

# Role of belief in miracles in clinical settings – a literature review

## Abstract

Health professionals, in their daily clinical practice, are often faced with the verbalization of belief in miracles by patients and surrogates, in cases of serious diseases. Many of them consider the content of this belief in decision-making in terminal stages of the disease. However, this topic is little discussed in academic and scientific circles, together with a large gap in health training. The objective of this study is to understand the research scenario for the topic in question, how it has been approached in contemporary times, what perspectives and methodologies have been adopted in published studies, what results they have achieved, and to what extent they are or are not convergent or divergent each other in terms of implications for clinical practice. A literature review was carried out, using the descriptors: faith healing, delivery of health care, belief, miracle, clinical practice and divine cure, in Portuguese and English, in the VHL, PubMed, SciELO, PsycInfo databases. From a total of 2,369 articles initially found, 32 were selected, 14 of which resulted from empirical research, 13 were theoretical in nature and five were opinion-based. Twenty-three articles focused on the professional's perspective on the topic. In addition to the onesided nature of the studies, which tend to present only the perspectives of health professionals and neglect the experiences of patients and caregivers themselves in relation to the phenomenon of belief in miracles, it was observed that it tends to be stigmatized and interpreted as a mere denial of reality, with the potential to trigger conflicts between patients/surrogates and health professionals. It may be concluded that there is a need for more studies focusing on the genuine experiences of patients and surrogates, in order to support an epistemologically qualified clinical practice, for an understanding of the phenomenon of belief in miracles and its subjective and intersubjective impacts in clinical contexts and, consequently, consistent with a more comprehensive conception of physical and mental health.

**Keywords:** miracle, literature review, belief, clinical practice

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Miriam Martins Leal,<sup>1</sup> Evellyn Cristiny Pereira  
Marinho Bezerra,<sup>2</sup> Marta Helena de Freitas<sup>3</sup>

<sup>1</sup>Department of Neonatology, Hospital Materno Infantil de Brasília (HMIB), Catholic University of Brasília (UCB), Brazil

<sup>2</sup>Medicine graduation student and research training in Psychology at UCB, Brazil

<sup>3</sup>Professor of Graduation Program in Psychology at UCB, Brazil and Honorary Research Fellow at University of Wales Trinity Saint David (UWTSD), UK

**Correspondence:** Marta Helena de Freitas, Professor of Graduation Program in Psychology at UCB, Brazil; Honorary Research Fellow at Alister Hardy Religious Experience Research Centre (RERC), University of Wales Trinity Saint David (UWTSD), UK, Tel +55(61)98494-2405, Email mhelenadefreitas@gmail.com

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## Introduction

Clinical practice shows that the belief, desire and supplication for a miracle are very common in moments of intense anguish following diagnoses of debilitating or lethal diseases such as cancer, Alzheimer's, congenital malformations.<sup>1-3</sup> However, this subject is largely neglected in academic circles<sup>4</sup> and, when it is addressed, there is a tendency to label the desire for a miracle as a form of denial of reality, fantasizing about the moment experienced and/or not adhering to the medication.<sup>5-9</sup> This tendency is rooted in a conception of miracle as an event that goes beyond natural laws, as advocated by David Hume,<sup>10</sup> becoming a paradigm for science in general, especially biological and exact sciences.<sup>11</sup>

However, people continue to believe and experience situations in their lives that qualify as true miracles, big or small. Examples of this are illustrated in the countless reports and news disseminated through social media, especially in the pandemic and post-pandemic period, where countless articles use the term miracle in their title, and in the body of the text, when referring to absolutely unexpected cures and survivals, especially the elderly or people with comorbidities, who remained for days, and even months, in the intensive care unit, treating various complications from Covid-19. The survival of babies born in conditions of extreme prematurity has also gained a lot of attention in the media with the designation of miraculous phenomena.<sup>12</sup>

