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The emotional responses of women when terminating a pregnancy for medical reasons: A scoping review

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ABSTRACT

Background: In most countries of the world the only basis for considering a termination of pregnancy is for medical reasons. Depending on the circumstances and determinants of each case, the emotional responses to this event vary greatly. The aim of this study is to map the emotional responses of women when their pregnancy is terminated for medical reasons.

Methods: A scoping review was carried out. This covered all types of qualitative and quantitative studies published in English or Spanish since 2014 which included first-person accounts of women's emotional responses when they had a termination. A bibliographic search was made of four databases (CINAHL, Cochrane Library, PsycINFO and Pubmed) along with an additional manual search and backward and forward citation chaining of the studies included. The data were reported in narrative form and the results grouped according to the descriptive characteristics of the study and the emotions involved.

Findings: The review process resulted in the inclusion of thirty-four studies. nineteen of these followed a qualitative approach and fifteen used quantitative methodology, with six of them being intervention studies. The emotions found ranged from anxiety and depression to guilt and thankfulness, so various authors stressed the need to improve training for health professionals to provide information, advice and support to the women during the entire process of the termination of pregnancy for medical reasons.

Conclusions: The available studies cannot be compared given the variety of designs. The predominant emotions underlying the termination for medical reasons were stress, anxiety and depression. Future research should be carried out using samples of participants covering all causes of termination for medical reasons in a particular context so that an intervention can be designed to help lessen the impact of the process on women's mental health.

1. Introduction

Every year worldwide around 55.9 million termination of pregnancy (TOP) are carried out. The highest rate is for Latin America and the Caribbean (44 per 1000 women between 15-44 years), while the lowest are in North America (17 per 1000) and Oceania (19 per 1000). The rate in Europe is estimated to be 29 per 1000 women, although there is a considerable difference between Western Europe (16 per 1000) and Eastern Europe (42 per 1000) (Singh et al., 2017)

The International Federation of Gynaecology and Obstetrics (FIGO) defines induced abortion as "the termination of pregnancy using drugs or surgical intervention after implantation and before the conceptus has become independently viable (WHO definition of a birth: 22 weeks' menstrual age or more)" (FIGO, 1999). In many countries, including those in which it is most difficult, the only condition under which TOP is permitted is for medical reasons. In countries where termination is regulated by legislation, it is allowed as long as it is performed within the legal limits established by the law. Situations considered as constituting medical grounds include those where the pregnant woman's life is at risk (almost 90% of countries worldwide), exceptions for general health or therapeutic reasons (some laws specify that this applies only when the woman's physical health is endangered) or when there are concerns about fetal viability or abnormalities (Center for Reproductive Rights, 2019); (WHO; United Nations; Human Reproduction Program, 2020)

These situations can affect women in different aspects of their lives (emotional, social, conjugal), giving rise to feelings such as sadness, anx-

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iety, depression and guilt (Llavoré et al., 2016; Perinatal Society of Australia and New Zealand (PSANZ); Stillbirth 2018).

Various factors can influence how a woman responds to experiencing a termination, such as how important the pregnancy was to her, her ability to cope with the event and her capacity to deal with events subsequent to the actual termination. It all depends on her social support network, her personal characteristics and the gestational age of the fetus at the time of the termination, since the emotional experience tends to be less negative the earlier this takes place (Rondón, 2009; Lafarge et al., 2014).

There is a need for people to be present to provide quality emotional support during the process and after the loss. The lack of emotional support leads women to seek help from other disciplines in the area of health, even some time after the termination (Andersson et al., 2014; Ramdaney et al., 2015).

Numerous reviews have been carried out in recent years exploring various issues in connection with all aspects of TOP (Altshuler et al., 2016; Daugirdaté et al., 2015; Alam et al., 2020; Mainey et al., 2020). However, only the meta-ethnographic review conducted by Lafarge et al., (2014) focused on the experiences of women who had a TOP because of fetal abnormalities. Bearing in mind that at the time of the review most studies followed a quantitative approach, the authors analysed 14 qualitative studies and found that there was 1) a dearth of relevant studies on the subject and little research into the healthcare provided for these women and whether this care covered their needs, and 2) a lack of follow-up care after termination due to fetal abnormalities and a need to carry out interventions to help women both during and after the process.

Since then various qualitative, quantitative and mixed-methodology studies have been published, some of which assess interventions. It would therefore seem appropriate to explore the evidence available worldwide regarding women's emotional responses after a TOP for medical reasons (and not just due to fetal abnormalities). As the permitted medical reasons vary from country to country, it should be noted that for the purposes of this study, medical reasons are understood as those terminations that are performed due to risk to the health (physical or mental) or life of the pregnant woman, risk of severe foetal anomalies, foetal anomalies incompatible with life, or severe and incurable foetal disease.

