

What is life worth living for? A systematic review on meaning in life and meaning in work as protective factors for healthcare professionals' wellbeing

ABSTRACT

The wellbeing of healthcare professionals is a topic of utmost importance in public health, given the close connection between healthcare professionals' mental health and their ability to provide high-quality care. A promising protective resource is the concept of "meaning in life" (MiL), defined as the extent to which people give meaning and purpose to their lives. A systematic review was conducted according to the PRISMA statement on three databases (PubMed, Scopus, Web of Science), searching for MiL and its influence on wellbeing among healthcare professionals. Only quantitative and qualitative research papers published in English-language peer-reviewed journals from 2000 to 2022 were considered eligible. Initially, 842 papers were retrieved. After the removal of duplicates, screening (title, abstract, full text) and quality check, 19 articles were included in the review. A narrative summary and descrip-

tion of the findings were given. The main findings demonstrate that a variety of sociodemographic variables (i.e. age, gender) and personality traits (i.e. self-esteem, attachment style, functional coping strategies, optimism, hope, social support) can positively impact fostering MiL, which, in turn, prevents psychological malaise. Moreover, for the majority of healthcare professionals, their work serves as a crucial source for sustaining personal MiL. Thus, workplace health promotion interventions should focus on the dimension of MiL, which can potentially act as a protective factor to preserve and improve the wellbeing of healthcare workers.

KEY WORDS

meaning in life; wellbeing; mental health; healthcare professionals; PRISMA statement; rehabilitation

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BACKGROUND

One of the most significant existential challenges for human beings has always been the search for meaning in life. Among others, the dimension of meaning in life (MiL) has been explored and discussed in the works of Viktor Frankl (1905-1997), an Austrian psychiatrist, who authored *Man's Search for Meaning* (1946), a book inspired by his experiences in the concentration camps in which he firstly theorized about MiL. According to Frankl, meaning is to be found in the world. Specifically, for this author, we can discover meaning in different ways, such as by doing valuable activities, experiencing something, or encountering someone. Each event or challenge in life can acquire meaning, even in the most difficult situations, as it depends on the attitude we decide to adopt. People may feel an "existential frustration" when they are unable to connect their life to a meaningful purpose, experiencing feelings of apathy and emptiness (Frankl, 1963).

According to recent studies, multidimensional models are the most appropriate for comprehending a dynamic construct like MiL (Leontiev, 2013). For instance, the most well-known theorizations include the maintenance of meaning model (Heine et al., 2006; Proulx, 2013), the terror management theory (Greenberg et al., 1986; Greenberg & Arndt, 2012) and the tripartite view of the MiL (George & Park, 2016; Martela & Steger, 2016). These models have led to a definition of MiL taking into account three different facets: Significance, which concerns the ability to give the right value to life and lead a life that is worth living; Purpose, which is about having a purpose and direction for one's life; and Coherence, which concerns the understanding and meaning of life (Heintzelman & King, 2014b). Despite models, the existing literature states that cultural aspects can also have a significant impact on how MiL is understood and operationalized (Steger et al., 2008a, 2008b).

STATE OF THE ART ON STUDIES FOCUSED ON MIL

Recent research has shown that MiL plays a significant role in promoting personal and psychological wellbeing (Heintzelman & King, 2014a; Steger, 2009). Studies have also confirmed an association between lack of MiL and greater experience of distress, negative thoughts and suicidal risk (Barnett et al., 2019; Lew & Chistopolskaya, 2020; Ostafin & Proulx, 2020). A high level of MiL increases resistance to distress (Park & Baumeister, 2017) and generally has a positive effect on psychological health, quality of life (Melton & Schulenberg, 2008) and physical health (Brassai et al., 2011; Steger et al., 2009). Furthermore,

associations have been noted between MiL, higher self-esteem (Routledge et al., 2010) and lower levels of depression (Mascaro & Rosen, 2006). Low levels of MiL have also been associated with a greater need for psychotherapeutic support (Battista & Almond, 1973), greater levels of depression and anxiety (Debats et al., 1993), suicidal ideation and substance abuse (Harlow et al., 1986).

MiL has manifold nuances. For instance, "meaning in work" refers to the subjective belief that one's work has a purpose, promoting personal growth and contributing to the greater good (Steger et al., 2012). Consistently, it is regarded by many as a sub-domain of MiL and a potential source of it (Ebersole & DePaola, 2001; Emmons, 2003; Fegg et al., 2007; Steger & Dik, 2009). Meaning in work offers people the chance to grow personally and achieve their goals (Dik et al., 2013a, b), and it is associated with less work-life conflict and better work adaptation (Bonebright et al., 2000). The perception of meaning referring to one's job has been identified in the literature as a predictor of job satisfaction, positive performance and work engagement (Manikandan & Nair, 2013), especially in people who are more devoted to work.

MIL IN THE HEALTHCARE PROFESSIONAL POPULATION

Nurses and healthcare professionals experience stressful situations on a daily basis, which may arise from workload, long shifts, staff shortage, rehabilitation processes and possible difficult relationships with patients (AbuAlRub, 2009; French et al., 2000). Long-term distress increases the risk of physical and mental health problems, such as anxiety and depression, substance abuse, sleep disorders, pain and other bodily complaints. Numerous studies have shown that healthcare professionals suffering from distress and burnout may also have memory and attention impairment, and are more likely to make mistakes (Hall et al., 2016; Khammissa et al., 2022).

Healthcare professionals' wellbeing is currently an important issue. During the SARS-CoV-2 pandemic, healthcare staff had to deal with particularly stressful conditions, which exposed them to additional stressors and amplified their effects. According to UK research, the rate of burnout among nurses increased significantly, reaching 79% (Ferry et al., 2021). The pandemic has had a highly negative impact on the psychophysical health of front-line healthcare workers, exposing them to a greater risk of burnout (Maffoni et al., 2021a; Sullivan et al., 2022). Therefore, research and new knowledge concerning possible protective factors are required to successfully enhance individual wellbeing, particularly in the healthcare professionals' population.