The area of biological sciences, where medicine and nursing are situated, is guided by paradigms of positivist sciences, such as that proposed by Hume, in which miracles do not exist.<sup>11</sup> However, clinical practice shows that it does exist. The theoretical model most used

to verify this is that of evidence-based medicine, which advocates conducting clinical cases according to statistical evidence supported by probability, with the safest study model being randomized, blind and employing a control group.<sup>13</sup> Nonetheless, this type of study establishes the evidence, in itself. It does not properly contemplate people's experiences when they are victims of serious illnesses, often lethal, and all the existential processes that accompany such experiences, among them the belief in miracles, lived as an experience that transports them to a transcendental dimension and which cannot be quantified in the same way as biological and factual sciences.<sup>14</sup> In this sense, it is interesting to know the research scenario on the topic in question, in order to identify whether and how it has been approached in contemporary times, what perspectives and methodologies have been adopted in published studies, what results they have achieved, and the degree to which they converge with or divergent from each other in terms of the implications for clinical practice. In fact, as the belief and desire for a miracle occupy a relevant place in society and in the lives of so many people around the world, and are therefore very present in clinical contexts and in the work of many health professionals, this work, therefore, seeks to contribute to qualifying the topic, giving it greater visibility. Thus, this study presents a systematic literature review, meeting the objectives listed above, in order to offer a mapping of the scientific literature concerning the role of belief in miracles in clinical practice in different areas of health, with a focus on psychology.

## Methodology

According to the Brazilian Ministry of Health,<sup>15</sup> a literature review should provide a summary of scientific evidence from studies, aimed

at answering specific questions. Such a review must be impartial, comprehensive and reproducible. Committed to these principles, the methodology adopted in this work is based on the guidelines of a systematic review proposed by Cochrane.<sup>16</sup> To this end, initially, it posed the following guiding questions: “What has been published on the topic of miracles in the clinical setting, in the form of peer-reviewed scientific articles? How is this literature characterized? What have they concluded about the role of belief in miracles in clinical practice?”

To answer these questions, descriptors were used from the official list of descriptors found on the Health Sciences Descriptors (DeCS) website, in Portuguese, and on the Medical Subject Headings (MESH) website, in English, as well as the alternative terms indicated on these sites. These are explained in Table 1.

**Table 1** Official descriptors used in the study

Descriptors in Portuguese - DeCS		English descriptors - MESH	
Descriptor	Alternative terms	Descriptor	Alternative terms
Cura pela fé	Cura através da fé	Faith Healing	Prayer healing
	Cura através da prece		
	Cura através da oração		
Atenção à saúde	Assistência a saúde	Delivery of health care	Delivery of Healthcare
	Atenção a saúde		Healthcare Delivery
	Cuidados de saúde		Health Care Delivery
			Health Care
			Healthcare

On carrying out the first test with the descriptors, it was observed that the official DeCS and MESH descriptors were not exhaustive enough to meet the objectives of the study. Therefore, it was decided to complement them with the following descriptors, in Portuguese and English, as listed in Table 2.

**Table 2** Alternative descriptors used in the study

Descriptors in Portuguese	Descriptors in English
Crença	Belief
Milagre	Miracle
Prática Clínica	Clinical Practice
Cura Divina	Divine Cure

These descriptors were combined with each other, using the Boolean operators (or, and, not), resulting in 12 combinations with Portuguese descriptors and 13 combinations with English descriptors. The combinations in Portuguese were submitted to the VHL (*Virtual Health Library*) and SciELO (Scientific Electronic Library Online) databases. The combinations in English were applied to the APA PsycInfo and PubMed databases. The choice of these databases is explained by the fact that the focus of this study is on the area of healthcare, mainly psychology, nursing and medicine. The SciELO and APA PsycInfo databases were chosen, even though they are both indexed in the other two (VHL and PubMed), in order to guarantee greater refinement of research in psychology journals. After identifying the articles, those whose access was not free were acquired through the Coordination for the Improvement of Higher Education Personnel (CAPES) portal, a Brazilian portal with free access to articles, maintained by the Brazilian Ministry of Education.

**The articles were initially selected by title, then by summary and, finally, through the full text, using the following criteria for inclusion in the study:**

- Articles that have a summary and full text in the following languages: Portuguese, English and/or Spanish;
- Articles that evaluate belief in miracles in various dimensions such as: social, psychological, emotional, philosophical and theological;
- Articles in which the miracle in clinical practice is addressed as a central theme of the work.

**The following types of publication were excluded from the research:**

- Articles that were only published in full in languages other than Portuguese, English and/or Spanish;
- Theses, dissertations, books or book chapters;
- Articles that exclusively address neuro-anatomical and biological questions about belief in miracles;
- Articles that describe miracles exclusively from theological aspects.

As this is a bibliographical survey on a little-explored topic, the need to restrict the initial date of publication of articles as one of the criteria used in the search filters was not observed. It was observed, however, that the first articles to appear in the searches were published in 1992, and the last ones were published in the middle of 2023. The research was conducted between January 2022 and March 2023, covering articles published over a period of 21 years.

