



Contents lists available at [Journal IICET](#)

JPPI (Jurnal Penelitian Pendidikan Indonesia)

ISSN: 2502-8103 (Print) ISSN: 2477-8524 (Electronic)

Journal homepage: <https://jurnal.iicet.org/index.php/jppi>



How do health workers build resilience after family loss, covid-19 infection, and social stigma during the pandemic?

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Article Info

Article history:

Received Sept 27th, 2024

Revised Oct 22th, 2024

Accepted Nov 26th, 2024

Keywords:

Resilience of healthcare workers

Family loss

COVID-19 infection

Social stigma

Anwar medika hospital

ABSTRACT

This study investigates the resilience-building process of health workers who experienced critical incidents during the COVID-19 pandemic, including family loss, personal infection, and social stigma. Specifically, the research addresses how these factors influence the psychological, emotional, and behavioral resilience of healthcare workers. Using a qualitative method with a Critical Incident Technique design, the study involved in-depth interviews with 12 health workers, including nurses and medical professionals, who met the criteria of having lost a spouse or parent to COVID-19, endured moderate to severe infection, or faced negative community stigma. The interviews were analyzed using thematic analysis to identify key themes and resilience factors. Findings reveal that social support, emotional regulation, self-efficacy, and spirituality played significant roles in resilience-building. Affective responses, such as a sense of security from social support and optimism, cognitive responses like positive thinking and acceptance, and behavioral capacities, including increased worship and professionalism, were prominent. The research also highlights that these resilience processes led to positive adaptation and post-traumatic growth, with 33% of participants reporting a more positive outlook on life and 66% exhibiting increased patience and gratitude. These findings suggest that resilience in healthcare workers is shaped by a complex interplay of emotional, cognitive, and behavioral factors, with implications for policy development and mental health support for healthcare professionals.



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Introduction

The COVID-19 pandemic that emerged in late 2019 quickly spread around the world, creating an unprecedented global health crisis. The disease, caused by the SARS-CoV-2 virus, triggered a surge in cases across countries, stressing health systems to the breaking point with shortages of capacity, equipment and medical personnel (Kurniawan & Susilo, 2021); (Mallah et al., 2021). Countries were forced to adapt quickly, expand emergency services and accelerate vaccine research, even though the impact on basic health services was significant. Health workers in various countries, including Indonesia, face tremendous work pressure, ranging from limited personal protective equipment (PPE), patient surges, to long working hours without rest (Hirawan, 2020).

WHO estimates that around 80,000 to 180,000 health workers worldwide died from COVID-19 in the period January 2020 to May 2021. In Indonesia, LaporCovid19 data recorded that more than 2,000 health workers, especially doctors and nurses, died due to exposure to the coronavirus. This figure illustrates how much risk health workers face during the pandemic, both globally and nationally, as they are at the forefront of fighting the virus (BBC Indonesia, 2021). During the COVID-19 pandemic, healthcare workers have experienced a variety of critical events that have added to their emotional and mental stress. Critical incidents are a number of situations faced by a person in an emergency that result in them experiencing strong emotional reactions that have the potential to affect their role capabilities at the scene or afterwards (Avraham et al., 2014; Calhoon, 2021). One of the most significant is the loss of a family member due to COVID-19. For many healthcare workers, this loss is both deeply grieving and emotionally conflicted, as they are not only care providers, but also victims of the pandemic's direct impact. This disrupts their emotional stability, adds to their mental burden, and can affect their ability to focus and provide optimal care at work (Gamad et al., 2022). In addition, direct exposure to the virus in the work environment exacerbates their fear of contracting the virus, both to themselves and their families. This risk creates constant anxiety, especially when they see colleagues infected or even die from COVID-19 (Mattila et al., 2021).

In addition, health workers also face negative stigma from society, where they are often perceived as spreaders of the virus due to direct interaction with infected patients. This form of discrimination, such as social ostracisation or rejection, greatly impacts their mental state. Feelings of being blamed or shunned by the social environment increase emotional isolation and exacerbate psychological distress (Ramaci et al., 2020). These critical events significantly affect the resilience of healthcare workers, making them more vulnerable to burnout, depression and mental exhaustion. Resilience, which usually helps them bounce back from difficult situations, is put to the test as these various stresses can weaken their ability to recover and adapt to ongoing challenges.

Resilience generally refers to a person's ability to adapt, survive, and recover from difficult or stressful situations, and face life's challenges in a positive way (Umam, 2021); (Sisto et al., 2019). In the context of the health care profession, resilience is very important because this profession is often faced with high pressures, such as heavy workloads, critical patient conditions, and demands to provide optimal services under various stressful situations (Lestari et al., 2022). During the pandemic, health workers face tremendous mental, emotional and physical challenges. Mentally, they are often faced with high stress due to the increasing number of patients, uncertainty regarding the spread of the virus, and having to make difficult clinical decisions in a short time (Rosyanti & Hadi, 2020). Emotionally, many health workers feel the heavy burden of seeing patients suffering, losing their lives, and worrying about transmitting the disease to family and loved ones (Liu et al., 2020). Physically, they also experience fatigue due to long working hours, often without adequate rest, and a high risk of infection in the workplace (Rieckert et al., 2021). The combination of these challenges can potentially lead to burnout, anxiety, depression and even post-traumatic stress disorder (PTSD).