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In the literature, there are some previous reviews and overviews on MiL (Glaw et al., 2017; Kim et al., 2014; Quinto et al., 2022; Rodríguez-Prat et al., 2024). However, these works address the topic from the perspective of the general population (Glaw et al., 2017; Kim et al., 2014) or patients (Quinto et al., 2022; Rodríguez-Prat et al., 2024). Overall, these literature syntheses and analyses seek to reveal the sources, beliefs or answers to MiL from an existential perspective, describing MiL as a resource for promoting mental health) and buffering the distress given by life-threatening conditions (Glaw et al., 2017; Kim et al., 2014; Quinto et al., 2022; Rodríguez-Prat et al., 2024). However, to the best of our knowledge, there is still no work that attempts to systematically summarize what is known about the role of MiL as protective factor for healthcare professionals. This knowledge could inspire effective and individualized preventive and supportive interventions, thus responding to the fourth pillar of the global health care system that calls for the care of providers too (Bodenheimer & Sinsky, 2014).

Therefore, in order to contribute to bridging this gap, the aim of this systematic review is to shed light on what is known concerning the advantages derived from MiL for healthcare professionals' wellbeing. Furthermore, the authors focused on the personal traits that may influence MiL and the components that serve as individual sources of meaning for this category of workers.

METHODS

A systematic review was conducted to investigate the concept of MiL and its association with occupational wellbeing among healthcare professionals. The procedures for conducting this review were in accordance with the PRISMA statement (Moher et al., 2009).

DATA EXTRACTION

Three public databases were used for the literature search: PubMed, Scopus, and Web of Science. Data extraction was conducted by one author (MM) on July 1st 2022 for all databases and retrieved articles published from 2000 to June 2022. One of the co-authors (AP) confirmed a random sample of about 20% of records to control the correctness of the data extraction procedure. The records were merged to detect duplicates and archived as an Excel file.

All information gleaned from the databases was screened in parallel by two reviewers (GC and MM). The third reviewer (AP) supervised the selection process and discussed doubtful cases within the team until a unanimous decision was reached. Articles

proceeded through the revision process with the full consensus of all authors.

SEARCH STRATEGY

The following search string was used: ("purpose in life" OR "meaning in life" OR "reason for living" OR "ikigai" OR "life crafting") AND ("healthcare professional*" OR "health care professional*" OR "healthcare provider*" OR "health care provider*" OR "health management specialist*" OR "clinician*" OR "physician*" OR "nurse*" OR "psychologist*" OR "psychotherapist*" OR "therapist*").

The databases initially found 842 papers; 433 duplicates were removed in the first instance. A preliminary screening was done on the remaining 409 papers in line with the study criteria; 345 studies were eliminated after title and abstract screening. After full-text reading, 20 papers were finally included in the review (see Figure 1). Moreover, the authors (GC and MM) considered these papers, looking for multiple publications from the same research project focusing on similarities deserving further investigation (e.g. authors, protocols, locations) to avoid substantial bias due to duplicates. AP independently checked the selected articles one more time. No articles from the same research project were detected.

At the end of the selection process, a final quality assessment of the selected paper was conducted using the QuADS – quality assessment for diverse studies criteria (Harrison et al., 2021). Specifically, GC and MM independently read the eligible papers and provided a global score to each one given by the mean of the QuADS 13-item scores. Only papers achieving medium quality (≥ 2 , range 0-3) were included.

