Received: 18 January 2021 | Revised: 28 June 2021 | Accepted: 16 July 2021

DOI: 10.1002/smi.3085

WILEY

RESEARCH ARTICLE

Building resilience for healthcare professionals working in an Italian red zone during the COVID-19 outbreak: A pilot study

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Abstract

The COVID-19 pandemic has placed considerable strain on healthcare workers showing high rates of stress and psychological health problems. Interventions are urgently needed to help healthcare workers perform under conditions of great risk and uncertainty. In particular, healthcare leadership is known to be critical to supporting healthcare workers to deal with an uncertain and distressing healthcare environment. This pilot study evaluated the impact of the R2 resilience program tailored for healthcare leaders working in a highly affected COVID-19 area in Italy. Through two group cohorts, 21 healthcare leaders completed the intervention, with 17 participants providing pre- and post-intervention assessment data. Sixty-two staff members who benefitted from their coordinators' resilience-focused leadership were also included in the study. Findings show that participation in R2 was associated with reduction in levels of perceived stress and burnout symptoms, and increases in rugged qualities, self-efficacy and in social-ecological resilience. Significant changes in rugged qualities, self-efficacy and perceived stress were also detected in staff members. High rates of participants' program satisfaction have been detected. R2 is a promising intervention for healthcare professionals working in emergency settings designed to enhance the rugged qualities and resources required to deal with heightened exposure to stress.

KEYWORDS
COVID-19, healthcare workers, intervention, pandemic, R2 resilience program, resilience

1 | INTRODUCTION

Originating as a cluster of unexplained cases of pneumonia in Wuhan, China, novel coronavirus disease – officially designated as COVID-19 by the World Health Organization – has reached the level of a pandemic, affecting countries all around the world. To date (18th May 2021), 163,312,429 confirmed cases and 3,386,825 deaths attributable to this disease have been reported. Italy recorded 4.111.110 cases, representing one of the most affected countries worldwide with 122.833 deaths caused by COVID-19. In particular, the region of Lombardy was the hardest hit by the virus, recording 826,762, almost one-fourth of all coronavirus cases in the country, and 33,391 deaths (Ministero della Salute, 2021).

Studies conducted in Italy during the first COVID-19 wave showed an average of 12% of all confirmed cases of COVID-19 among healthcare workers, in line with other countries (International Council of Nurses (ICN), 2020; Sabetian et al., 2021). The INAIL report of 30 September 2020 (INAIL, 2020) showed that 70.3% (around 38,052

cases) out of 54,128 complaints about COVID-19, concerned the 'Health and Social Assistance' sector. The most affected professionals were 'health technicians' such as nurses, midwives and professional educators (39.2% of the total cases), followed by qualified professions in health and social services (social health workers) (20%) and social assistance operators (careers) (8.9% of cases). To date (May, 2021), 122.717 responding health-care workers have been infected, and 288 have died (Task Force COVID-19, Dipartimento Malattie Infettive e Servizio di Informatica, 2021). In the wake of this global health crisis, stringent public health measures have been implemented to curtail the spread of COVID-19 (Adhikari et al., 2020).

Widespread outbreaks of infectious disease, such as COVID-19, are associated with psychological distress and symptoms of mental illness (Bao et al., 2020). In particular, healthcare workers are considered at higher risk of adverse mental health outcomes for several reasons: caring for COVID-19 infected patients has meant shortages of protective equipment, long working hours, isolation from family, physical fatigue, and the pain of losing patients and colleagues (Kang et al., 2020). Specifically, healthcare workers who care for elderly parents or young children are affected by school closures, social distancing policies, in addition to physical and mental exhaustion and the fear of passing the infection to family members (The Lancet, 2020). Studies conducted in Italy showed that both frontline health-care workers in Covid-19 wards (Magnavita, Soave, et al., 2020) and staff from a local health unit (Magnavita, Tripepi, et al., 2020) developed high levels of stress, sleep disturbances, anxiety and depression, posttraumatic stress symptoms (Babore et al., 2020; Di Tella et al., 2020; Lasalvia, Bonetto et al., 2021) emotional burnout, relevant work-related psychological pressure and somatic symptoms (Barello et al., 2020a, 2020b; Lasalvia, Amaddeo, et al., 2021). Similarly, previous studies conducted during the previous SARS pandemic found up to 50% of healthcare workers reporting acute psychological distress, burnout and posttraumatic stress while caring for their patients (Tam et al., 2004). These patterns suggest a critical need for healthcare organizations to support the mental health of their staff and maximize their resilience if they are to provide safe and effective care to their patients under challenging conditions (Adams & Walls, 2020; Banerjee, 2020; Dewey et al., 2020; Shanafelt et al., 2020).

Resilience is the ability to find and make use of internal and external resources to successfully cope when there has been exposure to risk or adversity (Cesana et al., 2018; Giordano, Cipolla, et al., 2019; Giordano & Ferrari, 2018; Ungar, 2008). Protective factors include individual assets (characteristics such as mastery, coping skills and self-efficacy) (Ostafin & Proulx, 2020), as well as external resources such as personal and professional relationships (Giordano et al., 2020; Pipe et al., 2012) and a safe work environment. Resilience can, therefore, be considered a process that unfolds over time in the context of person–environment interactions (Egeland et al.,1993). This perspective suggests that it is a malleable process, and as such it is suitable for intervention (Giordano, Ragnoli & Brajda, 2019; Giordano, Ragnoli, Brajda et al., 2019; Giordano & Ungar, 2021). Recently, there has been interest in the development and evaluation of resilience building programs for healthcare workers (Grant et al., 2009), including populations like nurses in an oncology inpatient hospital unit (Pipe et al., 2012) and physicians at a tertiary care medical centre (Sood et al., 2011). Results from these program evaluations have shown that resilience-promoting intervention protocols can yield adaptive changes such as reductions in stress, depression, anxiety and increased self-efficacy.

While these programs have supported frontline staff to deal with workplace stressors, healthcare leadership (defined as the ability of supervisors to effectively and ethically influence others for the benefit of individual patients or populations as a whole [Hargett et al., 2017]) is known to be critical to supporting healthcare workers who must deal with an uncertain and distressing healthcare environment (Nicola et al., 2020). Shingler-Nace (2020), for example, identifies five factors for successful leadership during the COVID-19 pandemic: remaining calm, good communication, collaboration, coordination and providing psychosocial support to staff. In particular, having compassionate, open and highly communicative leaders may foster a sense of purpose that can act to strengthen a unified health approach among healthcare providers (Nicola et al., 2020). For healthcare workers dealing with COVID-19, healthcare organization leaders that are reassuring and acknowledge their staffs' contributions are likely to be experienced as the most supportive (Howatt & Bradley, 2018; Pearce, 2020) with the potential for reinforcing social bonds, between colleagues and supervisors (Tam et al., 2004). Indeed, while healthcare workers may be inadequately prepared to cope with the stress caused by a serious public health crisis (Healy & Tyrrell, 2011), a positive attitude in the workplace which is modelled by supervisors has been found to reduce staff stress (Cai et al., 2020; Khalid et al., 2016), increase employee self-efficacy and improve overall psychological wellbeing (Flesia et al., 2020; Proches, 2020). However, a recent study conducted in Italy during the COVID-19 pandemic shows that an intrusive leadership style can trigger occupational stress, anxiety and depression in workers (Magnavita et al., 2021).