Resilience plays an important role in maintaining the mental well-being of health workers so that they can continue to provide optimal services amidst challenges. With resilience, health workers can manage stress, cope with emotional distress, and recover more quickly from difficult situations such as dealing with patient surges, deaths, or high workloads. Resilience is influenced by various internal and external factors. Internal factors include spirituality, which is a person's effort to find meaning in life; self-efficacy, which is an individual's belief that he or she is able to face problems and achieve positive outcomes; optimism, or belief in good outcomes in difficult situations; and self-esteem, which reflects a person's self-evaluation of his or her quality and value as a human being. Meanwhile, external factors that influence resilience include social support, which is a form of appreciation, care and security provided by individuals or groups. Other factors that influence resilience include work-life balance, humour, and an optimistic and realistic attitude in facing challenges (Missasi & Izzati, 2019).

According to Reivich and Shatte, there are seven main abilities that make up individual resilience. Firstly, emotion regulation, which is the ability to remain calm under pressure. Second, impulse control, which refers to the ability to manage desires or urges in various situations. Third, optimism, where an optimist has positive expectations for the future and believes that he can control his life and face challenges with the belief that things can improve. Fourth, the ability to analyse problems (causal analysis), which is the skill in identifying the root cause of the problem at hand. Fifth, empathy, which is the ability to understand and feel the emotional cues of others, enabling the prediction of that person's feelings or thoughts. Sixth, self-efficacy, which is a person's belief that he is able to overcome problems based on his experience and belief in his ability to succeed. Lastly, reaching out, which is an individual's ability to increase the positive aspects of his or her life, regardless of the difficulties faced (Teterissa et al., 2023).

Previous research has highlighted various aspects of health workers' resilience during the pandemic crisis. Some studies focus on the emotional stress of losing family members, exposure to COVID-19 infection, as well as the social stigma experienced by health workers because they are considered carriers of the virus. Previous

research has also emphasised the importance of social support, coping strategies and psychological interventions to help health workers maintain their mental resilience. However, these studies are often limited to one specific aspect, such as workload stress or anxiety related to the risk of transmission, while there is limited research that thoroughly examines the combination of factors such as personal loss, infection and social stigma. Therefore, the research gap is to expand these studies by digging deeper into how health workers build resilience in the face of these three challenges simultaneously.

The aim of this study was to identify and analyse factors that influence health workers' ability to cope with, adapt to and recover from various critical incidents during the pandemic. This research aims to understand how events such as losing family members, becoming infected with the virus, and experiencing social stigma. In addition, this study aims to develop strategies or interventions that can strengthen the resilience of health workers, such as psychological, social and professional support, so that they are able to maintain their well-being and continue to provide optimal services in times of crisis.

Method

This study used a qualitative research method with a phenomenological approach. This method was chosen to explore the in-depth and complex experiences of health workers who experienced critical events during the pandemic. This research design uses the critical incident technique method. The critical incident technique was used to describe in detail a phenomenon experienced by participants, both negative and positive critical incidents. The research sample was taken using purposive sampling technique, where respondents were selected based on certain criteria. The criteria for participants in this study included health workers at Anwar Medika Hospital, both men and women, with employment status as permanent or non-permanent employees. Participants selected were those who had experienced critical incidents during the COVID-19 pandemic from March 2020 to March 2022. Critical incidents include events such as losing a husband or wife due to COVID-19, losing a parent due to COVID-19, confirmation of a COVID-19 diagnosis with moderate or severe severity, and experiences facing negative stigma from the community related to their profession or condition during the pandemic.

The underlying assumption of this study is that participating health workers have the ability to reflect on their personal experiences during the COVID-19 pandemic, especially regarding critical incidents they have experienced, such as losing family members, COVID-19 infection, or facing social stigma. We also assumed that the participants would provide honest and accurate information regarding their emotional experiences and resilience-building processes. The scope of this study focuses on health workers at Anwar Medika Hospital who experienced critical incidents during the pandemic, in the period March 2020 to March 2022. This study was limited to health workers with certain criteria, such as those who experienced the loss of family members or direct exposure to COVID-19, so that the results of the study are more relevant to this group. Methodological limitations include the limited number of participants and possible sampling bias, as participants were purposively selected based on critical incident criteria. In addition, the results of the study may not be widely generalisable, as the contextualisation of individual experiences is highly dependent on the specific conditions of the hospital and social environment in which they work.

The researcher conducted in-depth interviews with these participants using an interview guide that had been developed by the researcher based on the research objectives. The critical incidents identified were then categorised into first-order concepts, second-order themes, and aggregate dimensions using NVivo 12 Pro software. The interviews aimed to understand how they built resilience in the face of these challenges, as well as to identify factors that supported their resilience. The data collected from the interviews were then transcribed and analyzed using thematic analysis techniques. This method allows the researcher to identify key themes that emerge from the respondents' narratives.