The selected articles, after applying all the filters, were included in a table containing the following data: title, author, date, journal, objective, type of study, subjects, methodology, specificity of the topic covered, main results and conclusions. The selection of articles, as well as the creation of the table, was initially conducted by two independent researchers (the author and her co-supervisor, a doctoral student under the supervision of the main advisor), using the same search strategy, both then rigorously checking the selected articles. A third researcher supervised the entire work (third co-author and general supervisor of the work), and acted as arbiter in the event that the first two authors could not reach a consensus regarding their inclusion in the study. The table produced and the articles reviewed were used for a systematization and analysis of the results, also favoring subsequent discussion and the production of the final conclusion to this study.

## Results

A total of 4,074 articles were initially found, in accordance with the following distribution, by database: 166 articles were found in the VHL, with only 2 articles selected; in SciELO, 889 titles found and no articles were selected; in PubMed, 2,969 articles, 41 of which were selected; in APA PsycInfo, 932 publications, with seven selected. Figure 1 shows the process flow of article selection and exclusion. It appears that 1,685 were duplicates, which is why 2,389 articles were analyzed, 2,339 of which were excluded after a reading of the title and abstract. Based on the above, and applying the inclusion criteria previously described in the methodology, 50 articles were selected for a full reading. During this last stage, by finetuning the application of the inclusion and exclusion criteria, a further 18 articles were excluded. Thus, the final corpus for carrying out the exhaustive analysis consisted of a total of 32 articles.

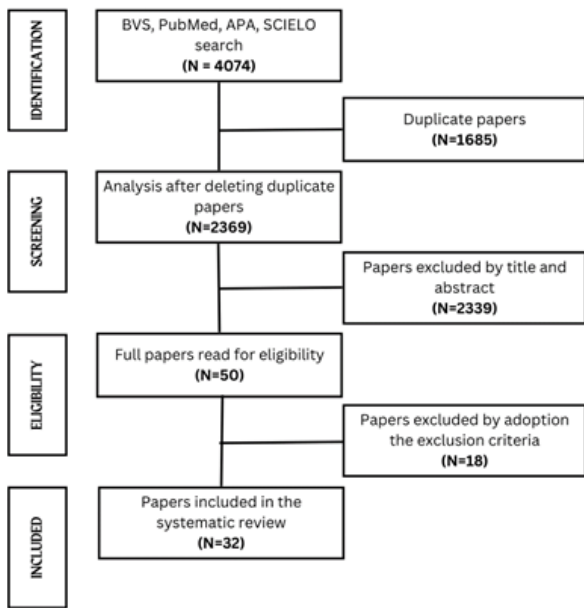
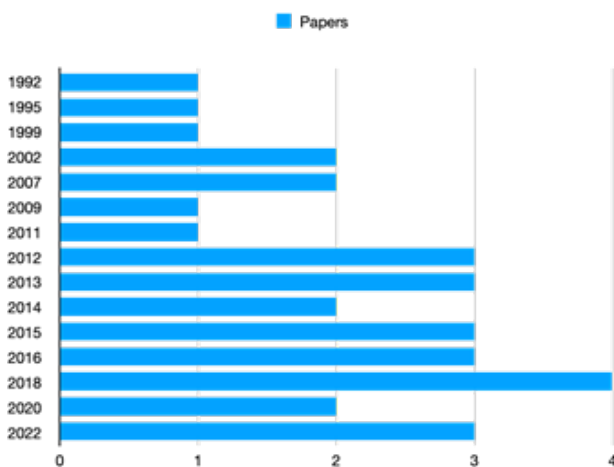


Figure 1 Article selection process.

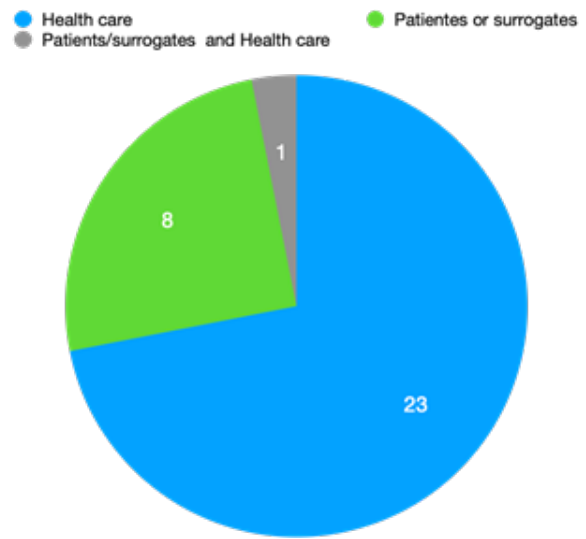
Graph 1 shows the distribution of articles by year. It appears that the first selected article was published in 1992. In 2018 there was a peak in production (with four articles), followed by the years 2012, 2013 and 2023 (each with three articles). Note, however, that the study only covered half of the year 2023.