While some Western countries have incorporated psychological interventions into their protocols for managing disease outbreaks, this has not yet been the case in Italy, leading to the emergence and persistence of stress-related disorders among healthcare workers. Furthermore, even when present, most interventions to support healthcare workers deal with pandemics have not yet been tested. The current study addresses this critical gap by evaluating the pilot implementation of a resilience curriculum for healthcare leaders dealing with the COVID-19 pandemic, with the goal of improving psychological health and enhancing individual and work team resilience.

1.1 | 'R2 for leaders' curriculum

The 'R2 for Leaders' program (www.resilienceresearch.org/R2) is an evidence-informed resilience promoting curriculum for organization, business and educational institutions, built on promising practices that have been shown to enhance wellbeing among individuals experiencing stress and adversity. It integrates the principles of a

social ecological approach to resilience developed by Dr. Michael Ungar and the Resilience Research Centre (RRC, n.d.) team at Dalhousie University (Halifax, Canada). The current adaptation of R2 is aimed at healthcare leaders and has the following goals:

1. Increase organizational capacity to build a resilient organization through a deeper understanding of individual 'rugged' qualities and external 'resources' (the two 'R's');
2. Help leaders integrate qualities of resilience into their organization's prevention programs including policies, procedures and the types of resources offered to workers;
3. Utilize a methodology to design programs that build resilience which are contextually specific.

As shown in Figure 1, the R2 model conceptualizes resilience as a process, shaped by key protective factors that help buffer against adversity. In particular, the impact of specific stressful life events and other daily hassles on the mental health and wellbeing of individuals is influenced by the interaction of two categories of resilience qualities: rugged qualities which are gratitude, self-confidence, optimism, problem-solving, mindfulness, sleep, nutrition and physical activity and resources which include structure, accountability, supportive relationships, a powerful identity, experiences of control, fair treatment, culture and the meeting of basic needs. Both sets of resilience factors were originally selected from a list of 52 well-researched aspects of resilience which were identified through a scoping review conducted by the RRC. A two-phase Delphi process with healthcare leaders in Canada narrowed the list to the 16 factors which became the focus of this version of the R2 program.

1.2 | R2 for healthcare leaders

The Resilience Research Unit of the Catholic University of Milan, with the support of the RRC, adapted the Canadian version of R2 for Healthcare Leaders to the challenges facing service providers during the pandemic. Healthcare organizations had identified a need for professional development to deal with heightened stress in the workplace. Under normal circumstances, healthcare workers could seek release from workplace stress by spending more time with family or participating in social activities, both of which have been hampered by COVID-19. Staff burnout from emotional distress has been reported anecdotally as a concern of healthcare leaders.

R2 follows a multisystemic resilience-oriented approach, which normalizes and contextualizes both personal and work-related stress, strengthens personal and organizational resources (i.e., making people more rugged and better resourced) for both individual and collective recovery, mobilizes self-efficacy for ongoing adjustment and reduces exposure to the risk factors associated with burnout. In particular, the program focuses on enhancing and developing leadership capability in healthcare leaders, with the aim of equipping them to better lead their staff and their organizations more effectively during the pandemic. Specifically, the program aimed to help participants to:

1. Identify practices that support organizational and healthcare workers resilience;
2. Learn how to help staff navigate to, and negotiate for, resources in order to support mental health and wellbeing inside and outside the workplace;
3. Implement a methodology to build a resilience-based prevention program.

Among the key protective factors considered in the R2 curriculum are 10 aspects of resilience which appear in the empirical literature on resilience in emergency settings (Cohen & McKay, 1984; Crane et al., 2020; Cutrona & Russell, 1988; Frink & Klimoski, 2004; Giordano et al., 2015; Kashdan & Rottenberg, 2010; Neimeyer, 2001; Shanafelt et al., 2020; Walsh, 2007) and a needs analysis conducted before the start of training. The 10 resilience factors include: (1) Gratitude and positive outlook, (2) Self-confidence, (3) Flexibility, (4) Meaning making, (5) Mindfulness and self-care, (6) Structure, (7) Accountability, (8) Supportive relationships, (9) A powerful identity and (10) Culture (see Table 1 for details). Indeed, the R2 program selects the rugged qualities and resources most likely to build resilience in a particular setting, ensuring the program is theoretically sound and matches the risks individuals experience. Within each session, the content, examples, group activities, and in-session