In this study, to meet the criteria of Trustworthiness, the researcher enhanced data credibility through discussions with expert researchers to obtain guidance and direction in line with research principles. Additionally, participant validation was used during the interview process to clarify responses, where the researcher provided feedback on the information given to participants to ensure their responses were accurately captured and understood. This feedback process was conducted in more detail during the interviews to increase credibility and confirm findings. Furthermore, to ensure data validity, the researcher employed data triangulation by comparing interview results with relevant literature and field observations. This validation process is essential to strengthen the research findings and provide a more comprehensive view of health workers' resilience during the pandemic. The data in this study were analyzed using qualitative analysis coding techniques using the NVIVO application. Data analysis and interpretation used to connect between field findings and theoretical frameworks.

Result

The identity of the participants can be seen in table 1. below.

Table 1. Identity of Participants

Participant's Pseudonym	Gender	Age	Profession	Critical Incident
EY	F	45	Nurse	Moderate degree of covid positive
NA	F	33	Doctor	Severe covid positive
VT	F	31	Pharmacist	Husband & father-in-law died
YD	F	47	Atlm	Severe degree of covid positive
RP	M	34	Nurse	Mother died
AS	F	27	Waitress	Father & mother died
FR	F	28	Nurse	Negative stigma
AI	F	32	Nurse	Husband died
EC	F	44	Nurse	Mother passed away
FK	M	37	Nurse	Father passed away
RS	F	35	Nurse	Father-in-law passed away
HA	F	52	General	Father passed away

Based on Table 1 above, it can be seen that the respondents consisted of 10 women and 2 men, with an age range of 27 to 52 years. The majority of respondents worked as nurses, highlighting how vulnerable this group was to critical incidents during the pandemic. Most respondents experienced critical incidents such as the loss of a family member, with 8 individuals losing a parent, spouse, or other family members. Additionally, 3 respondents were reported to have been infected with COVID-19, with moderate to severe symptoms, further worsening their physical and emotional conditions. Another respondent experienced negative stigma from the community, indicating the presence of psychosocial challenges beyond physical health issues. This illustrates the diverse and complex impacts of the pandemic, both on a personal and professional level, for healthcare workers.

Causes Of Resilience

After the researcher identified the first-order concepts and second-order themes as components of the causes of resilience, the researcher summarized the findings in percentages as presented in table 2 below.

Table 2. Causes of resilience

Concept	Participant's Total	Percentage (%)	Theme
a. Be calm under pressure	4	33	Emotion control
b. Does not show excessive negative emotional reactions	7	58	
a. Family moral support	7	58	Social support
b. Support from coworkers	10	83	
c. Flexibility from leadership	4	33	Companionship
a. Fellow health workers accept each other	4	33	
b. Feeling that many fellow health workers are experiencing the same	6	50	Self-efficacy
a. Self-confidence can recover	6	50	
b. Confidence against fear	4	33	Spirituality level
c. Able to encourage oneself	4	33	
a. Grateful to God for passing the test of life	7	58	Spirituality level
b. Surrender to God's destiny	5	42	

The contributing factors to resilience are illustrated in figure 1. below.