Graph 1 Distribution of articles published by year.

As can be seen in Graph 2, showing the distribution of articles according to the population studied, the vast majority of studies (23) addressed miracles from the perspective of health professionals. Among these, almost half of the articles (ten) used clinical cases to illustrate their reflections. In general, the authors interpreted the situation and then discussed how health professionals should manage similar cases. A quarter of studies (8) evaluated the perspective of patients or caregivers. Only one reconciled the professional’s vision with that of patients and surrogates.

Regarding the religious conception of miracles, half of the studies (18) focused on Christianity. Only three studies (9.3%) evaluated clinical cases with multiple religions. A further 13 articles did not specify any religion.



Graph 2 Distribution of articles according to the population studied.

Regarding the area of scientific journals of the selected articles, the majority are from medicine (ten), followed by multidisciplinary (eight), psychology (six), bioethics (four), Anthropology (one), Sociology (one), chaplaincy (one) and public health (one).

As for the origin of the publications, they were mostly from the United States (21), representing 65.6% of the selected articles. Next come five articles from South America, four of which are from Brazil. Only four articles are by authors from Europe, two from the United Kingdom, one from Croatia and one from Spain. There was also one article from Africa and another from Oceania.

Regarding the nature of the studies found, as exhibited in Table 3, the 32 selected articles were classified into:

- Empirical, totaling 43.8% of the studies (six quantitative, four qualitative, one quali-quantitative, and three case reports);
- Theoretical, totaling 40.6% (all of which are bibliographical surveys, except for one systematic review of the literature);
- Opinion-based articles, representing 15.6% of studies.

Table 3 Distribution of studies regarding the nature of the research described

Nature of the research described in the study	Numbers
Empirical articles	14
Theoretical articles	13
Opinion-based articles	5

Empirical research was classified as qualitative, quantitative, qualitative-quantitative or case reports. Table 4 shows the list of empirical articles, according to the nature of the research carried out, also providing a summary of the methodology adopted and the main results achieved. It was found that the quantitative research reported was, in general, carried out on databases already existing in research centers or laboratories, or based on the analysis of medical records. Half of them refer to research carried out with health professionals and the other half with patients and/or family members. Qualitative research predominantly employed phenomenological and ethnographic interviews. Three quarters (75%) of the set of articles report studies carried out with patients and/or their legal guardians.