This review is part of a larger doctoral study by determining the support resources women are interested in, with the aim of designing a therapeutic response to help lessen the impact it has on their lives.

2. Methods

A scoping review was conducted following PRISMA-ScR recommendations (preferred reporting items for systematic reviews and meta-analyses - extension for scoping reviews) (Tricco et al., 2018). The methodological framework chosen was the model designed by Arksey and O'Malley (2005) and extended by Levac et al., (2010). This involved a six step process: (i) identifying the research question, (ii) identifying relevant studies, (iii) selecting study, (iv) charting the data, and (v) collating, summarising, and communicating the resuts and (vi) consultations (this an voluntary step and not used in this scoping review).

2.1. Formulating the research question

The research question used to explore the literature was: What are the emotional responses of women when terminating a pregnancy for medical reasons?

2.2. Inclusion and exclusion criteria

The inclusion criteria were (a) full text published between 2014 and 2020, (b) published in a peer-reviewed scientific journal, (c) articles written in English or Spanish, and (d) content related to the subject identified in the search terms. The exclusion criteria were (a) opinion articles, and (b) teenage sample.

As this review is part of a larger doctoral study, we selected articles from 2014 because we were interested in finding out what research had been done in the current context and we noted that there was an increase in publications from this year to the present.

It was decided not to include the teenage sample, since the TOP in this group is associated with different repercussions on mental health. Therefore, given its specificity, it may constitute a subject for review on its own.

2.3. Information sources and search procedure

The information search was carried out during the period November 2019 to May 2020 inclusive. A bibliographic review was performed in various databases: CINAHL, Cochrane Library, PsycINFO and Pubmed.

In order to identify the greatest possible number of articles, various combinations of the following MeSH terms (MeSH-Browser (U.S. National Library of Medicine, 2018) were used: "abortion, therapeutic", "nursing care", "nursing", "emotions", "abortion, induced", "psychology", "adaptation, psychological". Detailed information on the search equation can be found in Table 1.

A second search was then carried out of the references from the reviewed articles so as to identify other articles that had not been found during the initial search but met the inclusion criteria. This took into account review articles and meta-analyses with the aim of recovering possible studies that were not identified in the first search. None of these were included in this review either because they had already been selected or were published before 2014, which was one of the exclusion criteria.

The studies imported using Mendeley bibliography software were stored systematically in groups linked to the databases from which they came.

2.4. Selection process

The main author (ZG) reviewed the titles, abstracts and full texts for inclusion. When doubts arose regarding whether or not to include a particular article, this was discussed with LC (co-author), EZ (co-author) or NA (co-author).

2.5. Charting the data

In order to guarantee a general description of the articles included, data were extracted regarding the characteristics of the study (reference, country), main objective, methods (design, participants), main findings and conclusions. In line with PRISMA recommendations, no assessment was made of the quality of the included articles using critical appraisal tools.

2.6. Analysis

The authors then carried out a content analysis to identify subject areas from the data extracted. For the mapping process all the systematically selected studies were narratively reviewed and summarized and the results grouped together.

Some studies included the views of the women's partners and health professionals. In these cases, we excluded the views of the women's partners and health professionals, as long as it was expressed by specific groups in the findings. If they were not, it was not possible to exclude the views of the partners or health professionals.

Table 1
Search criteria and terminology.

Inclusion criteria:
Research published within the last 6 years (2014-2020)
Peer-reviewed
Written in English or Spanish
Content related to the topic identified in the search term
Exclusion criteria:
Opinion article
Sample of teenargers
Search terms:
"Nursing care", "abortion, induced", "emotions", "psychology", "nursing", "abortion, therapeutic", "adaptation, psychological"
Boolean operators:
AND, OR

3. Findings

3.1. Search and selection process

243 references were identified, of which 41 were excluded as duplicates. A sifting process then took place by analysing the title and abstract of the 202 remaining references. 109 were eliminated as they dealt with areas not directly connected to the subject of this review. The full texts of 93 references were analysed in order to determine their eligibility. This led to the exclusion of 59 full texts, since it was believed they did not contribute to the aim of the study for a variety of reasons: subject of termination initially broached by the woman, emotional impact on health professionals, focus exclusively on the father, and legislative and political aspects. The review process finally approved 34 publications for inclusion. Figure 1 shows the article selection process in detail.

3.2. Study characteristics

Table 2 gives an overview of the study characteristics, main results and authors' conclusions of the publications included in this review. As regards the descriptive characteristics, the subject under study was of concern to various countries, in particular the United States (n=7), China (n=5), England and Iran (n=3 each), Australia, Sweden, Turkey and Spain (n=2 each), followed by all the others from which we selected just one article: Canada, Denmark, France, Israel, Portugal, South Africa, Thailand and Brazil. The studies conducted in Asian countries (Leichtentritt and Mahat-Shamir, 2017; Sriarporn et al, 2017; Sun et al., 2017; Aghakhani et al., 2018; Qin et al., 2018; Weng et al., 2018; Akdag Topal and Terzioglu, 2019; Aktürk and Erci, 2019; Irani et al., 2019; Kamranpour et al., 2019; Qin et al., 2019) were all published from 2017 onwards.