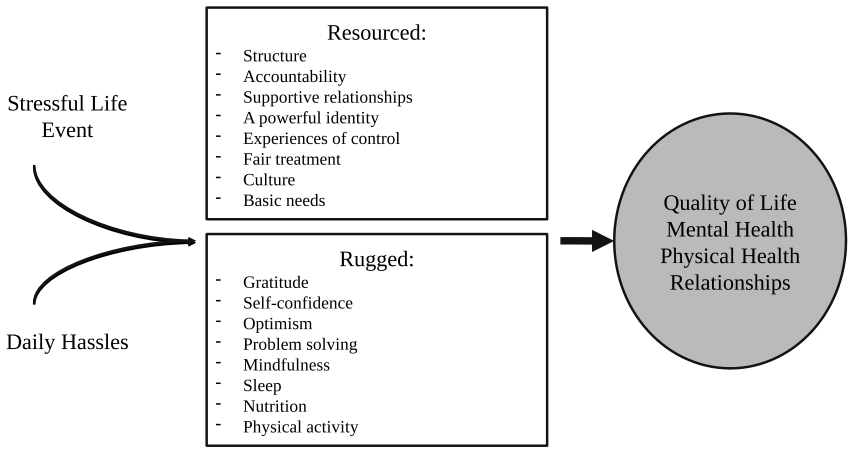

FIGURE 1 The R2 model

TABLE 1 R2 Resilience factors covered by the core curriculum

Resilience resource	Impact in emergency contexts	Session content	Key messages
Gratitude and positive outlook	Gratitude supports resilience in emergency by helping individuals be content and focused and enabling their ability to deal with stress and challenges. In times of deepest despair, resilience involves 'mastering the possible', and acquiring a positive outlook on the future.	(I) Inspirational video. (II) Introduce the relevance of gratitude and positive outlook in emergency settings: enabling individual's ability to deal with stress and challenges and reinforcing compassion within the work team. (III) Point out the tasks of leaders: thanking workers and expressing gratitude for the extra burden being imposed on them. (IV) Workshop: the 'Gratitude journal', to be share with the team.	1. Supporting a genuine expression of gratitude among health-workers is fundamental as it honours their work and could reinforce the compassion within the work team, thus, to provide care under extraordinarily difficult clinical circumstances. 2. Leaders should make extra efforts to thank workers and express gratitude for the extra burden being imposed on them during an emergency. 3. During an emergency, it is fundamental to accept what cannot be changed while being grateful for what one has; seeing the good that can come from adversity.
Self-confidence	Self-confidence supports resilience in emergency settings by generating feelings of kindness and care towards ourselves and by protecting individuals against damaging social comparisons, self-conscious and rumination.	(I) Inspirational reflection: story recalling the experience/emotions and feelings of learning to ride a bike. (II) Introduce the relevance of self-confidence in emergency settings: protecting individuals against feelings of helplessness. (III) Point out the tasks of leaders: setting achievable goals and stimulating belief in the team's power to control events. (IV) Workshop: Photo-elicitation activity: select a picture that reflects a workplace challenge during the pandemic. Aim is to improve awareness of personal successes achieved during the emergency.	1. Taking the time to reflect and improve awareness of personal successes achieved during the emergency. Being fulfilled can fight feelings of helplessness. 2. Recognizing personal limits and accepting that some events are beyond our control allows us to rely on personal strengths and avoid self-blame. 3. Successful adaptation can be promoted by setting achievable goals, stimulating belief in the team's power to control events and creating a positive mood.
Flexibility	In emergency settings, flexibility is needed to learn how to deal with unforeseen challenges, reallocate roles and adapt to changed conditions.	(I) Inspirational video (e.g., https://www.youtube.com/watch?v=cWa8vLFBE58&feature=youtube). (II) Introduce the relevance of flexibility in emergency settings: moving beyond the structures/strategies previously acquired to adapt to changed conditions and re-stabilize. (III) Point out the tasks of leaders: being actively engaged in the changing process and guiding workers in integrating the contingent situation. (IV) Workshop: draw a table reporting problem – reaction – achievements – alternative re-actions – alternative achievements. Fill in, based on choices/solutions/strategies under-taken when dealing with problems related to the pandemic. Aim is to elicit diverse per-spectives and thinking about problems.	1. When dealing with an emergency, it is fundamental to avoid rigid and inflexible thinking in order to adapt and restabilize. 2. Being actively engaged in the change process and deviating from standard professional procedures when necessary is crucial to reducing the sense of chaos and disorienta-tion and restoring order, safety, and stability. 3. Team members need to recognize that they cannot plan for every possible situation and, therefore, must elicit diverse perspectives and thinking about problems in different ways.
Meaning making	Meaning reconstruction is considered a central process in healing following catastrophic events to gain perspective on experiences, make them more bearable and restore life purpose.	(I) Inspirational tale such as https://lifecharger.org/the-cracked-pot-story/#:~:text=An%20elderly%20Chinese%20woman%20had,a%20full%20portion%20of%20water. (II) Introduce the relevance of meaning making in emergency settings: making experiences more bearable and restoring life purpose. (III) Point out the tasks of leaders: helping staff to gain a sense of coherence to rend their pro-fessional experience more comprehensible, meaningful and manageable. (IV) Workshop: reflect on one of the cracks resulting from the pandemic that has led to positive changes in life. Aim is to define	1. In recovery work, it is essential to rebuild a new sense of normalcy, professional identity and teamwork to adapt to altered conditions. 2. The meaning making process within a team allows healthcare workers to define positive changes, personal and professional growth following adversity and, thus, reduces the distressing nature of their daily work experience. 3. Coordinators can help their team members gain a sense of coherence, rendering their professional experience more comprehen-sible, meaningful and manageable as a shared challenge.

TABLE 1 (Continued)

Resilience resource	Impact in emergency contexts	Session content	Key messages
		positive changes, and personal and professional growth that has emerged during pandemic.	
Mindfulness and self-care	In emergency settings, both resources support resilience by allowing individuals to gain a greater knowledge of what is going on inside and around them and helping them to reconnect with what matters to them.	(I) Inspirational video such as: https://www.youtube.com/watch?v=H7BwWNMFJwE. (II) Introduce the relevance of mindfulness and self-care in emergency settings: allowing individuals to gain a greater awareness on their experience and to give importance to their needs. (III) Point out the tasks of leaders: creating a self-care plan for the whole team. (IV) Workshop: reflect on ways one has been taking care of one's self during the pandemic. Aim is to reflect and reconnect with personal needs.	1. Healthcare workers tend to perceive themselves as less vulnerable to emotional distress, thereby hindering their ability to focus on their own needs and concerns. Instead, taking time to 'refill personal tank' is fundamental. 2. Stress often makes problems feel more overwhelming, and can undermine the ability of healthcare professionals to be solution-focused, thus their capacity to provide effective services to others. Therefore, self-care and recognition of physical and psychological signs of distress are necessary for health-care workers to successfully care for their patients as well as themselves. 3. Creating a self-care plan for the whole team can enable members to support each other during times of stress and allow them to change a stress reaction into a stress response. Indeed, colleagues are often the first to recognize the warning signs of stress; they understand the stressors involved in the workplace and can validate and empathize with the experience of others.
Structure	In emergency settings, structure supports resilience by acting as a buffer to chaos and reducing uncertainty and ambiguity in carrying out tasks and restores order, safety and stability.	(I) Inspirational video such as a video excerpt from 'Mary Poppins'. (II) Introduce the relevance of structure during an emergency: reducing uncertainty and ambiguity and restoring order, safety and stability. (III) Point out the tasks of leaders: showing strong leadership and avoiding top-down solutions. (IV) Workshop: '*Let's clean out the closet*'. Define: 'shoes' as the priorities during my day; 'clothes' as the main tasks I've to accomplish during my day; 'accessories' as the things which embellish/enrich my day. Aim is to increase self-awareness of the task that need to get done personally and professionally.	1. Coordinators need to organize response efforts to emergency management with healthcare staff, showing strong leadership and avoiding top-down solutions to problems while promoting the debate and exchange between staff members. 2. Having clear expectations and rules help healthcare staff find and maintain the boundaries appropriate for their tasks, beyond the deep emotional investment they often have with the patients they are working with. 3. Routines and rules should not be conceived as rigid, but as a commonly understood reference that allows professionals to explore new strategies and solutions that bring innovation and change within the organization.
Accountability	Accountability supports resilience in emergency settings by helping individuals to recognize the importance of duties and responsibilities in order to avoid unwanted consequences.	(I) Inspirational tale such as https://sechanger-soi.be/EN/5EN-Tales/Humminbird.htm. (II) Introduce the relevance of accountability in emergency settings: helping individuals to recognize the importance of duties and responsibilities in order to avoid unwanted consequences. (III) Point out the tasks of leaders: clearly defining duties and responsibility in their teams, negotiating limits and opportunities. (IV) Workshop: '*The bunch of the team*'. Draw a bunch, composed of as many grapes as there are team members. Attribute each grape to a member. Draw inside it a symbol that	1. During an emergency responsibility has been perceived by healthcare workers as a source of exhaustion, though it can also trigger feelings of personal and social agency. 2. To cope with disaster, it is essential that duties and responsibilities of the organization and of each member be negotiated. 3. Coordinators can help staff members share concerns about responsibility, deal with accountability and lack of control, and gain knowledge from experience to guide future actions.