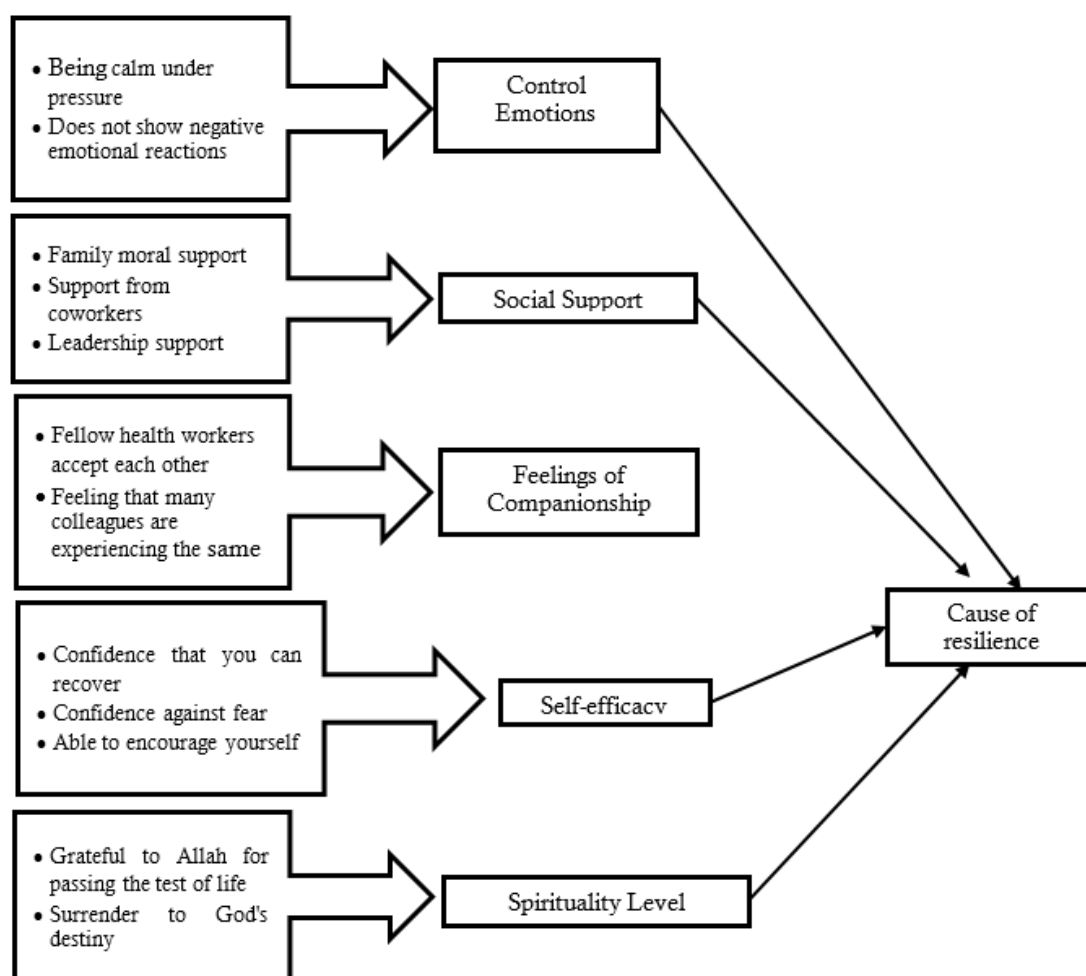


Figure 1. The contributing factors to resilience are illustrated

Berdasarkan hasil penelitian dalam tabel 2 yang digambarkan pada figure 1 di atas, beberapa faktor penting yang mempengaruhi ketahanan tenaga kesehatan setelah mengalami insiden kritis selama pandemi COVID-19 teridentifikasi. Pertama, kontrol emosi menjadi salah satu penyebab utama, di mana 58% responden menunjukkan kemampuan untuk tetap tenang di bawah tekanan dan tidak bereaksi berlebihan terhadap emosi negatif. Ini menunjukkan bahwa regulasi emosi adalah elemen penting dalam mempertahankan stabilitas mental selama situasi sulit. Faktor kedua yang paling dominan adalah dukungan sosial, dengan 83% responden melaporkan bahwa dukungan dari keluarga, rekan kerja, dan fleksibilitas dari pimpinan berkontribusi besar terhadap ketahanan mereka. Hal ini menunjukkan betapa pentingnya jaringan sosial dalam membantu tenaga kesehatan menghadapi tantangan selama pandemi. Selain itu, 50% peserta juga menyebutkan bahwa solidaritas dan rasa kebersamaan di antara sesama tenaga kesehatan memberikan kekuatan emosional, karena mereka merasa tidak sendirian dalam menghadapi krisis.

Selanjutnya, faktor efikasi diri juga muncul sebagai komponen signifikan, dengan 50% responden melaporkan rasa percaya diri dalam kemampuan mereka untuk pulih dan melawan ketakutan. Keyakinan diri ini didukung oleh spiritualitas, di mana 58% peserta menyatakan bahwa rasa syukur kepada Tuhan dan penerimaan terhadap takdir memberikan ketenangan batin yang mendukung ketahanan mereka. Kombinasi dari berbagai faktor ini memperlihatkan bagaimana ketahanan tenaga kesehatan dibangun melalui regulasi emosi, dukungan sosial, keyakinan diri, dan spiritualitas.

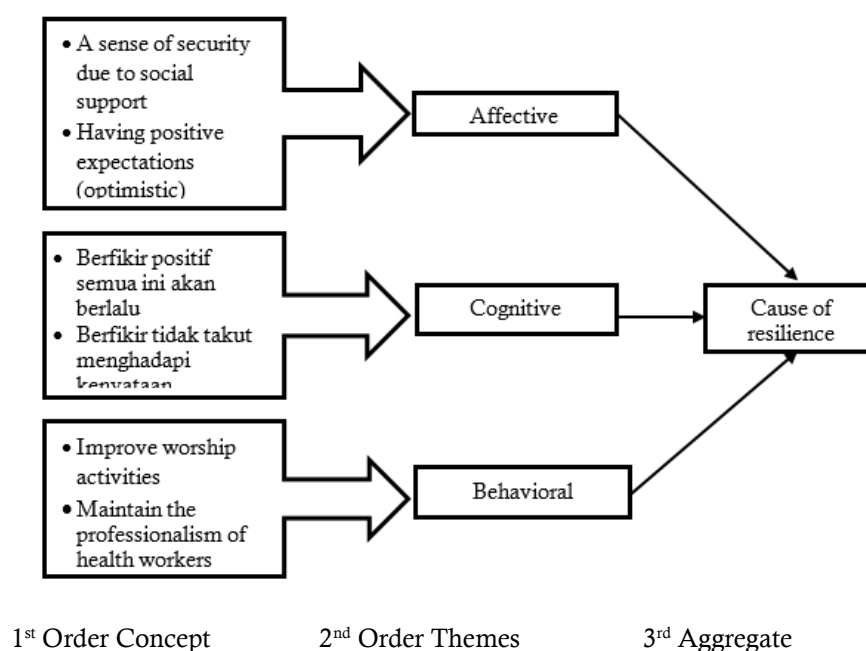
Reactions to resilience (course of resilience)

The reactions shown in resilience (course) form several categories of affective reactions, cognitive reactions and behavioral capacities. After the researcher identified the first-order concepts and second-order themes as components of resilience reactions, the researcher summarized the findings in percentages as presented in table 3.