**Table 4** Methodology and results of articles based on empirical research

Classification of the article	Article reference	Methodology /Results
Empirical quantitative research	King DE, Sobal J, Haggerty J, et al. <sup>8</sup>	Survey with 594 family physicians, online, with questionnaire about faith healing. "The majority of the physicians surveyed held negative views toward faith healing, although a sizeable number believed that some faith healers offer legitimate services. Physicians were infrequently aware of faith healing in their patients despite the profound effect that reliance on faith healing may have on their patients' health." (p.161)
	Wanyama J, Castelnuovo B, Wandera B, et al. <sup>5</sup>	Research to review the medical records of six patients with AIDS who abandoned treatment due to the belief in a miracle. It reports that the patients were in good clinical condition and that they all belonged to the same church.
	Brierley J, Linthicum J, Petros A. <sup>6</sup>	Retrospective study, which evaluated 17 medical records of families who did not accept limited life support due to the belief in a miracle. Sample composed of multiple religions. Only one family requested judicial authorization to limit life support. For the others, there was consensus between family and professionals, based on multidisciplinary meetings, with the help of chaplains and the ethics committee.
	Hayward RD, Krause N, Ironson G, et al.	Retrospective survey with 2,948 patients. "The study evaluates a series of two structural equation models of the relationships between religious activity, externalizing religious health beliefs (belief in healing miracles and divine health deferral), health outcomes, and life satisfaction". Believing in healing miracles was related to greater divine health deferral. "Greater divine health deferral was associated with poorer symptoms of physical health. Belief in miracles was related to greater life satisfaction." (p.887)
	Sharp S.	"Analysis of data from the General Social Survey (N=1,799) finds that those who have a strong belief in miracles are more likely to say that a person with an incurable illness should not be allowed to accept medical treatments that painlessly lead to death than those who have a more or less strong belief in miracles". (p.1)
	Torke AM, Fitchett G, Maiko S, et al. <sup>26</sup>	This prospective, observational study enrolled 291 patient/surrogate dyads from three hospitals in Indiana-USA. They used four validated scales about religious coping, belief in miracles, wellbeing and health. "When adjusting for other religious dimensions, demographics, and illness factors, only surrogates' belief in miracles was significantly associated with a lower surrogate preference for DNR status".(p.1)
	Green J. <sup>12</sup>	Phenomenological study with 24 nurses from a NICU in Australia. Nurses recognize important religious beliefs, but believe that miracles often represent false hope to the family and this leads to moral suffering.
Empirical Qualitative research	Silva CAB, Vasconcellos MP.	Ethnographic study with 20 evangelical patients in 10 neighborhoods in Roraima, Brazil. Belief in divine intervention can help people deal with the afflictions generated by the imbalance of body and soul, often giving meaning to what science cannot explain or solve, as it conflicts with the natural order of things.
	Rossell N, Challinor J, Gigengack R, et al. <sup>7</sup>	Study with 41 caregivers of children with cancer in El Salvador on belief in miracles using the exploratory method to analyze the interviews. Belief in a miracle made some parents abandon treatment. However, the authors assume that abandonment of treatment is due to the family's socioeconomic difficulties in maintaining it.
	Stonestreet J.	Qualitative auto-ethnographic research. It suggests that healthcare professionals should communicate harmoniously with patients for a better understanding, especially with African-American families.
Empirical Quali-quantitative research	Routledge C, Roylance C, Abeyta AA.	Quali-quantitative intervention study. The study threatened meaning with a meaninglessness manipulation and then had participants read testimonials in which people described miraculous experiences involving supernatural agents and rate the extent to which they believed these testimonials to be credible and true. Meaning threat, in relation to a control condition, increased belief in miraculous stories.
	Madrid AM.	It reports the case of a teenage patient who asked to be taken to the ICU even in the terminal phase of the disease. But when he asked, he gave up and preferred to die with his family. For the author, this was the miracle, that he gave up going to the ICU and stayed with his family.
Empirical case report	Pharm RS, Abul-Ezz SR. <sup>27</sup>	Case report of a patient with a failed kidney transplant who stopped taking medication for rejection of the transplanted kidney. It is necessary to address religious beliefs with kidney transplant patients as they can be a cause of transplant complications.
	Hess D.	It tells the story of the illness of a patient who wanted a miracle and asked for every type of therapy possible and even after she died, her companion and her religious community remained for hours in prayer, waiting for the miracle of resuscitation. It concludes that it is necessary to address the topic with the family and the patient to avoid conflict.

As the vast majority of articles adopt the predominant perspective of the medical/health field, that is to say that knowledge must be sought evidentially, they tend not to present the adopted theoretical framework. Only one empirical study was developed by psychology

authors, using structural equation modeling. Another study was published in a Psychology magazine, using phenomenology as a theoretical framework, although its author comes from the area of nursing.

The theoretical articles were initially classified into two groups: bibliographical and opinion-based. The first group comprises those who bring reflections related to the belief in miracles, based on the available literature, whether it be in the areas of Bioethics, Philosophy, Medicine, Psychology, Sociology or Anthropology. The second group includes articles that, despite also relying on bibliographical references, focus more on describing the authors’ own opinions

based on their experience with the belief in miracles in clinical contexts. These are shorter articles published in the final sessions of the journals. Considering that theoretical or opinion articles do not exactly guarantee results, we chose to organize them based on their central themes and the nature of the reflections made by the author(s) to approach this theme in clinical practice, as shown in Table 5.