(Continues)

TABLE 1 (Continued)

Resilience resource	Impact in emergency contexts	Session content	Key messages
		represents the contribution given by the staff member during the pandemic. Aim is to recognize the contribution given by each staff member.	
Supportive relationships	Supportive relationships enhance resilience in emergency settings by providing individuals with the support they need to work through stress and hardship, including emotional sustenance, self-esteem building, provision of information and feedback, and tangible assistance.	(I) Inspirational video such as https://www.youtube.com/watch?v=vctVGm1-O4Q&feature=youtu.be. (II) Introduce the relevance of supportive relationships in emergency settings: providing individuals with the support they need to work through stress and hardship. (III) Point out the tasks of leaders: keeping staff members together and encouraging them to ask for help when needed. (IV) Workshop: Photo-elicitation: Select a picture representing what supportive relationships has meant during the pandemic. Aim is to share with the team and reinforce the message 'We are never alone', especially during the pandemic.	1. While healthcare professionals are often self-reliant and many do not ask for help, they have the unavoidable need to rely on each other, particularly when dealing with an adversity they have not previously encountered. Colleagues are often the first and sometimes the only ones who manage to provide successful opportunities to debrief or offer consolation and empowerment. 2. We are never alone. We are never the only ones available during a crisis. Group meetings can provide to staff members a sense of closeness and sympathy among professionals who are otherwise isolated due to the pandemic. Helping oneself by helping others normalizes workplace stress by acknowledging that it is something everyone experiences at times. 3. Coordinators must keep staff members together and encourage them to ask for help when needed, especially in chaotic situations, so they are not left to fend for themselves.
A powerful identity	In emergency settings, a powerful identity supports resilience by reminding individuals of their strengths and enhancing personal and social agency.	(I) Inspirational tale such as https://www.theblindelephant.com/the_blind_elephant_fable.html. (II) Introduce the relevance of a powerful identity in emergency settings: reminding individuals of their strengths and enhancing personal and social agency. (III) Point out the tasks of leaders: creating a relational context that can promote self-discovery among team members. (IV) Workshop: '*The tree of self*': Draw a tree, with branches representing the various contexts of life (family, work, sport, volunteering…) and fruits representing the personal resources each person employs/shows in each context. Aim is to reflect on personal resources and skills. A variation of this exercise is called '*The animal*'. Attribute an animal to each participant (colleague) that represents their talents and peculiarities and explain the reason why the animal was selected. Aim is to mirror colleague's talents and peculiarities.	1. Team of healthcare workers directly involved in emergency response should build a strong group identity and develop shared projects. 2. The working team plays the fundamental role of mirroring: the group can become a sounding board of talents and peculiarities of its own members. 3. Coordinators are asked to create a relational context that can promote growth and self-discovery of team members, and provide them with the self-confidence necessary to fuel growth.
Culture	In emergency settings, culture affects organizational resilience by grounding and orienting individuals, providing them with a sense of coherence and with foundations for	(I) Inspirational video such as https://www.youtube.com/watch?v=9KlprqgcJlE. (II) Introduce the relevance of organizational culture in emergency settings: providing individuals with a sense of coherence and with foundations for collaborative learning and creative decision-making.	1. During an emergency the organizational culture nurtures healthcare workers strengths, provides a context conducive to increasing social support and keeps staff together, allowing them to feel part of the group when dealing with challenges. 2. Having a culture that avoids dependency (where bosses tell employees what to do), that allows staff to contribute ideas and

TABLE 1 (Continued)

Resilience resource	Impact in emergency contexts	Session content	Key messages
	collaborative learning and creative decision-making.	(III) Point out the tasks of leaders: valorizing and spreading organizational culture between teams and across company boundaries. (IV) Workshop: Draw a symbol that represents the culture of the organization. Aim is to define and share different visions of the organizational culture.	effort, while complying with rules and procedures, reinforces members' commitment and enhances both organizational and individual resilience. 3. It is essential to valorize and spread organizational culture between teams and across company boundaries through formal and informal initiatives.

practice opportunities have been tailored for healthcare leaders dealing with COVID-19. For example, in the 'Culture' session participants were invited to draw a symbol that represents the mission of the organization they belong to, and to reflect on how their collective mission has helped or hindered their capacity to deal with the pandemic. In the 'Gratitude and positive outlook' session, leaders were invited to propose to their team members their own 'Gratitude journal', writing down each day/week three things they felt grateful for and, if they wished, to share one of them with another team member.

In this paper, we illustrate the pilot implementation of the R2 program with healthcare leaders working in the province of Bergamo – the part of Italy which has registered the highest number of cases in the country (Statista Research Department, 2020). We undertook this intervention as a first step towards investigating whether the R2 program can be employed as a resilience promoting curriculum for healthcare professionals in emergency settings. Here, we describe the Phase 1 pilot implementation of R2 conducted with healthcare leaders. Two questions are addressed by this intervention study:

1. Can R2 improve psychological adjustment among the healthcare leaders taking the program?
2. Can R2 enhance psychological adjustment and resilience resources among healthcare professionals belonging to the teams of the healthcare leaders who participate in the R2 program?

2 | METHODS

2.1 | Study design and procedure

A single group quasi-experimental pretest -posttest design was employed in the study, with outcome measures assessed before and after the 12-week R2 period. The baseline administration took place 1 week before the beginning of the program in April 2020, while the second administration was conducted in July 2020, 1 week after the end of the program.