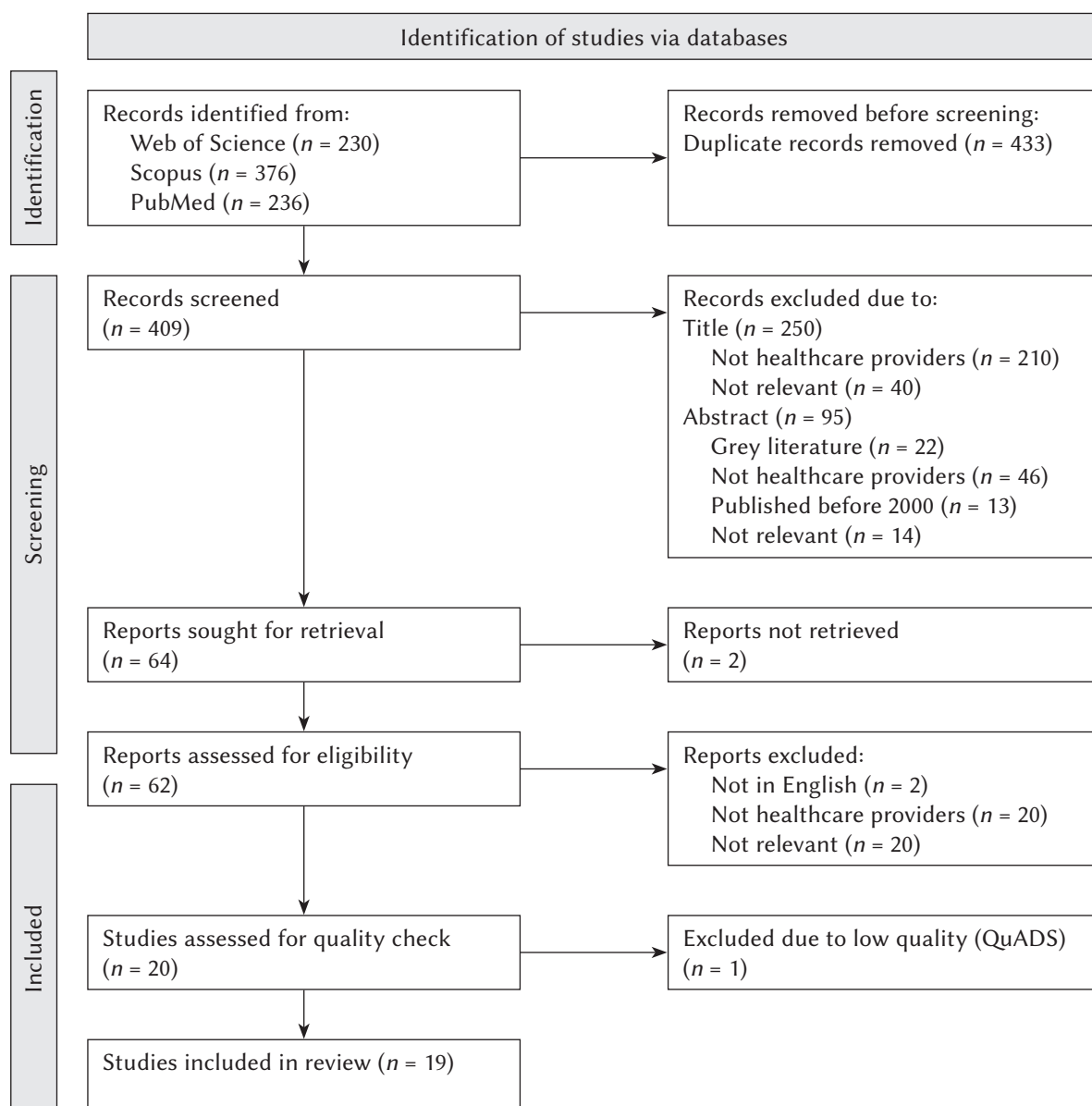
INCLUSION AND EXCLUSION CRITERIA

Studies were deemed appropriate for inclusion if they were written in English, only focused on healthcare workers, and published in peer-reviewed publications after 2000. Given the dynamic nature of the healthcare landscape and the considerable amount of research, it was imperative for the authors to narrow the focus to a specific time frame. The authors believe that a period of about 20 years is adequate to eliminate information that is no longer relevant to the current healthcare scenario and, in the meantime, to avoid losing not-so-recent informative documents (Helbach et al., 2022). Moreover, both qualitative and quantitative studies were considered eligible and relevant to the present review.

Articles published before 2000, those not written in English, and those focusing on patients or em-

Figure 1

PRISMA 2020 flow diagram



employees other than healthcare providers were not taken into consideration. Grey literature was also excluded.

merged the data extracted and AP supervised the procedure, checking for consistency between the final narrative summary provided (Appendix A) and the original papers.

SYNTHESIS METHODS

For the papers included in the review, a narrative summary and description of the findings were conducted by the authors who conducted the screening (GC and MM). They used an ad hoc table to independently summarize relevant information (i.e. authors, country of the study, population of the study, setting, study design, assessment tool, type of intervention, and main results). Then, they discussed together and

RESULTS

STUDY CHARACTERISTICS

Different kind of information were extracted for each article: country, setting, subjects, study design, assessment tools, intervention and main results (Appendix A). Due to the great heterogeneity of the socio-demographic data provided by different authors, only

the most common characteristics were considered. Briefly, women made up the majority of the healthcare professionals who took part in the research: 635 males and 2095 females, respectively, were enrolled in the studies out of a total of more than 3,000 healthcare professionals. Again, 56% of healthcare professionals worked as nurses, 14% were doctors, around 7% were psychologists or psychotherapists, and 1% were counsellors. Moreover, 70% of the selected studies were quantitative research studies, whereas the remaining 30% were qualitative studies.

Overall, three major themes emerged from the analysis of the selected papers described below: the association between individual variables and MiL, the sources of MiL for healthcare professionals, and specifically the sources of MiL among mental healthcare professionals.

QUALITY ASSESSMENT

According to the authors' assessment conducted through the QuADS criteria (Harrison et al., 2021), it was decided to remove one item (Sahebalzamani et al., 2013) from the list of selected articles because it received a low-quality global rating (Table 1). Specifically, it presented a weak theoretical background and poorly detailed methodology for data recruitment and analysis, as well as under-discussed limitations and strengths.

SYNTHESIS OF RESULTS

Overall, the following aspects emerge from this systematic review that deserve consideration when discussing previous studies conducted to date on MiL: the role of individual variables, the sources of MiL, and the sources of MiL among a specific working population, namely mental health professionals.

THE ROLE OF INDIVIDUAL VARIABLES

The majority of the studies included in the review focused on the contribution of particular personality traits or sociodemographic variables to the development of personal MiL and the relationship between MiL and psychological wellbeing (Barnett et al., 2019; Chen et al., 2022; De Villiers & Ndou, 2008; Echeverria et al., 2021; Gama et al., 2014; Hill et al., 2015; Hooker et al., 2020; Loukzadeh & Mazloom Bafrooi, 2013; Russo-Netzer et al., 2020; Simon & Durand-Bush, 2014; Taubman-Ben-Ari & Weintroub, 2008; Yang & Wu, 2021). Several studies included, in particular, healthcare professionals who work in the field of end-of-life care, such as hospice and palliative care (Barnett et al., 2019; Gama et al., 2014; Fegg et al.,

2014; Piredda et al., 2020; Sinclair, 2011; Taubman-Ben-Ari & Weintroub, 2008; Vachon et al., 2011).

It has been demonstrated that the presence of a personality trait like self-esteem can be regarded as a significant variable (Barnett et al., 2019): the presence of MiL had a positive impact on participants' levels of personal self-esteem, which, in turn, had a protective effect against the emergence of psychological distress. Even the attachment style might have a crucial mediating role. In fact, research has shown that healthcare professionals who have a secure attachment style tend to exhibit lower levels of emotional detachment and depersonalization and higher levels of personal realization and MiL (Gama et al., 2014). Additionally, those who demonstrated higher levels of meaning in life revealed a greater sense of personal fulfillment, a greater sense of satisfaction and utility for the patients and their families, and consequently less emotional exhaustion. This was especially true for palliative care providers.

The study by Chen et al. (2022) demonstrated the importance of emotional regulation too: higher level of MiL improved mental health if the professionals could modulate their emotional responses by changing the perspective they used when confronted with emotionally intense events. However, mental health deteriorated if the professionals tended to reduce the so-called "subjective emotional experience" by suppressing their emotional expression. In addition, low levels of MiL were linked to low levels of cognitive rivalry and, thus, a higher risk of psychological issues. Hence, emotional regulation emerges as a crucial variable for the professionals' health and MiL.

Purpose in life (PiL) levels were found to be predictive of the onset of depressive disorder in one study (Echeverria et al., 2021). The presence of anxiety stress-related disorders and mental disorders could, however, be predicted by moral courage levels.

Similarly, coping strategies have been investigated in relation to MiL levels (Loukzadeh & Mazloom Bafrooi, 2013). Adopting emotion-focus coping strategies (EFCS) in the field of nursing was found to be more prevalent than problem-focused strategies (PFCS). The choice of EFCS and levels of PiL were found to be negatively correlated: as PiL levels decreased, EFCS usage increased, and vice versa. This negative correlation was also present in the relationship between EFCS and personal growth.