**Table 5** Categorization of the content of theoretical and opinion articles

Central theme of the article	Nature of the article	Article reference
The belief in miracles at the end of life and decision-making that generate conflicts between patients, caregivers and health professionals.	Bibliographical Theorist	Dugan DO. <sup>36</sup>
		DeLisser HM. <sup>33</sup>
		Savulescu J, Clarke S.
		Rosoff PM. <sup>23</sup>
Epistemological basis of belief in miracles and science.	Bibliographical Theorist	Widera EF, Rosenfeld KE, Fromme EK et al.
		Stempsey WE. <sup>24</sup>
Strategy to address belief in miracles in patients and families	Bibliographical Theorist	Dossey L. <sup>25</sup>
		Cooper RS, et al. <sup>40</sup>
		Paiva CA.
Conceptual analysis of belief in miracles and its repercussions for clinical practice.	Opinion	Jones JW, McCullough LB.
		Leal MM, Nwora EI, Melo GF et al. <sup>41</sup>
		Freitas MH. <sup>14</sup>
Categorization of patients and family members based on manifestations of belief in miracles	Bibliographical Theorist	Redl N. <sup>31</sup>
		Pawlikowski J. <sup>20</sup>
		Arzuaga BH. <sup>4</sup>
Comparison of belief in miracles in the context of different religions	Bibliographical Theorist	Shinall MCJ. <sup>39</sup>
		Bibler TM, Stahl D, Sophia Fantus S et al. <sup>38</sup>
		Muzur A, Skrobonja A.

As with the reading of the empirical articles, theoretical articles also tend not to be based on a specific theoretical framework. Thus, of these, only one, whose authors are from the field of psychology, clearly describes the theoretical framework adopted, namely, phenomenology. In fact, of the 18 articles, half (nine) were written by doctors and published in Medicine, Psychology and Bioethics journals. Two articles originated from authors who work in psychology and one of them was published in a medical journal. A total of four articles were written by philosophers and two of them by doctors who are also psychologists and philosophers. Only one article is authored by a chaplain; and another, by a theologian. Although the theoretical approach used is not clearly explained in these articles, it appears that there is a fundamental, epistemological issue that permeates the reflections broached, in which the experience of believing, hoping or praying for a miracle is valued as something that should be recognized in a more genuine way by the healthcare team. An example of this is the work of Leal et al.,<sup>3</sup> which, although it is a study based on the perspective of evidence-based knowledge, presents an epistemological reflection on the tendency to generalize miracles as denials. So, based on the evidence of a previous empirical study,<sup>17</sup> in which scales derived from cognitive psychology were used, the construct of negative coping, generically applied to the behavior of praying for a miracle on the part of pregnant women whose fetuses present with fetal malformations, is questioned.

## Discussion

The results of this research demonstrate that studies into the belief in miracles in the area of health are still scarce. Only 32 articles were found, published over a period of 30 years (1992 to 2023). This paucity of production of scientific articles seems to be the result of the stigmatization of miracles in medical sciences, fed

by the widespread conception in the scientific world and reflected in the assertion of Hume<sup>18</sup> that miracles are “a transgression of a law of nature by a particular violation of the Deity, or by the interposition of some invisible agent”. Add to this the influence of the processes of secularization characteristic of some societies, especially European ones, which also favor the silencing in respect of this topic in scientific contexts as they are generally associated with religious conceptions. In fact, this literature review showed that 65.6% (21 out of 32) of the studies come from North American authors and, next, from Brazilian authors, with a total of 12.5% (4 out of 12). Adding together the two groups, we have the same proportion achieved throughout Europe where it is known that the secularization of society is much greater than in the Americas, with Brazil and the United States considered countries with a very religious population.<sup>19</sup>

On the other hand, the high index of articles that were excluded due to repetition merits attention: 41.3%. This signifies that, despite the small number, publications on the topic have scientific importance as they are published in journals which are indexed by more than one database, and all are recognized in the academic milieu. A smaller proportion of empirical articles was observed, 43.7% (14 out of a total of 32), with a predominance of articles of a theoretical or opinion-based nature, 56.3% (18 out of 32). Add to this the fact that theoretical and epistemological references are rarely explained in the articles found. This shows that the topic of miracles still lacks sufficiently clear and consistent, conceptual and epistemological paradigms to stimulate and support further research on the subject. In fact, as Pawlikowski<sup>20</sup> points out, the high taxonomic complexity of miracles and consequently the great conceptual variety, requires robust interdisciplinary skills coming up against the different conceptions of men, intrinsic to the different areas of knowledge. In other words, an increase in the number of studies on the topic also depends on there