The sample covered by the studies included women who had their pregnancy terminated for an unspecified reason, for medical reasons, because of fetal abnormalities or a prenatal diagnosis of Down syndrome (Lou et al., 2018) and women who had been diagnosed with breast cancer and were considering a termination (Kirkman et al., 2017). In papers with a comparative design (versus the emotional responses of women who have experienced a termination for medical reasons), post-childbirth women (Steinberg et al., 2014; Weng et al., 2018) and women who had suffered some kind of perinatal loss (Ridaura et al., 2017; Weng et al., 2018) are also included in the sample. In other studies the sample included the partner of the woman undergoing the TOP (Carlsson et al., 2016; Gaille, 2016; Hodgson et al., 2016; Lotto et al., 2016) or the health professionals involved in the termination process (Kamranpour et al., 2019). Sample size ranged from 5 (Kirkman et al., 2017) to 1623 participants (Carlsson et al., 2016).

In order to examine the emotional responses of women after a termination for medical reasons, most studies (n=19) took a qualitative approach. Qin et al. (2019) carried out in-depth interviews to enable them to develop a theoretical model based on the emotions and behavior of women who had a TOP for medical reasons. Of the studies that followed a quantitative approach, n=8 used surveys (physical or online)(Curley et al., 2014; Fisher and Lafarge, 2015; Ramdaney et al., 2015; Lafarge et al., 2017; Ridaura et al., 2017; Aghakhani et al., 2018; Kerns et al., 2018b; Akdag Topal and Terzioglu, 2019) , n=6 involved randomized clinical trials (Constant et al., 2014; Sriarporn et al., 2017; Sun et al., 2017; Rocha et al., 2018; Weng et al., 2018; Aktürk and Erci, 2019), and Steinberg et al., (2014) conducted a cohort study.

There were six studies that assessed the impact of some type of emotional support intervention (Constant et al., 2014; Sriarporn et al., 2017; Sun et al., 2017; Rocha et al., 2018; Aktürk and Erci, 2019; Qian et al., 2019). Aktürk and Erci (2019) measured the effect of Watson's theory of human caring on reducing levels of stress, anxiety and depression in women who had a termination for medical reasons; Constant et al., (2014) assessed the impact of standardized health messages on the anxiety levels of women who had a pharmacological TOP at home; Rocha et al., (2018) focused on the effect of a narrative intervention aimed at preventing depression and anxiety after a termination due to fetal abnormality; Sriarporn et al., (2017) described the effects of a program providing information and emotional support to women after a termination of pregnancy; Sun et al., (2017) assessed the impact of a family mental health support program; and finally, Qian et al., (2019) asked participants to write narratives before, during and after their pregnancies were terminated in order to evaluate the effectiveness of written expression on women's mental health.

3.3. Emotional responses of women who have a termination of pregnancy for medical reasons

The emotions underlying the process of pregnancy termination for medical reasons were many and varied. The most frequent terms referred to by authors were emotional distress, anxiety, depression and shock (Constant et al., 2014; Ramdaney et al., 2015; Carlsson et al., 2016; Ridaura et al., 2017; Sun et al., 2017; Guy, 2018; Rocha et al., 2018; Akdag Topal and Terzioglu, 2019; Aktürk and Erci, 2019; Irani et al., 2019; Atienza-Carrasco et al., 2020). Many studies also associated the emotions that emerge during the process with pain and grief (Ramdaney et al., 2015; Ridaura et al., 2017; Sriarporn et al., 2017; Qin et al., 2018; Irani et al., 2019;). We also found feelings of guilt and shame (Curley et al., 2014; Maguire et al., 2015; Carlsson et al., 2016; Kirkman et al., 2017; Irani et al., 2019) and fear that it might happen again (Carlsson et al., 2016; Irani et al., 2019). Finally, some of the participants in the study by Guy (2018) described being thankful that the process was over and for having had the opportunity to choose termination.

Given that all women are different, the emotional needs that emerge after a termination for medical reasons can vary greatly (Kirkman et al., 2017). However, there are certain things that do seem to lessen its impact on mental health, such as giving each woman all the information she needs beforehand and providing good counselling (Carlsson et al., 2016; Hodgson et al., 2016; Kerns et al., 2018a), letting her decide which type of termination to have (pharmacological or surgical) whenever pos-

Table 2
Results of the scoping review.