The study by Simon and Durand-Bush (2014) demonstrated a positive relationship between self-regulation skills and all psychological wellbeing dimensions taken into account; self-regulation skills also demonstrated a strong association with the dimension of purpose in life. It appears that developing self-regulation skills helps people maintain focus on what is important in their work and keep in mind the ultimate goal of this work.

Table 1

Quality assessment of selected articles

Quality assessment (scores: 0-1 – low, 2 – medium, 3 – high)	Articles included in the systematic review (Reference numbers reported in note)																			
	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20
1. Theoretical or conceptual underpinning to the research	3	2	3	1	2	2	1	1	2	3	3	2	2	2	1	1	2	3	3	2
2. Statement of research aim/s	3	2	3	2	3	3	2	3	2	3	3	3	3	3	3	3	3	3	3	3
3. Clear description of research setting and target population	1	2	2	2	2	1	3	3	3	2	1	1	2	1	2	3	2	3	2	3
4. The study design is appropriate to address the stated research aim/s	3	2	3	2	3	2	2	2	2	2	3	2	2	2	2	2	2	2	3	2
5. Appropriate sampling to address the research aim/s	2	1	2	2	2	2	1	2	2	2	2	1	2	2	2	2	2	2	2	2
6. Rationale for choice of data collection tool/s	2	1	1	3	2	1	1	1	2	2	2	1	1	2	2	1	2	1	2	1
7. The format and content of the data collection tool are appropriate to address the stated research aim/s	3	2	3	3	3	2	2	2	2	2	2	3	3	3	3	2	3	3	3	2
8. Description of data collection procedure	2	2	2	2	3	1	1	1	2	2	2	2	2	3	2	1	2	2	2	1
9. Recruitment data provided	1	2	2	2	3	1	1	1	2	1	3	1	2	2	2	2	2	2	2	1
10. Justification for analytic method selected	2	1	1	2	2	1	1	1	1	1	2	1	2	2	2	1	1	1	2	1
11. The method of analysis was appropriate to answer the research aim/s	3	2	3	3	3	2	2	2	2	2	3	3	2	3	3	2	3	3	3	2
12. Evidence that the research stakeholders have been considered in research design or conduct	1	0	0	2	1	0	0	0	0	0	1	0	0	2	0	0	0	1	1	0
13. Strengths and limitations critically discussed	1	2	3	2	2	1	0	1	0	2	3	2	2	3	2	2	3	2	3	1
Global score	2	2	2	2	3	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2

Note. The global score is calculated as the mean score of the sum of the 13 items (< 2 – low quality, ≥ 2 – medium quality, 3 – high quality; decimals are rounded up if ≥ 0.5). References numbers: 01: De Villiers & Ndou, 2008; 02: Kernes & Kinnier, 2008; 03: Taubman-Ben-Ari & Weintroub, 2008; 04: Sinclair, 2011; 05: Vachon et al., 2011; 06: Loukzadeh & Mazloom Bafrroi, 2013; 07: Sahebazman et al., 2013; 08: Fegg et al., 2014; 09: Gama et al., 2014; 10: Simon & Durand-Bush, 2014; 11: Hill et al., 2015; 12: Barnett et al., 2019; 13: Hooker et al., 2020; 14: Russo-Netzer et al., 2020; 15: Piredda et al., 2020; 16: Echeverria et al., 2021; 17: Maffoni et al., 2021b; 18: Yang & Wu, 2021; 19: Duan et al., 2022; 20: Chen et al., 2022.

Even variables like grit, hope and social support appear to have different effects on one's level of MiL (Yang & Wu, 2021). The authors of the study found that grit significantly affects one's level of meaning in life, exerting a favorable effect that also leads to its increase. Elevated levels of grit in nurses help them become more motivated to achieve their goals, boost their optimism levels, and create MiL. Hope and social support promoted MiL, which, in cases of intense psychological and occupational pressure, significantly lowered negative emotions and improved the quality of life and wellbeing of healthcare professionals. Professional self-esteem and optimism may predict both MiL and personal growth, with higher levels of optimism being linked to higher MiL, according to Israeli research (Taubman-Ben-Ari & Weintroub, 2008). Having a positive outlook can assist medical staff employees in finding meaning in their everyday working tasks in stressful and challenging situations.

According to on study (Hooker et al., 2020), professionals who are more conscious of their meaning and reflect on it more often seemed to experience burnout and fatigue to a lesser extent. Since these two factors are negatively correlated with life quality, individuals who exhibited higher levels of these variables also had lower life quality.

THE SOURCES OF MIL

Studies have shown that healthcare professionals' vocation for their work may be related to personal significance or to issues that are significant in other people's lives (Duan et al., 2022; Fegg et al., 2014; Hill et al., 2015; Kernes & Kinnier, 2008; Maffoni et al., 2021b; Piredda et al., 2020; Russo-Netzer et al., 2020; Sinclair, 2011; Taubman-Ben-Ari & Weintroub, 2008).

In a study conducted in Italy (Maffoni et al., 2021b), the researchers administered to the professionals the SMiLE (Schedule for Meaning in Life Evaluation) tool to identify life aspects that would serve as sources of MiL for them. Based on the quantity of the indicated areas or the generally rated levels of significance and satisfaction, no disparities between the professionals were found. Conversely, differences were observed in the subcategories selected based on occupational and sociodemographic traits; however, it was still possible to pinpoint three domains that were identified by almost all participants as being fundamental sources for MiL: health, socioeconomic status and social relationships. The study by Fegg et al. (2014) found no significant differences in the general level of meaning reported by operators in different departments; however, it was noted that operators in the palliative care field give greater importance to values referring to spirituality and nature, considering them as sources for MiL. The majority of the healthcare professionals also stated that they consider their work as a true

vocation rather than just a job, and that it might contribute to their level of MiL.

Further data from a study based on the administration of a semi-structured interview with professionals of hospice and palliative care facilities show that working in close contact with death can have several advantages (Sinclair, 2011) such as sharing different life perspectives. The work enabled people to reflect on existential issues pertaining to life's meaning and purpose, as well as to develop and nurture a spirituality which creates MiL.