Table 3. Resilience Reactions

Concept	Participant's Total	Percentage	Participant's Total
a. Sense of security due to social support	10	83	Affective reaction
b. Having positive expectations (optimistic)	8	66	
c. Feeling able to face obstacles	6	50	
a. Thinking positively all this will pass	7	58	Cognitive reaction
b. Thinking not afraid to face reality	4	33	
a. Increase worship activities	8	66	Behavioral capacity
b. Maintain the professionalism of health workers	4	33	

The resilience reaction can be illustrated in figure 2 below.

**Figure 2.** Resilience Reactions

Based on the research results in Table 3, as depicted in Figure 2, the resilience reactions of healthcare workers after experiencing critical incidents during the COVID-19 pandemic can be divided into three main categories: affective reactions, cognitive reactions, and behavioral capacity. Affective reactions, the most dominant, were observed in 83% of participants who felt safe due to social support, 66% who held positive expectations or optimism, and 50% who felt capable of overcoming obstacles. This indicates that emotional support from their social environment and confidence in overcoming difficulties were crucial in building their resilience.

Cognitive reactions also played a significant role, with 58% of respondents stating that they believed the difficult situation would pass, and 33% expressing no fear of facing the current reality. This reflects the importance of a positive mindset and acceptance of the situation as part of their adaptation process to the crisis. In terms of behavioral capacity, 66% of participants reported an increase in worship activities as a form of spiritual strengthening, while 33% maintained their professionalism as healthcare workers. These behavioral responses demonstrate that, in addition to emotional support and a positive mindset, tangible actions in reinforcing spirituality and professional responsibility also helped healthcare workers endure the challenges of the pandemic.

Consequences of Resilience

The consequences of resilience formed two second-order themes which included positive adaptation and post-traumatic growth. After the researcher identified the first-order concepts and second-order themes as

components of consequences of resilience, the researcher summarized the findings in percentages as presented in table 4.

Table 4. Consequences of Resilience

Concept	Participants' Total	Percentage (%)	Theme
a. Making meaning of life more positive	4	33	Positive adaptation Post-traumatic growth
a. Change into a new person who is more patient and steadfast	8	66	
b. Transformed into a new person who is stronger than before	4	33	
c. Full of gratitude for God's destiny	4	33	

The onsequences of resilience are illustrated in figure 3 below

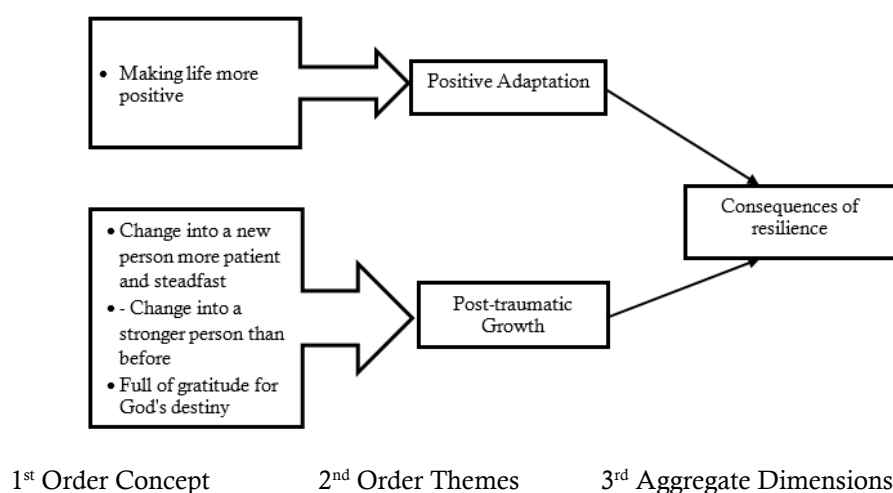


Figure 3. Consequences of Resilience

The research findings on the consequences of resilience reveal two main impacts experienced by healthcare workers after facing critical incidents during the COVID-19 pandemic: positive adaptation and post-traumatic growth. A total of 33% of participants reported successfully finding a more positive meaning in life. This reflects their ability to adapt to difficult situations and discover new meaning in life despite facing significant challenges. Additionally, 66% of participants experienced becoming more patient and steadfast, 33% felt stronger than before, and another 33% expressed gratitude for God's destiny. This demonstrates the presence of post-traumatic growth, where healthcare workers not only managed to endure but also evolved into more resilient, empowered, and grateful individuals after confronting the crisis. This growth illustrates how trauma can foster new mental and spiritual strength in those who experience it.