This study is related to a COVID-19 emergency program run by RiRes and the Italian NGO Cooperazione e Sviluppo in partnership with a cooperative which supports social and community enterprises working in Bergamo in the healthcare sector. Information about the R2 training was distributed to the cooperative's healthcare leaders through executives. Participation in the study was voluntary. Interested leaders were invited to take part in an e-meeting facilitated by members of RiRes who explained the R2 12-session training program and the monitoring study. Attendees were informed that their participation in the R2 program was not dependent upon their participation in the study. Healthcare leaders who opted to participate in the study completed a pre-training assessment via the web (Qualtrics), which included an informed consent process and a battery of self-report measures assessing psychological health and resilience.

Healthcare leaders were invited to inform their staff members of their participation in the R2 program and its monitoring study and to invite them to take part to the survey, as indirect beneficiaries of the R2 program. Staff who consented were sent a web link to a survey before the start of the leaders' training and at the end of it. The staff members' participation was voluntary. The inclusion criterion was employment with the cooperative, and membership on a team coordinated by a leader who took part in the R2 program.

2.2 | Participants

Participants for this pilot study were healthcare professionals drawn from a social and community enterprise specialized in providing healthcare services, education and social assistance to elderly people and at-risk minors and mothers through homecare and day care assistance, social housing services and residential centres in the province of Bergamo.

Twenty-one healthcare leaders were enrolled in the program which was implemented in two parallel group cycles: one with elderly care leaders and the other one with child protection and childcare coordinators. Two participants dropped out after attending the first two needs analysis meetings because of scheduling conflicts. Of the remaining 19 participants, 17 completed both the pre- and the post-R2 program assessments. In comparing participants who completed the pre-post protocols to those who did not, there were no differences in demographic variables, deployment

experiences, outcome measures or number of group sessions attended (at least 85% for both groups).

Healthcare leaders invited all their staff members to take part in a separate survey to see if they indirectly benefitted from the resilience-focused approach and techniques shown to their leaders. Thus, the final study population consisted of 17 leaders and 62 members of their staff, reporting a mean of 12.11 years of experience in the healthcare field. Among the respondents to the survey, 8 leaders and 49 healthcare workers were involved in elderly care and 9 leaders and 13 healthcare workers were involved in child protection and childcare services. Tables 2 and 3 summarize the descriptive statistics of the sample. More women (84.8%) than men participated. Participants reported a range of 'Patients with Confirmed or Possible COVID-19 Infection' between 0 and 50 ($M = 3.31$).

2.3 | Intervention

The R2 program was delivered online using the Microsoft TEAMS platform, with two different parallel cycles involving two separate groups of healthcare leaders: the first with 9 elderly care leaders and the other with 12 child protection and childcare leaders. The curriculum began for both groups in April 2020, soon after the World Health Organization declared COVID-19 a public health emergency. Both group cycles were implemented in 12 two-hour weekly sessions over 3 months. The program was divided into two stages: the needs analysis, conducted during two two-hour group remote meetings, followed by 10 R2 remote sessions.

TABLE 2 Descriptive statistics – healthcare leaders

Demographic data		Professional information	
Age		Team	
20–30 years	17.6%	Child Protection	47.1%
31–40 years	29.4%	Elderly care	52.9%
41–50 years	47.1%		
51–65 years	5.9%		
Gender			
Female	82.4%		
Male	17.6%		

TABLE 3 Descriptive statistics – staff members

Demographic data		Professional information	
Age		Team	
20–30 years:	12.9%	Child Protection	21%
31–40 years:	22.6%	Elderly care	79%
41–50 years	35.5%	Role	
51–65 years	29.1%	Coordinator	21.5% ($N = 17$)
		Nurse	14.5% ($N = 9$)
Gender		Care Assistant	41.9% ($N = 26$)
Female	85.5%	Family Assistant	14.5% ($N = 9$)
Male	14.5%	Volunteer	4.8% ($N = 3$)
		Educator	24.2% ($N = 15$)
		Total	100% ($N = 62$)

2.3.1 | Needs assessment

To initiate the R2 program, a needs analysis was conducted with participants to define the psychosocial needs of healthcare professionals dealing with a pandemic. Trainees were polled on the most relevant protective factors and processes that could support beneficiaries in dealing with COVID-19 challenges (Shanafelt et al., 2020). A specific tool – Caught in a Thunderstorm (Castelli, 2013) – was used to do this. The risks/challenges/fears that trainees identify were written inside pictures of clouds drawn at the top of pieces of paper. For each cloud, trainees explained in both written form and through group discussion what and/or who has helped them deal with perceived barriers to wellbeing. These resources were then drawn as umbrellas at the bottom of the page. A process of personal reflection and small group and whole group reporting ensured that consensus was reached on the most important challenges and sources of resilience, much as a Delphi process (Brown, 1968) encourages stakeholders to prioritize issues in a community.

The main risks detected by participants were sadness, loneliness and relational distance, feelings of uncertainty and unpredictability, powerlessness and ineffectiveness, fear of collective selfishness and difficulties accepting the current situation. The main protective factors were peer and intimate relationships, personal skills, sense of personal agency, optimism and hope for the future, making meaning of personal and social experiences, organizational culture, mindfulness and flexibility. These protective factors oriented the selection of the exercises chosen to build resilience resources that were included as content for the 10 R2 sessions that followed the initial needs assessment process.

2.3.2 | The R2 sessions

Ten 2-h web sessions were conducted with participants. Each session was focused on one of the participants' self-identified protective factors. Each session had five parts:

1. An initial supervision on the support healthcare leaders managed to provide to their teams during remote staff meetings, based on the previous R2 sessions;
2. A group reflection triggered by a selected video, a narration or photo, aimed at identifying whether and in which way the target resources have been a source of resilience in their own recovery process and for their team members;

3. Tailored workshops conducted during the sessions to facilitate self-expression, shared meaning making and mastery of both suffering and resilience;
4. A group discussion in which healthcare leaders proposed different ways to introduce the target resource in the staff meetings (with consideration to time limitations);
5. Lessons learnt from the session.

2.3.3 | Evaluation of outcomes

Healthcare leaders and their staff were assessed before the program began (T1) and at the end (T2) to assess change in mental health and wellbeing, resilience resources and work-related stress. We hypothesized that participation in R2 would be associated with a significant increase in the positive outcomes of rugged resilience, resourced resilience and self-efficacy and a significant decrease in general stress, work-related stress and burnout symptoms, in both healthcare leaders and their staff members.

2.4 | Measures

Demographics items included age, gender, service type, position, years of service at the current place of employment and number of Patients with Confirmed or Possible COVID-19 Infection.