being greater initiative for studies and interdisciplinary research in the area of health, bringing together the integrated knowledge of the biological, human and social sciences. Unfortunately, for the current paradigm adopted by the health sciences,<sup>21</sup> the fact that empirical studies are still few in number reinforces the conviction that there would not be sufficient empirical evidence to take correct decisions based on evidence.<sup>22</sup> However, the predominance of theoretical and opinion-related articles signals an effort towards epistemological reflection, seeking to break the silence surrounding the subject, based on what has been observed in clinical experience and to overcome the stigmas rooted in merely positivist conceptions.<sup>11</sup> This is particularly well illustrated, for example, in five articles found in this review.<sup>3,14,23–25</sup> These works reflect a serious interdisciplinary effort to understand the different categories of nurturing belief in miracles, avoiding mere reductionism of the rational and organicist perspective of the human experience. They recognize the harmful consequences of such reductionism for clinical practice and for research in the field of health. They point out, in a consistent and well-founded way, the need for clinical work to broaden its perspectives, given that the patients are not just physical bodies. They are people, and as such, they are situated in an existential dimension that includes psychic, social, cultural and spiritual aspects which, as a whole, are laden with consequences for their physical and mental health, resulting in a series of implications and responsibilities for professional healthcare.

Regarding the nature of the empirical studies developed, it was found that more than half of the studies (57.1%, that is, 8 out of 14) which gave rise to them are of a quantitative nature or correspond to case reports from the perspective of health professionals. Therefore, they end up not contributing much to understanding what the belief in miracles represents for patients and families. After all, studies developed only with the professionals tend to exclude the component of experience and the existential dimension of transcendence manifested in the belief in the miracle, and its relationship with spiritual and/or religious experiences.<sup>14</sup> The lack of a clear explanation of the epistemological grounding adopted by the majority of empirical studies must also be highlighted. This absence, which tends to be explained by the adoption of a model based on knowledge through evidence, shows another weakness in the literature on the topic. After all, any evidence is evidence for a particular look. Accordingly, understanding what lens is used to understand the role of belief in miracles, during clinical practice, is a fundamental prerequisite for avoiding dogmatic tendencies or dichotomization between science and religion. After all, this dichotomy in no way benefits the relationship with the patient and in no way contributes to an understanding of the diverse ways to believe in miracles and their consequences for physical and mental health. Most of the research in this review involves theoretical, bibliographical studies whose aim is to develop an argument about decision-making at the end of life or the prolongation of treatments considered “futile”, when involving the expectation of a miracle by the family members. In other words, the backdrop is the concern with unnecessary financial expenses, with no prospect of patient improvement by the medical team. All of these articles highlighted the professionals’ point of view on the subject, with ten studies exemplifying, with clinical cases, their own point of view, but without actually eliciting what the patients’ own takes were on this belief and the extent to which they were considered to justify the aforementioned decision-making. In other words, there is a pragmatist nature, characteristic of the current medical model in contemporary times, based on an economic criterion, but without necessarily looking for axiological grounding from an epistemological and existential point of view.

Besides the onesided belief in miracles, reflecting the vision of the miracle from the perspective of health professionals, half of the articles on the topic were published in journals in the field of Medicine or Psychology (16 out of 32). Now, miracles for many of these professionals are regarded as irrational and potentially harmful behavior, which can lead to the denial of reality, iatrogenesis, abandonment of treatment and prolongation of suffering, and conflict with the healthcare team.<sup>5–8,26</sup> This may explain the predominance of the “scientifically dogmatic” perspective - with all the irony involved in the expression! - when interpreting the belief in miracles in the everyday reality of clinical practice. For example, the article by Pharms and Abul-Ezz,<sup>27</sup> selected in this review, reports on the case of a patient who abandoned the use of immunosuppressants after a kidney transplant due to the belief in divine healing, leading to acute rejection of the organ, requiring nephrectomy of the transplanted kidney, followed by the reintroduction of dialysis. However, the example is not accompanied by any report about any previous exploration about what the prospect of the miracle meant existentially for that patient, much less about the way the team’s dialogue with this patient was established – or not! It merely labeled the patient’s attitude as denialist, without outlining the process that led him to this situation. In another study, carried out in El Salvador, the authors<sup>7</sup> observed that the belief in miracles was often a way in which the legal guardians of child cancer patients found to justify suspending treatment. The authors themselves describe in the study that many of these families did not have the social and economic structure to continue treatment, due to the distance from the Reference Center, as well as referring to the hunger they experienced when they finally managed to get to the chemotherapy sessions.<sup>28</sup> This reality, often overlooked in quantitative studies, demonstrates the importance of interdisciplinarity in the discussion of this topic, with Sociology and Anthropology being essential for an understanding of how socioeconomic and cultural aspects affect not only the very belief in miracles themselves, but also the different configurations taken in the context of clinical practice.<sup>29,30</sup>

In fact, this literature review found only one article about miracles in clinical practice published in an anthropology journal, one in a sociology journal and eight in journals identified as multidisciplinary. This interface between sociology and anthropology and the belief in miracles in the area of health was addressed by Green et al.,<sup>12</sup> The authors discuss how the word “miracle” is used by social media and the media in general in an arbitrary fashion, creating hopes and expectations for the survival of very premature babies, which statistically is a very rare event in neonatology, thus triggering frustration, denial and anger among professionals as well as family members whose premature babies die. Note that, once again, here too, there exists a negative connotation about the idea of believing in miracles due to the harmful consequences in people’s lives.