Based on the results of the research above, it can be concluded that the factors that cause resilience, the resilience reactions that arise and resilient individuals can be illustrated in Figure 4 below.

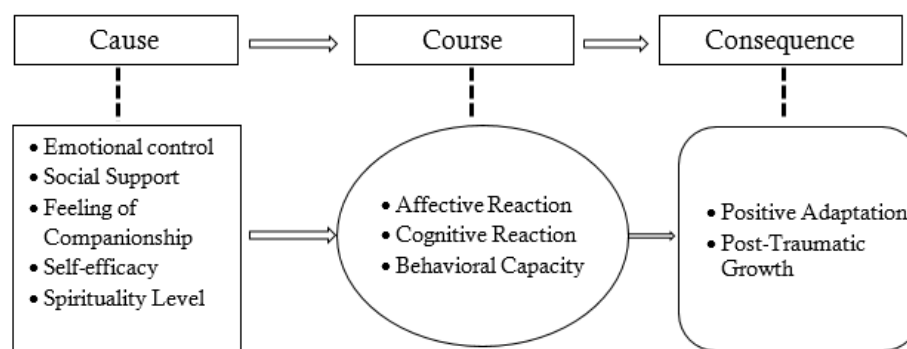


Figure 4. Health Worker Resilience Process

The figure shows that resilience in health workers who experience critical incidents during a pandemic is influenced by several factors including emotional control, social support, feelings of compatibility, self-efficacy and level of spirituality. The reactions that arise in the process of building resilience include affective reactions, cognitive reactions and behavioral capacity. The affective reactions include a sense of security due to social support, having positive expectations (optimistic), and feeling able to face obstacles. Cognitive reactions include positive thinking all this will pass and thinking not afraid to face reality. The behavioral capacity of health workers includes increasing worship activities and maintaining the professionalism of health workers. The consequences that arise in resilient health workers show positive adaptation and positive post-traumatic growth as well.

Causes of Resilience

Based on the results of this study, it shows that the causes of resilience in health workers who experienced critical incidents during the pandemic include five components, namely:

Emotion Control

This study shows that emotional control is one of the components that cause resilience. A total of 33% of participants were calm even under pressure and 58% of participants did not show excessive negative emotional reactions. Feder et al., (2019) states that emotional control supports resilience by encouraging broader associative thinking and adaptive coping. Similarly, according to (Maget et al., 2022), one of the protective factors supporting resilience is the presence of positive emotions.

This aligns with the theory of resilience, which emphasizes the importance of psychological flexibility and emotional regulation in overcoming adversity. The ability to maintain emotional control enables individuals to process challenges more effectively, fostering an adaptive mindset that allows for constructive problem-solving. Moreover, the incorporation of positive emotions can enhance cognitive resources, making individuals more resilient in the face of stress. According to the Broaden-and-Build Theory proposed by Fredrickson, positive emotions expand an individual's awareness and encourage novel, exploratory thoughts and actions, ultimately building their resilience over time (Hendriks et al., 2021). Therefore, the interplay between emotional control and positive emotions is crucial in developing a robust resilience framework, particularly for healthcare workers exposed to high levels of stress and trauma during crises.

Social Support

Social support is one of the components that cause resilience. The support received by participants came from the family environment, coworkers and leaders. Seven participants (58%) stated that they received moral support from their family. A total of ten participants (83%) stated that they received support from coworkers and four participants (33%) received support from the leadership. (Kaniasty, 2020) states that social support is one of the key factors in fostering resilience. Social support can also help reduce the level of difficulty and strengthen resilience capacity. Support that comes from peers is an antecedent of resilience that is worth taking into account (Appleton et al., 2018). Peers who share similar experiences can offer unique empathy and encouragement, which enhances collective resilience by normalizing challenges and fostering mutual reinforcement. In line with the ecological systems theory of resilience, which underscores the importance of external resources in overcoming hardship, social support from multiple levels such as family, coworkers, and leadership acts as a fundamental resource that sustains an individual's ability to adapt and recover from crisis situations (Walsh, 2015).

A Sense of Commonality

Working long, socially isolated and exhausting hours during the months-long covid pandemic resulted in the formation of a close sense of solidarity among health workers in various covid treatment centers (Wallace, 2020). Camaraderie, teamwork and a sense of acceptance were seen as key factors for health workers to recover from the downturn during the pandemic. A total of four participants (33%) stated that fellow health workers accept each other. The existence of a sense of acceptance among peers is one of the causes of health workers' resilience. A total of four participants (33%) felt that many fellow health workers experienced the same thing. This feeling of compatibility is one of the elements of strengthening fellow health workers.

According to resilience theory, particularly the concept of collective resilience, shared experiences and mutual support within a group significantly enhance the ability of individuals to cope with adversity. The social bonds formed through camaraderie not only provide emotional support but also foster a sense of belonging and collective identity, which are crucial for recovery during times of crisis. The acknowledgment of shared struggles allows health workers to develop a supportive network that promotes adaptive coping strategies, thereby reinforcing their resilience in the face of ongoing challenges. This aligns with the principles of social cohesion found in ecological models of resilience, which highlight the importance of interpersonal relationships and group dynamics in fostering individual and collective resilience (Saul, 2022).