Another study (Piredda et al., 2020) highlighted the prevalence of highly stressful scenarios for a subset of palliative care professionals who interact with patients. The capacity to transcend circumstances and cultivate an auto-transcendent dimension provided meaning and purpose to professionals' lives, helping them to find fulfilment in their work. The results of a study conducted in Africa among doctors who care for HIV-positive patients highlighted how the participants describe being able to find and maintain their sense of purpose in life as a result of their capacity to overcome challenges, their perception of peer support, and the compassionate medical care they received (De Villiers & Ndou, 2008).

MIL AMONG MENTAL HEALTHCARE PROFESSIONALS

The work performed and its many components may become a significant source of MiL in healthcare professions. Numerous studies (Duan et al., 2022; Hill et al., 2015; Kernes & Kinnier, 2008; Russo-Netzer et al., 2020) have shown that psychologists promoting MiL as a resource not only improved patients' health but also ameliorated their own satisfaction, allowing them to increase their level of personal meaning in both their personal and professional lives. They claimed that they were able to adopt a more optimistic perspective on the world and to overcome negative experiences. Patients improved their personal motivation to discover the meaning of their lives, which allowed them to improve as people as well (Duan et al., 2022; Hill et al., 2015). According to the majority of studies, the most significant components of one's work are both helping others to lead happier lives and contributing to another person's growth (Kernes & Kinnier, 2008; Russo-Netzer et al., 2020).

The systematic review has also enabled the identification of a study focused on the outcomes of a meaning-centered intervention that was promoted among Canadian hospital professionals involved in palliative care settings (Vachon et al., 2011). The intervention consisted of five weekly meetings where educational and experiential activities, and guided reflections on values, life priorities, and meaning and purpose were proposed. Two key themes emerged

from the interviews: the meaning-centered intervention was able to increase the participants' awareness of their own spiritual and existential wellbeing, and the group served as a means of containment for the participants. The intervention appeared to have helped them discover greater significance in their medical practice, which for many prompted a desire to continue making time for introspection and spiritual development at a personal level.

DISCUSSION AND CONCLUSIONS

Workplace stress is now a worldwide problem (Gonge & Buus, 2011; Hamdan-Mansour et al., 2011; Happell et al., 2013; Lambert & Lambert, 2001; Ward, 2011) that has a number of damaging effects on healthcare professionals' physical and mental health (Chang et al., 2007; Laposa et al., 2003; McKinney, 2011). Thus, the aim of this review is to better understand whether MiL may play a protective role in health professionals' experiences, mitigating the harmful effects of occupational distress.

In this regard, literature evidence has led researchers to consider MiL as an important indicator of individuals' psychological wellbeing and quality of life (Melton & Schulenberg, 2008).

Some studies suggest that despite being subjected to a great deal of distress, healthcare professionals are likely still capable of sustaining healthy levels of MiL because of their role in providing care. This has been proven by many articles selected from the systematic review (De Villiers & Ndou, 2008; Fegg et al., 2014; Hill et al., 2015; Piredda et al., 2020; Sinclair, 2011; Taubman-Ben-Ari & Weintroub, 2008). Indeed, facing mortality would allow many of these professionals to experience personal growth (Webster & Kristjanson, 2002). This theory appears to be supported by the findings from the selected studies by De Villiers and Ndou (2008), Fegg et al. (2014), Sinclair (2011) and Taubman-Ben-Ari and Weintroub (2008). Specifically, the capacity to assist others is one of the most crucial qualities for building MiL among professionals; MiL levels have also been associated, in all selected papers, with stronger psychological wellbeing and higher self-esteem, in line with prior findings (Cohen et al., 2002; Farran et al., 1999; Noonan & Tennstedt, 1997).

In this regard, work is frequently mentioned as a significant source of both personal and professional MiL among professionals in both palliative care and mental healthcare. According to research, the degree of burnout experienced by mental health professionals such as psychologists and psychotherapists is associated with both a diminished feeling of MiL and a reduced sense of purpose in their work. In a study selected from the review (Hill et al., 2015), a sample of psychotherapists was interviewed and the results

showed that most of them perceive their job as having a significant impact on the meaning of their lives and fostering their sense of purpose both personally and professionally. Similar findings from studies involving psychologists and counselors show that the most important factors to these professionals for sustaining MiL are invariably connected to the capacity to assist others, offer emotional support, and reduce others' suffering through their job (Duan et al., 2022; Kernes & Kinnier, 2008; Russo-Netzer et al., 2020). The results also corroborate the theories that claim work is essential to life in general and a source of meaning in particular (Allan et al., 2015; Dik et al., 2013a, b). Thus, the findings of this review suggest that engagement in work and a good organizational climate may ignite MiL in healthcare professionals, which may consequently promote psychophysical wellbeing.

Furthermore, researchers are also interested in the relationship between psychological and sociodemographic variables and the possibility of developing distress and burnout. A large group of selected studies has shown that personality and sociodemographic differences can play a central role in determining levels of MiL and the way it is constructed and nurtured (Chen et al., 2022; Gama et al., 2014; Loukzadeh & Mazloom Bafrooi, 2013; Maffoni et al., 2021b; Simon et al., 2014; Taubman-Ben-Ari & Weintroub, 2008); factors such as self-esteem, optimism, attachment style, self-regulation abilities, emotional regulation and coping skills were taken into account in addition to variances based on gender, age and occupation. These studies have made it possible to determine which elements may be more or less easily implemented and which ones can be crucial in the creation of MiL. For example, coping strategies employed by healthcare professionals can have a significant impact on both their level of MiL and overall wellbeing (Loukzadeh & Mazloom Bafrooi, 2013). According to data of this systematic review, a weaker sense of purpose in life is correlated with the adoption of emotion-focused strategies, and the link is bidirectional. Emotion-focused strategies can lessen unpleasant and painful feelings more quickly, but they are not thought to be useful over time (Sulkowski et al., 2013). Self-regulation skills help people to recall what is most important in their profession and the purpose of it, even during the most challenging times, and are generally connected with higher levels of MiL and overall increased mental wellbeing (Simon et al., 2014). The ability of healthcare professionals to express their feelings and deal with stressful situations, known as emotional regulation, also seems to be linked to MiL and wellbeing (Chen et al., 2022). A few selected studies have also shown that characteristics such as self-esteem, optimism, grit and attachment style are associated in different ways with levels of meaning and purpose.