Program satisfaction was assessed using a pre- and post-assessment questionnaire with a 3-point Likert scale with participants at the end of the R2 program to rate general perceived usefulness and domains of acquired knowledge. At the post-intervention assessment, participants also provided written responses to a series of multiple choice and open-ended questions assessing their satisfaction with the program (e.g., What were your favourite/least favourite things about R2; Would you recommend this to other healthcare professionals? Why? Why not?).

Positive outcomes were assessed combining items from the *General Self-Efficacy Scale* (GSE; Schwarzer & Jerusalem, 1995; Italian validation conducted by Sibilia et al., 1995), The Adult Resilience Measure (Liebenberg & Moore, 2018) and the Rugged Resilience Measure (Jefferies et al., 2020).

The *General Self-Efficacy Scale* assesses individuals' general beliefs in their ability to respond to and control difficult or novel situations and to handle any related obstacles or setbacks. It consists of 10 items asking participants to rate their self-efficacy with statements such as 'I can usually handle whatever comes my way', on a 4-point scale (from 1 = does not describe me at all, to 4 = describes me to a great extent). All items were summed to create a total score, between 10 and 40. In the present study, the scale showed moderate reliability (Cronbach's alpha = 0.770).

Resilience was measured using two questionnaires: the 10-item Rugged Resilience Measure (RRM; Jefferies et al., 2020), and the 17-item *Adult Resilience Measure Revised* (ARM-R; Liebenberg & Moore, 2018). The Rugged Resilience Measure is a measure of personal resilience, which consists of 10 self-report items (e.g., perseverance, 'I can keep going despite difficulties'; pride in achievements, 'I take pride in things I have achieved'), rated on a 5-point Likert scale ranging from 'Not at all [like me]' to 'A lot [like me]'. Total score ranges from 10 to 50 with higher scores reflecting greater resilience. In the present study, the scale was found to have good internal consistency (Cronbach's alpha = 0.785).

The ARM-R(Liebenberg & Moore, 2018) is a measure of social-ecological resilience which explores interpersonal, community and cultural resources which allow people to achieve positive outcomes despite significant adverse experiences. The scale uses a 5-point Likert scale ('To what extent do the sentences below describe you?' where 1 = 'Not at all' and 5 = 'A lot'; e.g., 'I am aware of my own strengths'; 'I know where to get help in my community'). Total score ranges from 17 to 85. The scale shows fairly high reliability (Cronbach's alpha = 0.882), with higher scores from the summed items indicating greater socio-ecological resilience. RRM and ARM did not exist in Italian versions; therefore, it was independently translated in Italian by a professional translator. The integrity of the items was then verified using back-translation (Vallerand, 1989). Discrepancies with the original English version were noted, and the Italian version was adjusted accordingly.

Negative outcomes were assessed as follows. Burnout was measured using two items from the Maslach Burnout Inventory Emotional Exhaustion (MBI:EE), a non-proprietary measure, validated to measure burnout in healthcare settings (Dolan et al., 2015). It includes two items: 'I feel burned out from my work' rated on a 5-point Liker scale, ranging from 1 (Never) to 5 (Every day) and 'I feel like I'm burning out from my work', rated on a 5-point Liker scale, ranging from 1 (Not at all) to 5 (A lot). Total score ranges from 5 to 10. In the present study, the scale showed moderate reliability (Cronbach's alpha = 0.672).

General stress was measured using *The Perceived Stress Scale* (PSS-10) (Cohen, 1988; Cohen et al., 1983), a self-report instrument consisting of 10 items to assess how unpredictable and uncontrollable respondents felt their lives to be and how over-loaded they were day-to-day. Each of the items on the PSS-10 are rated on a 5-point Likert scale, ranging from 0 (never) to 4 (very often). Total score ranges from 0 to 40 with the scale showing moderate reliability (Cronbach's alpha = 0.604).

Work-Related Stress was assessed using the *Management Standards Indicator Tool* (MSIT), a 35-item self-report measure of the psychosocial work environment designed to assist organizations with psychosocial risk assessment. Responses to most items are given on a 5-point Likert scale: 1 (never), 2 (seldom), 3 (sometimes), 4 (often) and 5 (always). Items are worded so that low scores are indicative of high (and potentially harmful) exposures. The instrument has been validated and translated into Italian (Magnavita, 2012). However, in the study, 13 items were excluded as they were not considered relevant in a pandemic scenario and to reduce the overall length of the survey to avoid response burden. Total score ranges from 35 to 175. Despite the reduced

number of items, the scale maintained fairly high reliability (Cronbach's alpha = 0.882).

2.5 | Data analysis

Analyses were conducted using SPSS Statistics for Windows version 22.0. This study employed a single group pre-post intervention design. Subscales of the GSE, RRM, ARM, PSS, MSIT and MBI:EE served as outcome variables. Pre-post distributions were analysed using paired-samples *t*-tests. Standardized mean differences (with Hedges adjustment for a small sample size) and 95% confidence intervals were used to examine the relative size of the intervention effect across the different measures. For small sample sizes (<50), the Hedge's Corrected version of the Cohen's *d* (Hedges and Olkin 1985), has been computed to correct for biases. Cohen's standards (large [0.8], medium [0.5] and small [0.2]) were used to interpret the magnitude of intervention effects (Cohen, 1998). Descriptive statistics were used to analyse sociodemographic data.

3 | RESULTS

3.1 | Program satisfaction

Results showed high rates of general perceived usefulness for the R2 program (*M* = 2,5; SD = 0.52). In particular the program provided participants with skills related to interaction and dialogue with their staff (*M* = 2,42; SD = 0.51) and strengthened personal resources (*M* = 2,58; SD = 0.67) and team resources (*M* = 2,5; SD = 0.52). Final open-ended comments reported specific benefits attributed to the program such as:

1. Improvement in interpersonal relationships with other leaders ('I felt less alone and supported by my colleague, like never before')
2. Growth in self-awareness ('The program allowed me to take some time to reflect on what is happening inside and around me, on my actions and reactions, in both personal and professional field').

3.2 | Mental health and resilience

First, a paired-samples *t*-test was used to compare the scores of both negative outcomes (general stress, work-related stress and burnout) and positive outcomes (rugged resilience, resourced resilience and self-efficacy) in the leaders directly involved in the program. Results showed statistically significant differences in the three positive outcome measures: in the rugged resilience (RRM) scores between pre- (*M* = 29.37, *SD* = 3.59) and post-R2 (*M* = 34.69, *SD* = 3.66), $t(16) = -4.53$, $p = 0.00$, in the resourced resilience (ARM) between pre- (*M* = 59.65, *SD* = 4.68) and post-R2 (*M* = 65.18, *SD* = 5.85); $t(17) = -4.37$, $p = 0.00$ and in self-efficacy (GSE) between pre- (*M* = 26.37, *SD* = 2.06) and post-R2 (*M* = 29.5, *SD* = 2.39); $t(16) = -4.75$, $p = 0.00$.