It should be stressed that, despite being stigmatized by science and by health professionals, belief in miracles also reveals itself as a mechanism for reducing suffering, anxiety and stress. Thus it may indicate optimism in relation to treatment and to the possibility of healing, maintaining hope and accepting a bad prognosis, being a form of religious-spiritual coping, as pointed out by several studies.<sup>3,14,31–33</sup> An example of this is a study that evaluated the religious-spiritual coping of expectant mothers whose babies had congenital malformations, in which it was observed that 88% of women participating in the study prayed for a miracle and that 92% of them tried positive religious-spiritual coping.<sup>3,34</sup> In another study, with children undergoing chemotherapy treatment, caregivers and/or family members celebrated small victories in the children’s treatment as miracles, generating hope and giving new meaning to

the fact of hospitalization.<sup>35</sup> Belief in miracles, regardless of its form, can contribute to acceptance of the end of life and allow parents to renew their strength to resume the care of their children<sup>14,31–33</sup>, but it can also be a source of conflict when not adequately addressed by the healthcare team, in the context of end-of-life decision-making.<sup>23,33,36,37</sup>

Given the differences in perspective between health professionals and patients, family members and/or surrogates, with regard to the role of miracles in clinical settings, an honest, sincere and respectful relationship should be established between all of these stakeholders. Thus, any time that, faced with the expectation of or belief in a miracle on the part of patients or surrogates, dialogue and genuine listening is recommended. Studies of an interdisciplinary nature, in particular at the interface of psychology of religion or anthropology with medicine, suggest that this attitude promotes consistent and shared decision-making, where all parties involved can be heard and understood.<sup>33,38–41</sup> It is worth mentioning that the discussion and respective multidisciplinary decision, in clinical practice, is still a challenge for many professionals<sup>42</sup>, as shown in this literature review, as only 25% of the articles (8 out of a total of 32 articles) were published in journals with a multidisciplinary scope.

## Conclusion

It may be concluded, given the results of this literature review, that little has been achieved with regard to belief in miracles in clinical settings. Only 32 articles (1.3%) satisfied inclusion or exclusion criteria. It was found that the topic is commonplace in clinical practice, since 50% of these articles were found in medical and psychology journals. It is the case that these areas are governed by the Humenian paradigm in relation to belief in miracles, which explains the paltry investment in research on the topic. The review demonstrated the lack of empirical studies and the predominance of theoretical works, even though they may be based on the individual experiences of professionals (56.2%). Moreover, among the few empirical studies published, those of a qualitative nature predominate over qualitative studies. Add to this the tendency for both empirical and theoretical articles to focus on the view of the professionals (71%). Few studies seek to understand the meaning of the belief in miracles for patients and surrogates, which ends up promoting a unilateral, dichotomized vision of the phenomenon in question. Consequently, there is a predominant tendency for the prevailing literature to treat miracles as a mere negation of reality, incentivizing false hopes, that negatively affect adherence to treatment and prolong the suffering. Unfortunately, little has been investigated about the meaning of miracles for patients, family members and surrogates for whom it is a source of hope, support and reframing of serious and lethal illnesses.

Possible limitations of the study described here point to the fact that it was not exhaustive enough to include studies developed in languages other than English, Spanish and Portuguese, or articles indexed in other databases, in order to expand upon the corpus of articles analyzed here. Despite this, a critical analysis of the results obtained herein show that the best way to deal with conflicts surrounding the role of miracles in the clinical context will be the acquisition of greater knowledge on this topic, the appropriation of sociocultural and interdisciplinary skills, as well as frank dialogue between the various professionals, patients and/or family members. This entire process must take into account, ranging from research on the topic to effective practice in clinical contexts, the meaning of miracles for those who believe in them or experience them in their own lives, especially patients and family members. In other words, it is necessary to surmount paradigms focusing only on the perspectives of

health professionals themselves, to achieve a more realistic, effective and sensitive understanding for those who receive their services.

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## Conflicts of interest

There is no conflict of interest.

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