Reference Country	Main aim	Design Participants	Main findings	Conclusions
Atienza-Carrasco et al. (2020) Spain	To explore the experience of women who had a TOPFA[1].	Qualitative study Women who underwent a TOPFA (n=27)	Psycho-emotional support and follow-up after discharge are important for patients.	The interpersonal communication skills of the health professionals involved in the TOPFA process should be improved.
Akdag Topal and Terzioglu (2019) Turkey	To determine anxiety and depression levels after TFMR[2].	Cross-sectional descriptive study Women who underwent a TFMR (n=60)	Anxiety scores were very high and most of the women suffered from depression.	Emotional and social support are needed to decrease levels of anxiety and depression.
Patricio et al. (2019) Brazil	To find out maternal concerns related to TOPFA.	Qualitative method Women who underwent a TOPFA (n=8)	The decision to terminate was based on personal factors such as information on pathology and religion, giving rise to various feelings.	Good communication between the woman, family and team is necessary.
Qian et al. (2019) China	To assess the effectiveness of the written expression of experiences of women who have a TOPFA.	Qualitative method Women who underwent a TOPFA (n=14)	The intervention helped in the expression of women's emotions.	The use of expressive writing can have a positive impact on women's mental health.
Aktürk and Erci (2019) Turkey	To assess the effect of Watson's model of human care on women who undergo a medical TOP[3].	Case-control Women undergoing a medical TOP (n=110)	Levels of depression and anxiety decreased after Watson's model was applied.	Watson's model is effective in reducing levels of depression, stress and anxiety in women after medical TOP.
Kamranpour et al. (2019) Iran	To explore the emotional needs of women who have a TOPFA.	Qualitative study Women, men and health providers involved in the TOPFA (n=42)	The main emotional needs were affected by the empathy and understanding of the husband, while the logistical support of family and friends reduced stress, as did interaction with other women with similar experiences.	Participation of the women's main support network in the process should be increased to facilitate a return to normal life.
Irani et al. (2019) Iran	To look into the personal experiences of women after the diagnosis of foetal abnormalities.	Qualitative interviews Parents who underwent a TOPFA (n=25)	Four categories emerged: 1) Grief reactions during the time of diagnosis: shock and panic, distress and disbelief. 2) Perinatal loss: guilt and shame, loss of their expected child, suffering and emotional distress process, and unmet need by health professionals. 3) Fears of recurrence in future: worried about inadequate prenatal care and abnormal foetus. 4) Dilemma between hope and worry.	In order to monitor the emotional reactions of women to the diagnosis, it is necessary to use trained health professionals to give a suitable response.
Kerns et al. (2018a) USA	To detail the satisfaction of women with the chosen method of pregnancy termination.	Qualitative interviews Women who underwent a TFMR (n=36)	Good advice should include adequate information, favour autonomous decision-making and lead to choice of method that facilitates coping.	To favour decision satisfaction, the option of choosing between surgical and medical termination should be offered.
Qin et al. (2019) China	To develop a theoretical model based on the emotions and behaviour of women who have had a termination of pregnancy due to foetal abnormality.	A grounded theory study: in-depth interviews Women who underwent a TOPFA (n=41)	The study develops a cognitive-behavioural experience framework for these women. The model includes 4 phases: denial, confirmation, decision-making and recovery.	The framework provides information for developing interventions that can help women respond effectively to their emotional process.
Lou et al. (2018) Denmark	To explore the factors that influence the decision to terminate a pregnancy due to a diagnosis of Down syndrome.	Qualitative interview Couples undergoing a TOPFA (Down syndrome) (n=21)	The decision to terminate is mostly influenced by how a child with Down syndrome affects the future of a family.	It is useful to know the couple's initial decision in order to provide care based on their real needs.
Rocha et al. (2018) Portugal	To assess the impact of a narrative intervention to prevent depression and anxiety after a TOPFA.	Controlled trial. Women undergoing a TOPFA with intervention (n=24) v. women undergoing a TOPFA without intervention (n=67)	6 months after the TOPFA, anxiety and depression decreased compared to the control group.	The intervention had positive effects on women's health.

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Table 2 (*continued*)

