2020	<i>Journal of Medical Internet Research</i>	Canada	7/10
	(Suresh et al., 2020)	12/2020	<i>Journal of Patient Experience</i>	United States	6/10
SCOPUS	(Aziz et al., 2020)	06/2020	<i>Intensive Care Medicine</i>	United Kingdom	Not precise
	(Mendiola et al., 2021)	03/2021	<i>Holistic Nursing Practice</i>	United States	Qualitative: 8/10
	(Cattelan et al., 2021)	01/2021	<i>Journal of Intensive Care</i>	France	

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(continued)

Search engine	Author	Date of publication	Journal	Country of publication	JBIC checklist
	(Bloomer and Bouchoucha, 2021)	07/2020	<i>Australian Critical Care</i>	Australia	Quantitative: 7/9 Not precise
CINHAL	(Piscitello et al., 2021)	03/2021	<i>American Journal of Hospice & Palliative Medicine</i>	United States	8/9
	(Valley et al., 2020)	09/2020	<i>American Journal of Respiratory & Critical Care Medicine</i>	United States	7/9
	(Rascado et al., 2020a)	04/2020	<i>Enfermería Intensiva</i>	Spain	Not precise
	(Lipworth et al., 2021)	01/2021	<i>Journal of Pain & Symptom Management</i>	United States	6/9
	(Griffin et al., 2020)	01/2021	<i>American Journal of Respiratory & Critical Care Medicine</i>	United States	Not precise
PUBMED	(Sasangohar et al., 2020)	10/2020	<i>BMJ Quality & Safety</i>	United States	9/10
	(Kennedy et al., 2020)	11/2020	<i>Annals of the American Thoracic Society</i>	United States	9/10
	(Rascado et al., 2020b)	09/2020	<i>Medicina Intensiva</i>	Spain	Not precise
WOS	(Rose et al., 2021)	02/2021	<i>Annals of the American Thoracic Society</i>	United Kingdom	7/9
	(Lissoni et al., 2020)	05/2020	<i>Psychological Trauma: Theory, Research, Practice, and Policy</i>	Italy	4/6
	(Creutzfeldt et al., 2020)	11/2020	<i>Journal Of Palliative Medicine</i>	United States	9/10
	(Wendel et al., 2020)	10/2020	<i>Journal Of Patient Experience</i>	United States	7/10
Grey literatura and other sources	(Mistraletti et al., 2020)	04/2020	<i>Società Italiana di Anestesia, Analgesia, Rianimazione e Terapia Intensiva</i>	Italy	Not precise
	(Intensive Care Society, 2020)	06/2020	<i>UK critical care Nursing Alliance, British Association of Critical Care-, Critical Care Networks-National Nurse Leads; Intensive care society</i>	United Kingdom	Not precise
	(Selman et al., 2020)	09/2020	<i>Journal of Pain and Symptom Management</i>	United Kingdom	Not precise
	(Hwang et al., 2021a)	01/2021	<i>Critical Care Medicine</i>	United States	9/10
	(Hwang et al., 2021b)	03/2021	<i>Critical Care Explorations</i>	United States	9/10

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