Self-efficacy

One of the resilience resources such as self-efficacy, social support and cognitive flexibility is a driving factor in the process of individual resilience (Kaniasty, 2020). A total of six participants (50%) expressed confidence that they could recover. A total of four participants (33%) stated that self-confidence was able to fight fear. A total of four participants (33%) stated that they were able to encourage themselves. Believing in their own strengths allows someone who has experienced a severe event in their life to find many important opportunities in a stressful environment, thus achieving resilience faster (Panigrahi & Suar, 2023). In line with (Cabrera-Aguilar et al., 2023) research which examined the resilience of health workers, especially in the covid task force team during two pandemic waves, showing that the variables of self-efficacy and optimism are strong protective factors that cause resilience.

This aligns with resilience theory, particularly the concept of self-efficacy as proposed by Bandura (Afshar, 2024), which posits that individuals with high self-efficacy are more likely to engage in adaptive coping strategies when faced with adversity. Furthermore, the interplay between self-efficacy and cognitive flexibility is crucial; individuals who believe in their ability to overcome challenges are also more likely to adjust their thinking and behaviors in response to changing circumstances. Thus, fostering self-efficacy among health workers not only empowers them to face their fears but also enhances their overall resilience in the face of ongoing stressors, reinforcing the importance of psychological resources in resilience-building frameworks.

Spirituality Level

The element of spirituality is also one of the components that cause resilience in health workers. This is based on information obtained from seven participants (58%) who stated that they were grateful to God for passing the test of life. While a total of five participants (42%) stated that they surrendered completely to God. This is similar to research by (Ahmed et al., 2021) which states that individuals who proactively increase their spirituality are proven to be able to achieve resilience. Likewise, according to (Maget et al., 2022), one of the protective factors in resilience is spirituality. The presence of religious guidance in individual activities when experiencing difficult situations in their lives will help increase positive resilience responses (Denckla et al., 2020).

This underscores the importance of integrating spirituality into resilience theory, particularly in understanding how spiritual beliefs and practices can serve as a source of strength. Theoretical frameworks such as the "Transactional Model of Stress and Coping" by Lazarus and Folkman highlight the role of individual resources like spirituality in coping with stress. These frameworks suggest that spirituality not only offers emotional comfort but also provides individuals with a broader perspective on their challenges, enabling them to find meaning and growth in adversity (Hundah et al., 2024). Thus, spirituality emerges as a vital resource for health workers, helping them navigate the emotional toll of their work and reinforcing their resilience in the face of ongoing stressors.

Resilience Reaction (Course Of Resilience)

PeConga et al., (2020) states that resilience is built by affective, cognitive, and behavioral processes. Resilient individuals will have flexible cognitive and affective reactions to the severe trauma faced and are able to modify their assessment strategies to face any unexpected circumstances (Panigrahi & Suar, 2023). The research also shows a similar thing. Resilience reactions that appear in all participants include affective reactions, cognitive reactions and behavioral capacity. (Masten, 2019) states that adequate resilience processes are driven by complex processes that consider cognitive, emotional and behavioral levels.

Theoretical models of resilience, like Masten's "Ordinary Magic," emphasize that these intertwined processes are essential for effective coping (Masten, 2014). Resilient individuals not only manage their emotions but also reframe challenging situations cognitively, enabling them to sustain constructive actions despite adversity. This multi-faceted resilience response underscores the dynamic nature of how individuals cope with crises, which is crucial in high-stress environments like healthcare during a pandemic. Thus, resilience theory recognizes that emotional, cognitive, and behavioral strategies work together to create a holistic response to trauma.

Affective Reaction

The findings indicate that social support and optimism are significant contributors to resilience, aligning with broader resilience theories. A substantial 83% of participants felt secure due to the social support they received, which is consistent with (Barnicot et al., 2023), who describe social support as a critical process in building resilience, particularly in challenging circumstances. Additionally, 66% of participants had positive expectations, reinforcing the idea that optimism is crucial for resilience, as (Fowler et al., 2020) note. Optimistic individuals are more likely to have the courage and motivation to tackle obstacles. Similarly, (Appleton et al., 2018) underscores that resilience is built not only on optimism but also on self-confidence and robust social connections, which help individuals navigate and withstand adverse conditions. These elements are optimism, social support, and self-confidence are core components of resilience theory, which posits that individuals with

strong social networks and a positive outlook are better equipped to recover from crises. Resilience, therefore, is a dynamic interaction between emotional support, cognitive flexibility, and personal belief in one's ability to overcome challenges.