Reference Country	Main aim	Design Participants	Main findings	Conclusions
Qin et al. (2018) China	To investigate factors related to discomfiture in the healthcare of women after a TOPFA.	Qualitative interviews Women who underwent a TOPFA (n=41)	Several preventive factors and negative experiences potentially related to discomfiture in healthcare were identified.	Provider's busy work schedules, hurried visits, mechanized diagnostic and treatment process, participants' scant medical knowledge and mental distress were all negative experiences.
Guy (2018) USA	To give voice to women who terminated a pregnancy for medical reasons.	Qualitative narratives Women who underwent a TFMR (n=6)	Women who have a TFMR end up going through an emotional process that ranges from anxiety and shock to thankfulness.	Health professionals need more training to teach women coping strategies. In addition, support services must be provided.
Kerns et al. (2018b) USA	To determine whether making a shared decision and being satisfied with that decision improves the psychological impact after a TFMR.	Online cross-sectional survey Women who underwent a TFMR (n=145)	Greater satisfaction and shared decision-making is associated with a reduced feeling of grief and less post-traumatic stress.	Satisfaction and decision-making have a positive psychological impact after the termination.
Weng et al. (2018) China	To compare the risk of suicide between women after foetal death, miscarriage or TOP and women who gave birth.	Case-control Women who attempted suicide (n=485) and committed suicide (n=350)	The risk of suicide was higher in women who suffered a loss or a TOP.	The risk of suicide may increase in the first year after foetal loss, especially in women who have had a stillbirth.
Gawron and Watson (2017) USA	To explore whether medical ethical principles are used in the decision-making process for termination due to foetal abnormalities.	Qualitative interviews Women who undergo a TOPFA (n=30)	All women have some reason related to some ethical principle.	The decision to abort due to a foetal anomaly should receive the same respect as any decision made in any other medical procedure.
Leichtentritt and Mahat-Shamir (2017) Israel	To understand the experience of Israeli mothers who underwent feticide.	Qualitative hermeneutic Women whose foetuses underwent feticide due to foetal anomalies (n=28)	The processes are divided into two themes: strategies for severing the connection with the baby and strategies for a post-death relationship.	There is a dual process of connecting and letting go of the deceased.
Lafarge et al. (2017) England	To determine post-traumatic growth after a TOPFA.	Online cross-sectional survey Women who underwent a TOPFA (n=161)	The adaptive strategies used are related to post-traumatic growth.	Interventions such as cognitive behavioural therapy can have a positive impact.
Sun et al. (2017) China	To assess the impact of a family support program on mental health.	Randomized controlled trial Women who underwent a TOPFA (n=124)	In the post-intervention group, tests scores in the domain of intimacy were higher and the scales of impact of event and depression decreased.	The family support program is effective in women who terminate pregnancy due to foetal abnormalities.
Ridaura et al. (2017) Spain	To explain the grieving process after perinatal loss.	Online questionnaires with prospective length Women who had suffered perinatal loss (n=70)	Symptoms of grief and depression decreased from the first month up to a year after the loss.	It is important to follow up after loss to improve women's mental health.
Sriarporn et al. (2017) Thailand	To describe the effects of a support program on women after a TOP.	Pilot design: pre-test/post-test Women who participated in the program (n=30)	Grief scores were moderate-low after participation in the emotional support program.	The support program is beneficial for women, so support after a TOP should be included in nursing training.
Aghakhani et al. (2018) Iran Iran	To find out the attitudes of women towards the termination of pregnancy due to risk to the health of the pregnant woman.	Descriptive, pilot survey Women who obtained permission for induced termination (n=80)	Most women think that TOP is dangerous to health, that couples should be involved in the decision process, and that public health professionals should be in control of the TOP law.	Health education on contraceptive methods is needed to improve awareness.
Kirkman et al. (2017) Australia	To understand the meaning of TOP to women who have been diagnosed with breast cancer.	Narrative theory Women diagnosed with breast cancer who underwent or contemplated a TOP (n = 5)	The meaning that every woman gives to termination changes from guilt to thankfulness and more.	The need for support and advice are different depending on the meaning that the woman gives to termination.
Carlsson et al., (2016) Sweden	To explore the experiences described regarding termination of pregnancy due to foetal abnormality.	Cross-sectional qualitative study of messages in virtual communities. Messages (n=1623: 122 females, 1 male, 9 unknown)	Stressful situations were described that led to psychosocial difficulties after the termination that continued over time.	To respond to the needs of women, it is necessary to provide sufficient information before the TOP, comparative care during the TOP and pain relief, plus advice on the difficulties and fears they may experience regarding future pregnancies after the termination.

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Table 2 (*continued*)