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Attachment style is developed during childhood and predicts the style adopted in adulthood as well, becoming a factor that may influence the individual's responses to distress (Hawkins et al., 2007); secure attachment exhibited a substantial positive correlation with PiL and a negative association with depersonalization and personal fulfillment (Gama et al., 2014), in line with previous studies (Hawkins et al., 2007). As previous literature showed, a higher level of optimism is linked to higher levels of quality of life, MiL, satisfaction, and subjective wellbeing (Chang, 1998; Scheier & Carver, 1992).

Self-esteem is associated with a more optimistic perspective on the world and protects against fears arising from feelings of weakness or powerlessness, according to some pioneering research (Greenberg et al., 1986, 1992; Harmon-Jones et al., 1997); one study included in this review supported this idea by demonstrating that the presence of MiL deters negative outcomes, such as psychological distress and burnout, through higher levels of self-esteem (Barnett et al., 2019). Therefore, these data suggest that paying attention to personality traits and promoting functional internal resources can provide fertile ground for optimal levels of MiL and wellbeing.

CLINICAL IMPLICATION AND FUTURE DIRECTIONS

Overall, the findings of this systematic review support earlier studies that identified a link between MiL and better psychological functioning, as well as decreased distress and burnout in healthcare professionals (Krok et al., 2021). For instance, according to the present findings, the experience of burnout would be lessened by healthcare professionals believing that their work has a prosocial purpose (Jager et al., 2017). Thus, professionals could be encouraged to regularly reflect on the meaning of their work (Hooker et al., 2020) by engaging in introspective activities and reflecting on their own goals, ambitions and values. In addition, mentoring programs between students and already qualified professionals can be effective too, promoting optimism, adequate emotional management and useful coping strategies. Moreover, it can be useful for working on the construct of MiL by developing meaning-centered interventions, based on Frankl's logotherapeutic approach (Frankl, 1965), or by providing space for periodic sharing meetings where subjective experiences are exchanged.

Various meaning-based interventions have already been implemented in the general population, to help individuals cope with post-traumatic symptoms. Meaning-centered interventions focused on promoting MiL within a spiritual and religious framework have been successfully applied to treat

post-traumatic stress disorder (PTSD) symptoms in survivors of traumatic military experiences (Harris et al., 2011; Hasanović, 2011). Similarly, one of the papers selected was able to demonstrate the importance of a meaning-centered intervention for healthcare professionals' health as it helped professionals become more aware of the significance and purpose of their job and helped them establish or boost their level of MiL (Vachon et al., 2011). The success of this intervention may encourage the use of meaning-centered approaches in clinical settings as a way to support nurses and as a form of ongoing training that can help them develop crucial skills. Interventions should also concentrate on spiritual aspects, which are frequently used as a theoretical framework for the construction of the MiL itself and to counteract work-related stress (Wasner et al., 2005).

Treatments to encourage mindfulness (Fegg et al., 2013), interventions to promote skills, exercise and hobbies, as well as professional and spiritual support, are additional suggestions (Swetz et al., 2009).

LIMITATIONS AND STRENGTHS

This systematic review is not without limitations. Firstly, concerning the procedure adopted to conduct selection, it has to be kept in mind that the authors chose to exclude grey materials and papers not written in the English language. Reference lists in other papers and ongoing trials were also excluded. Although this choice is possible and focused the investigation on homogeneous and controllable results, it could also have paved the way for possible biases. Thus, conclusions must be drawn with caution. Secondly, the number and consistency of data provided by the studies focusing on healthcare professionals and the role of the MiL as a resource still seem to be limited. Indeed, most of the papers excluded from this review focused on MiL referred to patients or family members. Hence, it would be valuable to carry out further studies on MiL among healthcare professionals to confirm the results identified so far from a cross-cultural perspective. Thirdly, only one study examined the application and outcomes of a MiL-centered intervention among healthcare professionals, demonstrating how little is still known about this kind of intervention. Fourth, several of the selected studies used self-assessment questionnaires, which have inherent limitations, measuring both the MiL and the other possible unpredictable subjective components. Finally, no longitudinal design was used in any of the studies included, despite the fact that it would be interesting to see how the relationship between MiL, wellbeing and other characteristics may evolve over time. Thus, care must be taken to draw firm conclusions about the role of MiL in the long term.

Nevertheless, this systematic review also has some merits. First of all, it was conducted using the well-known PRISMA statements, and the results were subjected to a quality assessment procedure according to established QuADS criteria (Harrison et al., 2021) that excluded studies that were considered to be methodologically flawed. Moreover, the findings summarize and better explain internal and external characteristics which may play a pivotal role in promoting MiL and, consequently, wellbeing. Thus, the findings may provide useful suggestions and tips for research and clinicians to promote positive MiL as protective factor for health. Moreover, some possible practical interventions to support professionals are also proposed.

The findings of the current systematic review indicate that MiL is one of the potential protective factors against work-related stress. Specifically, throughout all of the studies selected, higher MiL levels were significantly associated with improved mental health and greater quality of life. Although further research is needed, MiL seems to be connected to the social and cultural context, suggesting its positive effects even from a cross-cultural perspective. Several studies have also looked at how personal factors may affect meaning in life, allowing researchers to identify the critical factors that must be considered for treatments aiming to improve MiL in professionals.

In the present post-pandemic time, the value of healthcare professionals' efforts to the community has become even more evident. Therefore, it is crucial to foster a culture of wellbeing in the workplace, with the adoption of procedures for the prevention and ongoing observation of occupational discomfort. It is crucial to promote professionals' wellbeing to support not only personal health but also economic and social wellbeing.

DISCLOSURES

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Table A1*Main results of selected articles*

Author(s), year	Country of the study	Subjects (F – female, M – male; / – gender not reported)	Setting	Study design	Assessment tools	Intervention (if applicable)	Main results
1. De Villiers & Ndou, 2008	South Africa	15 (12 F) professional nurses in clinical units	1 hospital in the Limpopo Province	Qualitative	Semi-structured interview; focus group	No	Healthcare professionals who work with HIV patients report being satisfied with their jobs and their ability to meet patients' needs. They also report being able to rediscover and nurture their sense of MiL as a result of their capacity to transcend circumstances, perceived support from co-workers, and compassion-filled care work.
2. Kernes & Kinnier, 2008	United States	175 (97 F) psychologists	Various clinical and counselling academic departments, various university counselling centers, and 1 community mental health facility	Quantitative (cross- sectional)	PMIP MILQ Existential career question	No	For the majority of the psychologists involved, the most important elements of work, which fuel the perception of MiL, are represented by the possibility of being of help to another person and exercising compassion during work practice; on a personal level, family, friendship and relationships are indicated as the aspects that bring the most meaning, followed by helping others and performing one's job. The most important component in all work sectors is aiding another person in leading a more fulfilling life. Research is a key component for MiL only among academics.