Cognitive Reaction

The findings of this research emphasize the importance of positive thinking and cognitive flexibility in fostering resilience. A total of 58% of participants maintained positive thoughts that the challenging events they faced would eventually pass, and 33% believed they were unafraid to face the reality of their situations. This aligns with (Di Giuseppe et al., 2021), who highlight that effective emotional regulation and positive cognitive processes play a crucial role in enhancing resilience. Furthermore, (Iacoviello & Charney, 2020) explain that cognitive flexibility, or the ability to view challenging situations from different perspectives, enables individuals to adapt their actions contextually to address severe difficulties. This adaptability not only helps in navigating immediate crises but also strengthens long-term resilience. In the broader context of resilience theory, cognitive flexibility is essential as it allows individuals to adjust their mindset, reduce emotional distress, and develop coping mechanisms that help them endure and overcome adversities (Bonanno et al., 2024). Therefore, the combination of positive thinking and cognitive adaptability forms a key component in the resilience-building process, enabling individuals to effectively respond to and recover from hardship.

Behavioral Capacity

As many as 66% of participants while facing this critical incident tried to continue to improve worship activities. (Barnicot et al., 2023) stated that individuals who have positive self-reflection in the form of worship activities such as meditation are associated with the resilience process. Similar research is shown by (Roberto et al., 2020) which states that someone who actively visits places of worship and has a meaningful religious identity (religiosity), is proven to increase their resilience in the face of traumatic events. As many as 33% of participants maintain professionalism as health workers. This is shown that when experiencing critical incidents, for example receiving negative stigma from the community, participants still continue to work normally as usual as the covid task force team. Participants who are confirmed positive for covid, in situations of severe illness, are still responsible for managing the delegation of tasks and authority with their team. Especially for a doctor, they remind themselves of the Hippocrates oath and realize their important role during a pandemic, triggering them to persevere in the face of any tough situation. In line with (Alexander et al., 2021) which shows that health workers who have a strong attachment to their professional identity role and remain focused on their professional development while facing difficult pandemic situations, are proven to have better resilience. Of course, this will have a positive impact on the formation of organizational resilience.

Consequences of resilience

Positive Adaptation

The research findings indicate that 33% of participants demonstrated positive adaptation as a consequence of their resilience, characterized by a more positive outlook on life. This aligns with the theory of resilience, which suggests that individuals who successfully navigate adversity often experience growth and transformation. (Panigrahi & Suar, 2023) emphasize that resilient individuals tend to undergo positive changes after overcoming severe difficulties, manifesting in enhanced life perspectives, clearer life goals, and improved self-esteem. These individuals reassess their experiences and find greater meaning in life, leading to personal development and a stronger sense of achievement.

Resilience, according to psychological theory, is not just the ability to recover from stress but also involves adapting to challenges in ways that promote growth. Masten (2014) refers to this as "positive adaptation" despite exposure to significant adversity. This process allows individuals to develop new skills, find greater purpose, and increase their psychological well-being. Through resilience, individuals cultivate a sense of empowerment, ultimately reshaping their self-concept and worldview to become more adaptive and capable of handling future challenges. This adaptive capability supports the broader understanding of resilience as a dynamic and transformative process that enhances not only survival but also personal growth.

Post-traumatic Growth

The phenomenon of post-traumatic growth (PTG) experienced by some participants highlights the profound positive transformations that can emerge after enduring critical life challenges. As shown in the research, 66% of participants became more patient and steadfast, while 33% reported feeling stronger and more resilient than before. Additionally, 33% expressed gratitude for God's destiny, reflecting the role of spirituality in fostering resilience. This aligns with theories of resilience that suggest individuals can develop new personal strengths, shift priorities, and deepen their spiritual lives after facing adversity (Niemic, 2020).

The theory of post-traumatic growth, as outlined by (Tedeschi et al., 2015), posits that individuals often experience significant personal development following traumatic events, which can manifest in five key areas:

increased personal strength, closer interpersonal relationships, a renewed appreciation for life, altered priorities, and a deeper spiritual understanding. The findings in this research echo these aspects, where health workers, despite facing the enormous pressures of the pandemic, found greater meaning in life, developed emotional resilience, and demonstrated gratitude as part of their spiritual growth. This aligns with the concept that resilience is not just about bouncing back, but also about experiencing personal growth and transformation as a result of overcoming severe adversity.

Conclusion

In conclusion, this study shows that health workers build resilience after facing family loss, COVID-19 infection, and social stigma during the pandemic through various adaptive mechanisms. Factors such as emotional control, social support from family and colleagues, and a sense of optimism proved to be important components in the resilience process. In addition, spirituality and professionalism also played a significant role, with participants increasing their religious activities and continuing to perform their duties despite the challenges. Post-traumatic experiences were also characterized by positive growth, such as changes in personal strengths, more meaningful interpersonal relationships and a greater appreciation of life. Overall, this study emphasizes the importance of emotional, social and spiritual support in building the resilience of health workers in crisis situations. The study suggests that health institutions should strengthen social and psychological support for health workers, especially in crisis situations such as a pandemic. Providing mental support programmes, resilience training, and space for spirituality enhancement can be effective steps in building resilience. The implications of this study show that resilience is not only important for individual well-being, but also affects the overall quality of health services. However, this study has limitations, such as a limited sample size and a context focused on the COVID-19 pandemic situation, so generalization of the results of this study to other conditions requires caution. Further studies with larger populations and different contexts are needed to strengthen these findings.

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