Reference Country	Main aim	Design Participants	Main findings	Conclusions
Hodgson et al. (2016) Australia	To determine the social and professional supports required during diagnosis and in the months and years thereafter.	Qualitative semi-structured interviews 75 women and 27 male partners who had a diagnosis of fetal anomaly.	Some aspects that can improve shock after diagnosis were identified: accurate and respectful communication of procedures and information, seamless interactions with administration processes, empathy, support and discussion of the feelings underlying the diagnosis.	The importance of providing accurate information and non-judgmental support to couples is stressed.
Lotto et al. (2016) England	To explore the experiences of parents after a termination due to congenital anomalies.	Qualitative interviews Women who underwent a TOPFA (n=20 women and 18 partners)	The care received did not meet the couples' needs.	Because termination is a traumatic event and strong emotions are to be expected, the parents need specialized care.
Gaille (2016) France	To find out the parents' reasons for a TOPFA.	Semi-directive interviews 23 couples and 5 women who decide whether or not to terminate the pregnancy (n=28)	Decisions were mainly based on two reasons for choosing or rejecting a termination: personal/ family stability and the possible quality of life of the baby.	Despite the varied population, the responses given were similar.
Ramdaney et al. (2015) USA	To find out what kind of support women need after a TOPFA.	Surveys Women who underwent a TOPFA (n=519)	The women were not prepared for the psychological effects, so they might not know what their future needs will be.	Flexible, anonymous and easily accessible support resources are needed.
Maguire et al. (2015) USA	To assess the factors that contribute to pain after termination due to foetal abnormality.	Longitudinal qualitative study Women who underwent a TOPFA (n=19)	Factors that increased pain: feeling guilty about diagnosis and termination, social isolation and pain caused by pregnancy reminders. Social support and time helped to alleviate the pain.	Termination of pregnancy is a significant loss that is related to the actual stigma and the stigma perceived by women who terminate.
Asplin et al. (2014) Sweden	To describe what women perceived to be important to their health and well-being after termination of pregnancy due to foetal abnormality.	Semi-structured interviews Women TOPFA (n=11)	They reported having emotional problems for at least three months after the termination.	What they defined as important in their healthcare: continuing care, communication, understanding and compassion.
Fisher and Lafarge ., (2015) England	To investigate women's experience of care when undergoing a TOPFA.	Cross-sectional retrospective online survey Women TOPFA (n=379)	What women consider important for good care: a good environment and good level of care, the role of health professionals and support groups, knowledge of women's individual situations and allowing decision-making (termination method).	They perceived their healthcare as lacking in some way, so suitable professional training is needed.
Constant et al. (2014) South Africa	To assess the impact that automated messages have on women's anxiety and emotional distress after a medical TOP at home.	A multi-site randomized controlled trial Women undergoing early medical TOP with standard care (n = 235) or standard care + messaging intervention (n = 234)	Anxiety decreased, there was less emotional stress and the women felt better prepared for the adverse effects in the case group.	Receiving text messages can help in managing the symptoms of medical TOP.
Curley and Johnston (2014) Canada	To find out women's preferences for psychological treatment after TOP.	Questionnaire University students who wanted psychological treatment after TOP (n = 45)	The types of service desired by participants included support for guilt, spiritual suffering, coping, and education to better understand the TOP experience.	Professional interventions are necessary to treat women with psychological effects after TOP.
Steinberg et al. (2014) USA	To investigate if a first TOP increases the risk of mental health problems.	Cohort study Women post-termination (n=259) v. women post-childbirth (n=677)	Only the relationship between TOP and substance abuse disorder was significant.	TOP had no statistically significant relationship with anxiety, mood, impulse control, eating disorders or suicidal ideation.

[1] TOPFA: Termination of pregnancy for foetal anomaly
[2] TFMR: Termination for medical reasons
[3] TOP: Termination of pregnancy