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Author(s), year	Country of the study	Subjects (F – female, M – male; / – gender not reported)	Setting	Study design	Assessment tools	Intervention (if applicable)	Main results
3. Taubman- Ben-Ari & Weintroub, 2008	Israel	58 (29 F) physicians; 66 (65 F) nurses	1 pediatric hemato-oncology ward, 1 pediatric ICU and pediatric internal medicine, 2 general hospitals	Quantitative (cross- sectional)	PIL PTGI LOT STSS PSES	No	Higher levels of exposure to death, lower levels of vicarious traumatization, and better levels of optimism and professional self-esteem are connected with higher levels of MiL. The degree of perceived MiL is specifically correlated with the professional's optimism and self-esteem levels. Higher levels of secondary traumatization, on the other hand, are positively associated with greater personal growth only in individuals with low levels of professional self-esteem. The independent factors (age, professional experience, rate of exposure to patient death, optimism, professional self-esteem, and vicarious traumatization) were able to account for about fifty percent of the variation in the level of MiL.
4. Sinclair, 2011	Canada	6 (1) key leaders in palliative and hospice care; 24 (1) palliative care frontline professionals	5 centers in Canada; 1 hospice in Alberta state	Qualitative (ethnographic inquiry)	Semi-structured interviews and participant observation	No	There is evidence that direct contact with death can help healthcare personnel in a variety of ways. These result from reflections on life and death that are shared with patients, rendering health workers more conscious of their own existence, and leading them to adopt a more present-focused approach to life. Involved healthcare workers also discovered and deepened their spirituality, reflected on what life and death represent, and increased their sense of MiL.

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Author(s), year	Country of the study	Subjects (F – female, M – male; / – gender not reported)	Setting	Study design	Assessment tools	Intervention (if applicable)	Main results
5. Vachon et al., 2011	Canada	11 (10 F) palliative care nurses	1 oncology unit, 1 hospice and home care delivery	Qualitative (exploratory study – phenome- nology)	Semi-structured interview	Yes (Meaning- Centered Intervention – MCI)	Nurses' MiL and their spiritual and existential awareness improved with MCI, based on Frankl's approach. Nurses experienced how their work enables them to live meaningful lives and how their decision was influenced by their ideals, which they still uphold. This intervention provided a safe environment where the providers could reflect on themselves and their search for MiL, enabling them to maintain their integrity and shield themselves from the existential stress related to their employment.
6. Loukzadeh & Mazloom Bafrooi, 2013	Iran	88 (63 F) nurses	3 hospitals of Yazd Shahid Sadoughi University of Medical Sciences	Quantitative (correlational study)	CSQ Ryff's SPWB	No	Health professionals adopt emotional-focused coping style more frequently and problem- focused style less frequently. Well-being dimensions (i.e. MiL, personal growth) seem to increase with the decrease of emotional- focused coping style and vice versa. Levels of MiL seem to increase with the adoption of problem-centered coping techniques.

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Author(s), year	Country of the study	Subjects (F – female, M – male; / – gender not reported)	Setting	Study design	Assessment tools	Intervention (if applicable)	Main results
8. Fegget al., 2014	Germany	70 (52 F) health professionals in palliative care; 70 (68 F) health professionals in maternity ward	Various palliative care units and 1 maternity ward in Munich	Quantitative (cross- sectional)	IIR Schwartz Value Survey SMILE	No	Palliative care staff have higher levels of religiosity than maternity ward employees; they also highlight the necessity of being open to change and highlight the value of spirituality and hedonism as important factors in nurturing people's MiL. Palliative care professionals appear to achieve MiL through all three of Frankl's ways: creativity, experience and attitude. Maternity unit staff give value to family as a source of MiL. In terms of finding purpose in life, both operators place a high value on their jobs and report similar levels of job satisfaction.
9. Gama et al., 2014	Portugal	360 nurses, (313 F)	1 internal medicine, oncology, hematology and palliative care departments of 5 hospitals in the Lisbon area	Quantitative (descriptive correlational study)	SDEQ Portuguese version of the MBI Portuguese version of the AAS PIL DAP-R	No	Positive correlations between secure attachment style and levels of MiL and personal accomplishment are found. Secure attachment style and a sense of MiL are the factors with the greatest impact on a healthcare professional's ability to achieve personal success and combat burnout.
10. Simon & Durand- Bush, 2014	Canada	132 (86 F) physicians	Provincial and territorial medical associations	Quantitative (cross- sectional)	The short version of the SSRQ SPWB	No	Medical staff members' self-regulation abilities positively influence and predict psychological well-being. Self-regulation demonstrates a positive association with MiL, autonomy and satisfaction at work.

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Author(s), year	Country of the study	Subjects (F – female, M – male; / – gender not reported)	Setting	Study design	Assessment tools	Intervention (if applicable)	Main results
11. Hill et al., 2015	United States	13 therapists (7 M)	Independent practice	Qualitative (consensual qualitative research)	MLQ Demographic form Interview protocol	No	MiL is a source of satisfaction for the therapists, allowing them to greatly enhance the level of personal and professional meaning and ensuring greater satisfaction. Participants found that working on MiL is important and helpful in a variety of situations, not just with patients. The majority of participants claim that their work gives their life significance, which enables them to feel happy.
12. Barnett et al., 2019	United States	90 (85 F) Hospice nurses	Various hospice units, various hospitals	Quantitative (cross- sectional)	MLQ DASS 21 Shorter version of MBI I-PANAS-SF RSES	No	MiL is associated with lower levels of psychological distress, burnout and negative emotions, as well as higher levels of positive emotions. The presence of MiL has a beneficial impact on self-esteem.
13. Hooker et al., 2019	United States	231 (120) Family Medicine Residencies	Various clinic and academic settings	Quantitative (cross- sectional)	10-item Thoughts of Meaning Scale MBI (2 items) PROMIS Global Health Scale	No	A higher degree of MiL and a greater knowledge of the purpose of one's work are likely to increase coping skills, reduce feelings of malaise and burnout, and result in a higher quality of life. The presence of MiL also exhibits a direct and negative association with quality of life. A greater quality of life and fewer poor mental health outcomes are reported by doctors who provide time each day for daily contemplation on the significance of their work.