Regarding negative outcomes, results showed a significant decrease in general stress (PSS) between pre- (*M* = 35.94, *SD* = 3.32) and post-R2 (*M* = 33.25, *SD* = 2.72), $t(16) = 2.47$, $p = 0.026$ and burnout symptoms (MBI:EE) between pre- (*M* = 6.31, *SD* = 1.35) and post-R2 (*M* = 5.37, *SD* = 1.2); $t(16) = 2.61$, $p = 0.020$. No differences were found in the leaders' work-related stress (MSIT) between pre- (*M* = 50.5, *SD* = 15.33) and post-R2 (*M* = 50.56, *SD* = 15.17), $t(16) = -0.44$, $p = 0.966$ (Table 4).

Next, a paired-samples *t*-test was used to compare the scores of both negative outcomes (general stress, work-related stress and burnout) and positive outcomes (rugged resilience, resourced resilience and self-efficacy) among staff members. Results showed statistically significant differences in two positive outcomes measures: the rugged resilience (RRM) scores between pre- (*M* = 32.19, *SD* = 4.54) and post-R2 (*M* = 35.32, *SD* = 4.14); $t(62) = -5.90$, $p = 0.00$, and self-efficacy (GSE) between pre- (*M* = 28.27, *SD* = 3.19) and post-R2 (*M* = 30.35, *SD* = 3.10); $t(62) = -4.18$, $p = 0.00$. Although not significant, the resourced resilience (ARM) measure showed an increase between pre- (*M* = 62.87, *SD* = 8.93) and post-R2 (*M* = 63.66, *SD* = 8.70); $t(62) = -0.68$, $p = 0.499$.

Regarding negative outcomes, results showed a significant decrease in general stress (PSS) between pre- (*M* = 33.03, *SD* = 3.67) and post-R2 (*M* = 30.53, *SD* = 3.95); $t(62) = 3.80$, $p = 0.00$ and in

TABLE 4 Changes in outcome measures from pre- to post-R2 intervention – healthcare leaders

Construct (measure)	Pre-R2 *M* (SD)	Post-R2 *M* (SD)	*t*	*p*	Pre- to post-Hedge's g
Rugged resilience (RRM) (*n* = 16)	29.37 (3.59)	34.69 (3.66)	−4.53	0.00**	1.09
Self-efficacy (GSE) (*n* = 16)	26.37 (2.06)	29.5 (2.39)	−4.75	0.00**	1.228
Resourced resilience (ARM) (*n* = 17)	59.65 (4.68)	65.18 (5.85)	−4.37	0.00**	1.157
General stress (PSS) (*n* = 16)	35.94 (3.32)	33.25 (2.72)	2.47	0.026*	−0.384
Burnout symptoms (MBI:EE) (*n* = 16)	6.31 (1.35)	5.37 (1.2)	2.61	0.020*	−0.30
Work-related stress (MSIT) (*n* = 16)	50.5 (15.33)	50.56 (15.17)	−0.44	0.966	-

Note: *$p < 0.05$, **$p < 0.001$.

Abbreviations: ARM, Adult Resilience Measure; GSE, General Self-Efficacy; MBI:EE, Maslach Burnout Inventory Emotional Exhaustion; MSIT, Management Standards Indicator Tool; PSS, Perceived Stress Scale; RRM, Rugged Resilience Measure.

work-related stress (MSIT) between pre- ($M = 50.18$, $SD = 10.56$) and post-R2 ($M = 46.93$, $SD = 10.75$); $t(60) = 2.25$, $p = 0.028$, while the decrease in burnout symptoms (MBI:EE) between pre- ($M = 4.7$, $SD = 1.63$) and post-R2 ($M = 4.35$, $SD = 1.64$). [$t(60) = 1.68$, $p = 0.098$] was not significant (Table 5).

4 | DISCUSSION

To our knowledge, this is the first study exploring the implementation of a resilience promoting curriculum (R2 program) for healthcare leaders dealing with a pandemic. Furthermore, while several studies have explored community, worksite and population-specific stress reduction programs (Aikens et al., 2014; Werneburg et al., 2011) little empirical attention has been given to enhance the resilience of healthcare employees (Mills et al., 2018). Data from this Phase 1 pilot study suggest that the R2 program has the potential to support healthcare leaders dealing with the COVID-19 pandemic. Their resilience, in turn, appears to exert a positive effect on the resilience of their staff. However, as this was a single-arm, non-randomized intervention, with a small sample size, results need to be interpreted conservatively.

Participation in the R2 program was associated with a significant increase in each positive outcome. In particular, results for the healthcare leaders showed a significant increase with a large effect size in the two measures of rugged and resourced resilience targeted during the program, and in personal self-efficacy where there was a medium effect size. These results are in line with other studies on resilience-focused programs with healthcare professionals that report a significant increase in resilience resources (Werneburg et al., 2018) and self-efficacy (Tarantino et al., 2013) at the end of training. Regarding staff members, results were similar, reporting a large effect size for the increase in rugged resilience, a medium effect size related to the increase of self-efficacy and a small (but not statistically significant) increase in resources related to resilience.

Based on these results, we believe the R2 program has potential to build resilience by strengthening the rugged factors that reside within individuals, including self-efficacy and the resources that support employees in healthcare settings to deal with adversity. Importantly, healthcare leaders managed to embrace a multisystemic perspective during the R2 sessions and reflect on the relevant resilience factors in their own recovery process, with these changes translating into improvements in their staff members' wellbeing. While this pilot study lacks a control group, its results suggest the need for future evaluations of similar programs conducted as randomized control trials with a larger sample size.

Regarding negative outcomes, a significant decrease in personal stress and in burnout were reported for both leader and staff groups. However, considering the staff member group separately, the decrease in burnout symptoms did not reach significance. These results are in line with other studies conducted on healthcare workers involved in resilience enhancing programs who have reported lower levels of adverse outcomes (Maunder et al., 2006), stress (Sood et al., 2011; Werneburg et al., 2018) and a decrease in burnout symptoms (Mistretta et al., 2018). Other studies, like that by Tubbert (2016), have shown that healthcare professionals working in medical settings (a hospital's emergency room) can improve their resilience and positively influence their personal and professional lives by being taught the skills to handle stress. In this study, however, staff members showed a non-significant decrease in burnout symptoms. This may be due to the shortage of time that they were in contact with their supervisors during the pandemic, or the lack of opportunities during staff meetings to reflect on their personal and collective recovery process. Furthermore, the small sample size may have accounted for the non-significant results.