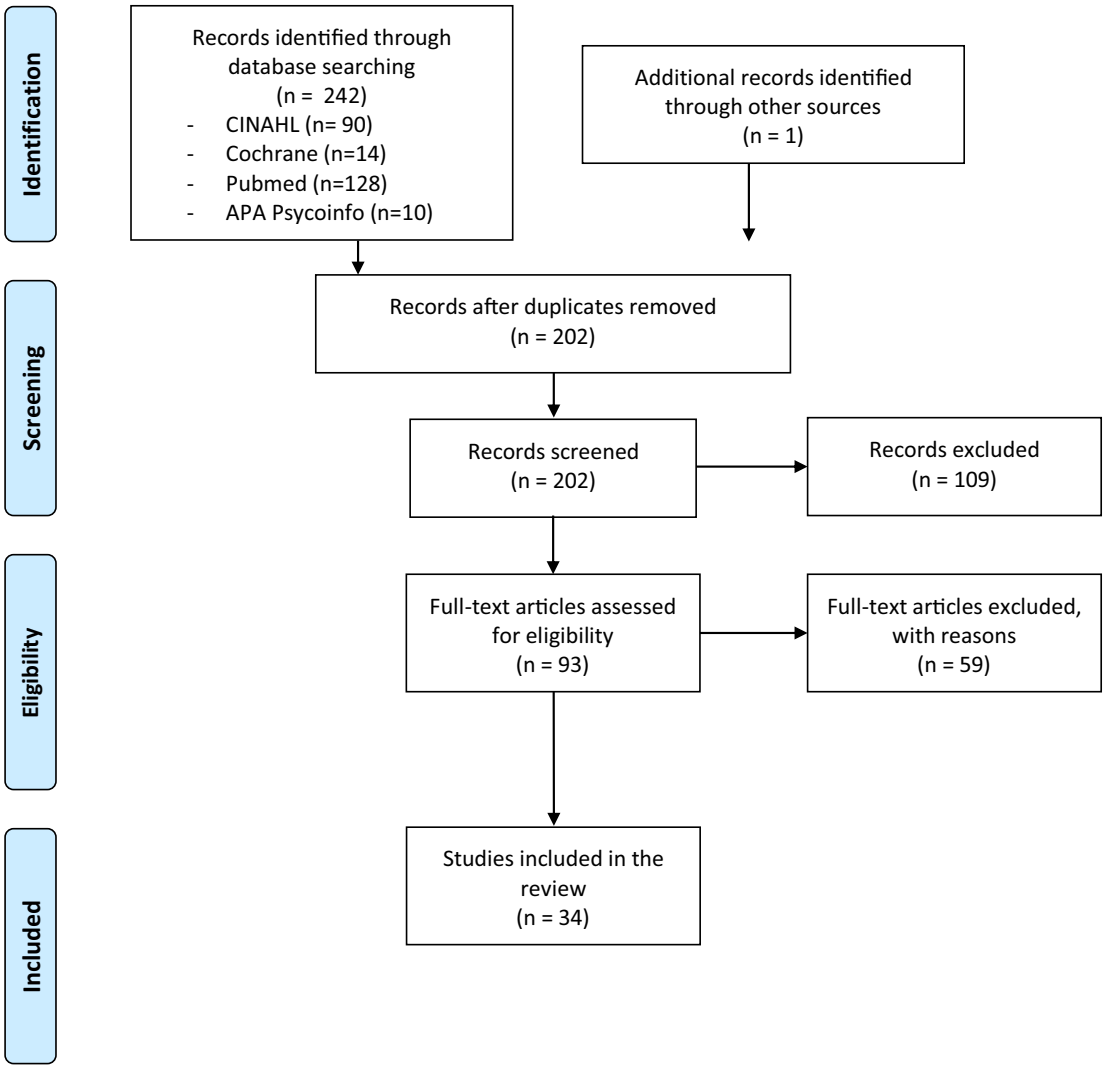

Fig. 1. PRISMA 2009 Flow Diagram.

sible (Fisher and Lafarge, 2015; Kerns et al., 2018a), respecting the decision she makes (Hodgson et al., 2016; Gawron and Watson, 2017), and more closely involving the person of reference, normally the woman's partner, to give her support (Maguire et al., 2015; Aghakhani et al., 2018; Kamranpuor et al., 2019).

Emphasis was also placed on the importance of monitoring by healthcare professionals after the termination is carried out (Asplin et al., 2014; Curley et al., 2014; Ramdaney et al., 2015; Ridaura et al., 2017). Various studies therefore recommended that health professionals should be better trained in the emotional impact of TOP to enable them to provide quality care adapted to women's real needs: information, advice and support ((Fisher and Lafarge, 2015) Lotto et al., 2016; Sriarporn et al., 2017; Guy, 2018; Irani et al., 2019).

4. Discussion

The aim of this study was to carry out a review of the research into the emotional responses of women after a termination of pregnancy for medical reasons. The results show the characteristics of the available studies on the subject and provide an overview of the current state of the art of the research. This scoping review reveals that the emotional responses of women when having a termination for medical reasons is an area of interest worldwide, and not only for nurses and midwives but also for other professionals in the healthcare team.

Given the private and personal nature of the subject, most of the studies (Asplin et al., 2014; Maguire et al., 2015; Carlsson et al., 2016; Gaille, 2016; Hodgson et al., 2016; Lotto et al., 2016; Gawron and Watson, 2017; Kirkman et al., 2017; Leichtentritt and Mahat-Shamir, 2017; Guy, 2018; Kerns et al., 2018a; Lou et al., 2018; Qin et al., 2018; Irani et al., 2019; Kamranpour et al., 2019; Patrício et al., 2019; Qian et al., 2019; Qin et al., 2019; Atienza-Carrasco et al., 2020) took the form of a qualitative investigation in order to explore the experiences of women who had undergone a termination for medical reasons.

In addition, they looked at the psycho-emotional effect of TOP for medical reasons as the central focus of their investigation. The women described a series of stressful situations from initial diagnosis to post-termination. These situations trigger emotional problems (Asplin et al., 2014; Carlsson et al., 2016; Guy, 2018) and even mourning processes following the loss of the fetus (Ridaura et al., 2017; Sriarporn et al., 2017). The study by Leichtentritt and Mahat-Shamir (2017) reported that the mourning process is exacerbated by women's dual experience of connecting then disconnecting with the baby, contributing to the continuation of a link with the dead child.

The main factors influencing the decision to terminate a pregnancy are those that involve individual and family stability and the baby's possible quality of life (Gaille, 2016), plus the impact that a child with some kind of disability would have on the family dynamic (Lou et al., 2018). One of the most basic emotional needs is for a woman to re-

ceive the support and empathy of those closest to her, especially her partner, in order to facilitate a return to normal life (Maguire et al., 2015; Aghakhani et al., 2018; Akdag and Terzioglu, 2019; Kamranpuor et al., 2019). When the termination for medical reasons is the result of a shared decision, this tends to be associated with greater satisfaction and a positive psychological impact after the event (Kerns et al., 2018b).