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Author(s), year	Country of the study	Subjects (F – female, M – male; / – gender not reported)	Setting	Study design	Assessment tools	Intervention (if applicable)	Main results
14. Russo- Netzer et al., 2020	Israel	46 (38 F) counsellors	Various educational settings: elementary, middle and high school and kindergartens	Qualitative	Semi-structured face-to-face interviews	No	Stronger physical and psychological well-being and improved job satisfaction are related to a good sense of MiL and meaning in work. Counselors develop their MiL by focusing on their growth and introspection, and preserving relationships with friends and family.
15. Piredda et al., 2020	Italy	16 (11 F) palliative care nurses	1 palliative care center in Rome	Qualitative	Face-to-face interviews	No	Nursing staff develop the dimension of “self- transcendence” as a way to discover meaning and purpose in their profession. The capacity to care for others in addition to oneself and to develop fresh perspectives on one’s life are believed to be essential human qualities that foster self-transcendence and help people find MiL. In turn, MiL boosts professional engagement and combats burnout.
16. Echeverria et al., 2021	Spain & Mexico	90 (66 F) Spanish healthcare professionals; 59 (34 F) Mexican healthcare professionals; 56 (44 F) medical and nursing students	Consorti Hospitalari Provincial de Castelló and Castelló Health Department, Spain; Hospital Psiquiátrico de Campeche, Mexico	Quantitative (cross- sectional)	BAI BDI-II DAST-10 AUDIT PIL MCSP PMCS GACS-24 ad hoc questionnaire based on the DMS-5 criteria	No	Participants who have dealt with SARS-CoV-2 infection, personally or through their families, experience lower levels of anxiety and acute stress when they have a strong sense of MiL. MiL had a direct protective effect concerning the risk of developing psychopathology (depression, distress). MiL was able to modulate the relationship between exposure to the virus and the development of psychopathology.

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Author(s), year	Country of the study	Subjects (F – female, M – male; / – gender not reported)	Setting	Study design	Assessment tools	Intervention (if applicable)	Main results
17. Maffoni et al., 2021	Italy	89 (62) health professionals in palliative care; 208 (136) health professionals in neuro- rehabilitation	Neuro- rehabilitation institutes, palliative care institutes of 3 Italian hospitals	Quantitative (cross- sectional, observational multicenter study)	SMiLE	No	Social relationships, socioeconomic status, and health are the most relevant dimensions for MiL. Health professionals in palliative care gave importance to “partnership”, “social participation”, and “satisfaction”, whereas health professionals in neurorehabilitation gave importance to “family”. Females gave more importance to “family” and “social interactions” than men. Nurses and nurse aids, and physiotherapists were more likely to give importance to “finances” and “health” than psychologists and physicians.
18. Yang & Wu, 2021	China	704 (638 F) nurses	Various hospitals in Chengdu City, China	Quantitative (cross- sectional)	Chinese version of the Grit-S PSSS Chinese version of the ADHS Chinese version of the MLQ	No	Significant positive relationship between grit and MiL as well as between MiL and social support. Grit predicted social support and MiL. Nurses with more courage were more motivated to pursue their goals, felt more hopeful and found more MiL.
19. Duan et al., 2022	China	12 (11 F) psychotherapists	Various college counselling centers; various health service institutions; 1 independent practice	Qualitative	Semi-structured interviews	No	The therapists reported that helping patients find MiL provides them energy and improves their psychological wellbeing and their own MiL. By practice, they may raise their levels of MiL and their social connections.

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Author(s), year	Country of the study	Subjects (F – female, M – male; / – gender not reported)	Setting	Study design	Assessment tools	Intervention (if applicable)	Main results
20. Chen et al., 2022	China	105 (91 F) nurses	COVID-19 units in Zhangjiajie People's Hospital	Quantitative (cross- sectional)	Chinese MLQ ERQ PQEEPH	No	Emotional regulation, finding MiL, and mental health were found to be associated among nurses who served as front-line responders to the COVID-19 outbreak. MiL was found to be positively connected with the adoption of cognitive reappraisal techniques and negatively correlated with the suppression of emotional expression. Emotional regulation was revealed to serve a moderating function between MiL and mental health.

Note. ASS – Adult Attachment Scale; ADHS – Adult Dispositional Hope Scale; AUDIT – Alcohol Use Disorders Identification Test; BAI – Beck Anxiety Inventory; BDI – Beck Depression Inventory; CSQ – Coping Styles Questionnaire; DAP-R – Death Attitude Profile; DASS 21 – Depression, Anxiety, Stress Scale-21 items; DAST-10 – Drug Abuse Screening Test; ERQ – Emotion Regulation Questionnaire; GACS-24 – Global Assessment of Character Strengths-24; Grit-S – Self-reported Short Grit Scale; IIR – Idler Index of Religiosity; I-PANAS-SF – International Positive and Negative Affect Schedule Short-Form; LOT – Life Orientation Test; MBI – Maslach Burnout Inventory; MLQ – Meaning in Life Questionnaire; MCS – Moral Courage Scale for Physicians; PIL – Purpose in Life scale; PMCS – Professional Moral Courage Scale; PMP – Personal Meaning Profile; PQEEPH – Psychological Questionnaire for Emergent Event of Public Health; PROMIS – Patient Reported Outcomes Measurement Information System; PSES – Professional Self-Esteem Scale; PSSS 12-item – Perceived Social Support Scale; PTGI – Posttraumatic Growth Inventory; RSES – Rosenberg Self-Esteem Scale; SPWB – Scales of Psychological Well-Being; SDEQ – Sociodemographic and Experiential Questionnaire; SMiLE – Schedule for Meaning in Life Evaluation; SSRQ – Self-Regulation Questionnaire; STSS – Secondary Trauma Scale