5 | IMPLICATIONS

The COVID-19 pandemic has highlighted the need for healthcare professionals to deal with heightened stress in the workplace. Given the high levels of impairments experienced by frontline health-care workers and their difficulties in coping with workplace stress which has been exacerbated by social distancing measures outside of work hours, organizations need to implement programs that can effectively support the mental health of their staff and maximize their resilience.

TABLE 5 Changes in outcome measures from pre- to post-R2 intervention – staff members

Construct (measure)	Pregroup *M* (SD)	Postgroup *M* (SD)	*t*	*p*	*d*
Rugged resilience (RRM) ($n = 62$)	32.19 (4.54)	35.32 (4.14)	−5.90	0.00**	0.751
Self-efficacy (GSE) ($n = 62$)	28.27 (3.19)	30.35 (3.10)	−4.18	0.00**	0.531
Resourced resilience (ARM) ($n = 62$)	62.87 (8.93)	63.66 (8.70)	−0.68	0.499	-
General stress (PSS) ($n = 62$)	33.03 (3.67)	30.53 (3.95)	3.80	0.00**	−0.378
Burnout symptoms (MBI:EE) ($n = 60$)	4.7 (1.63)	4.35 (1.64)	1.68	0.098	-
Work-related stress (MSIT) ($n = 60$)	50.18 (10.56)	46.93 (10.75)	2.25	0.028*	−0.29

Note: $^*p < 0.05$, $^{**}p < 0.001$.

Abbreviations: ARM, Adult Resilience Measure; GSE, General Self-Efficacy; MBI:EE, Maslach Burnout Inventory Emotional Exhaustion; MSIT, Management Standards Indicator Tool; PSS, Perceived Stress Scale; RRM, Rugged Resilience Measure.

Resilience is the ability to find and apply resources for support, engage in successful coping, or employ other accessible protective factors where there has been exposure to risk or adversity. In the case of healthcare workers dealing with pandemics, responsive exchanges with healthcare organization leaders can help them build the skills they need to manage stress (Howatt & Bradley, 2018; Pearce, 2020; Tubbert, 2016). These leaders, therefore, must themselves have the capacity to deal with complex and stressful work environments while also demonstrating support for their staff and patients.

R2 is a multisystemic resilience-oriented approach which helps healthcare leaders strengthen access to personal and organizational resources. Implementation of the R2 model is intended to address the following three generalized principles to build a resilient healthcare organization:

1. Applying a participatory approach to program design which integrates providers' perceptions of possible solutions to complex problems (Giordano et al., 2021; Giordano & Ungar, 2021). In order to identify practices that support organizational and healthcare workers' resilience, the R2 program involved healthcare leaders in selecting the rugged qualities and resources most likely to build resilience in their particular settings during the pandemic. Furthermore, during each R2 session, participants were invited to elaborate key messages to be delivered to their staff, based on the operationalization of the target resources in their working setting (see Table 1). Indeed, before effective approaches can be developed that support healthcare professionals, it is critical to understand their specific sources of anxiety and fear and the resources that are most relevant to them (Shanafelt et al., 2020).
2. Healthcare leaders can be mentors to their staff, helping them navigate to, and negotiate for, resources in order to support mental health and wellbeing. Starting from the assumption that, if adequately trained, healthcare leaders could better lead their staff and their organizations more effectively during the pandemic, the results of this study suggest that leaders trained in R2 may be better able to build resilience and increase wellbeing in both themselves and their staff.
3. A resilience framework can be a useful basis for an organization's mental health support programs during a pandemic.

Reflecting these principles in action, participants in the R2 program suggested a number of changes to the program. Specifically, they recommended that the number of sessions (in this trial there were 12) be reduced given the level of commitment required during a very stressful period in their lives. Indeed, during the last sessions they felt less engaged due to the physical and emotional fatigue they experienced after the first months of the pandemic. For this reason, a second R2 implementation, which took place began in November 2020 was reduced to eight sessions. Second, more support is being offered to participants to help them adapt the program content to meetings with their staff and developing strategies to influence the overall resilience of their healthcare settings.

6 | CONCLUSION

Resilience it not only a quality within individuals but grows from access to, and use of, the resources needed to support mental health and wellbeing (Giordano, Ragnoli, Brajda, et al., 2019; Ungar & Theron, 2019). Resilience in healthcare professionals following an emergency results from the combination of personal ruggedness and access to resources, with the organization or environment in which they work playing a central role in predicting wellbeing. Indeed, several studies affirm that supportive work environments within healthcare organizations can enhance resilience processes even in the most challenging of situations (Lowe, 2013). In particular, healthcare leaders can play a central role in enhancing resilience in their staff: efforts to hear, protect, prepare, support, form authentic and relational bonds, and care during a crisis is fundamental for staff wellbeing (Shanafelt et al., 2020).

We undertook this study as a first step towards investigating whether the R2 program can be employed as a resilience-promoting curriculum for people working in emergency response settings such as the COVID-19 pandemic. However, results of this study are limited by the simple pre-post repeated measures design without a control group and the small sample size. Furthermore, the issue of demand characteristics may have influenced staff members who were aware of their leaders' participation, and thus may have felt the need to respond favourably, and the leaders themselves, who might have felt pressured to respond favourably given the time they invested in the training. Finally, the small sample size whose selection was based on naturally occurring groups threatens the validity and generalizability of this study's results. More research is required with larger samples to determine the true effectiveness of the R2 program. A second implementation with new teams of Italian healthcare workers has been conducted during the second wave of COVID-19. Study results are forthcoming. The lack of research examining resilience development programs in a population of healthcare providers during public health crises makes future research in this field extremely timely.

7 | IMPACT STATEMENT

This study suggests that resilience programs like R2, when tailored to the needs of healthcare workers exposed to adversity, may be helpful in reducing employee stress and improving resilience. Indeed, resilience is not only a quality within individuals but can be developed through access to the resources needed to support mental health and wellbeing during conditions of extreme stress like a pandemic.

ACKNOWLEDGMENTS

This research did not receive any specific grant from funding agencies in the public, commercial or not-for-profit sectors.

CONFLICT OF INTEREST STATEMENT

The authors declare that there is no conflict of interest.

ETHICAL STATEMENT

Research procedures were reviewed and approved by the Scientific Committee of the Department of Psychology – Resilience Research Unit (RiRes) of the Università Cattolica del Sacro Cuore.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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How to cite this article: Giordano, F., Cipolla, A., & Ungar, M. (2021). Building resilience for healthcare professionals working in an Italian red zone during the COVID-19 outbreak: A pilot study. *Stress and Health*, 1–15. https://doi.org/10.1002/smi.3085