It is noteworthy that in the vast majority of the articles selected in our search the reason for termination was fetal abnormalities. Only two (Aghakhani et al., 2018; Aktürk and Erci, 2019) focused specifically on termination due to the risk to the mother's health. It would be interesting to carry out more studies on this group, since women's post-termination emotional responses and needs might vary in cases where the mother's health is the reason for terminating the pregnancy.

The results of this review indicate that efforts have been made to understand the impact that a termination of pregnancy for medical reasons has on a woman's emotional health and how it affects her life and the lives of those closest to her. However, bearing in mind that human beings are unique and individual, it is difficult to supply a series of one-size-fits-all answers. Qin et al., (2019) developed a theoretical model to help provide information on women who have a TOP due to fetal abnormalities, but we have not come across any later studies that have applied the model and carried out new assessments.

A number of interventions with different aims have been conducted (Constant et al., 2014; Sriarporn et al., 2017; Sun et al., 2017; Rocha et al., 2018; Aktürk and Erci, 2019; Qian et al., 2019) in an attempt to meet the needs of women who undergo this process. Aktürk and Erci (2019) formed a control group and an experimental group to which they applied Watson's model of human caring, the result being a reduction in depression and anxiety levels; Constant et al., (2014) assessed the impact of sending automated messages aimed at reducing anxiety after a medical termination carried out at home; Sriarporn et al., (2017) designed a support program for women after they had a pregnancy terminated; Sun et al., (2017) looked at the impact on mental health of a family support program and obtained results that showed it was effective; and Rocha et al., (2018) carried out a narrative intervention that had positive effects insofar as it reduced anxiety and depression after a TOP for medical reasons. Similarly, Qian et al., (2019) demonstrated that the written expression of the personal experiences of women who had undergone a termination due to foetal abnormalities had a positive impact on their mental health.

It is clear that health professionals need to monitor the entire process from the moment of diagnosis – providing sufficient information and performing a thorough initial assessment – through to post-termination. This can be done by keeping a close check on psycho-emotional responses for as long as each woman needs. In connection with this aspect, some of the investigations highlighted the role of midwives and nurses in the caring process (Atienza-Carrasco et al., 2020; Akdag and Terzioglu, 2019; Aktürk and Erci, 2019) and Sriarporn et al., (2017) pointed out the importance of including specific training in the area of nursing.

When it comes to providing the women with healthcare, this should take place somewhere quiet and private (Fisher and Lafarge, 2015) () where the necessary assistance can be given, such as helping to deal with feelings of guilt (Curley et al., 2014). Along similar lines, Lafarge et al., (2017) reported that cognitive behavioral therapies can be of use in these cases. It is also recommended that enough time should be dedicated to providing the necessary care and that non-individualized visits that follow a strict interview template should be avoided because they contribute to creating a bad experience (Qin et al., 2018)

One of the strengths of this review is the methodology used in the exhaustive search of the literature, which included additional components such as a manual search and the trawling of previous reviews. In the end no new references were found that met the inclusion criteria, but it is possible that we did not identify all the articles published in this area.

Despite the fact that we could consider as a limitation of this review that it was not carried out by peers, we believe that it has not affected the included studies because independent cross-checking of complete texts were carried out. It was agreed as part of our protocol only to include nurses who were experts in review methodology. Possible bias may also have arisen due to the fact that some articles did not specify which type of voluntary termination of pregnancy was involved in the sample (Constant et al., 2014; Curley et al., 2014; Steinberg et al., 2014; Kirkman et al., 2017). In these cases the decision was made to include them on the basis that they could involve termination for medical reasons.

5. Conclusion

Our review presents a synthesis of the evidence relating to the emotional responses of women after a voluntary termination of pregnancy. The emotions that predominate in the studies are emotional distress, anxiety, depression and shock, followed by feelings of grief and pain, guilt and shame, fear that the same thing may happen again and, in one of the studies, thankfulness for being given a choice.

A systematic approach to analysing the available studies would not be appropriate because so far they have not been comparable. As well as strengthening the existing evidence base, we have identified some key areas for future investigations. Rigorous research should be carried out on samples covering all the reasons for TOP for medical reasons to enable mental health interventions to be designed to help mitigate the impact for all groups (risk to the pregnant woman's health, risk of fetal abnormalities, serious illnesses that may be incurable or incompatible with life) in a particular context.

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Ethical approval

This study has been approved by the Ethics Committee for Clinical Research of the Hospital Universitari Vall d'Hebron (reference 457/19).

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Conflict of Interest

The authors declare that they have no conflict of interest.

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