

Psychological intervention in disaster situations: A clinical trial and approach guide



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ABSTRACT

This essay presents a model of psychological intervention in disaster situations, highlighting the importance of the work of psychology professionals to promote the emotional well-being and resilience of individuals affected by traumatic events. The document, which addresses assessment, intervention and prevention strategies, based on scientific evidence and ethical practices, aims to help professionals provide effective support at critical moments. Psychologists in disaster interventions must consider not only cultural aspects, but also adhere to the ethical principles and norms of the Regional Council of Psychology (CRP) on secrecy, confidentiality, and storage of documents. Compliance with these guidelines is crucial to ensure responsible professional practices, in accordance with the standards established by the regulatory institution, as specified in Resolution 001/2009, Art. 4.

Keywords: Psychological intervention, Disaster situations, Guide.

1 INTRODUCTION

The occurrence of natural disasters, such as earthquakes, hurricanes, floods, and man-made disasters, such as industrial accidents and acts of violence, can have a devastating impact on people's lives. In addition to the material damage, the psychological effects of disasters can be equally devastating. This essay aims to provide a model of psychological intervention in disaster situations, with the aim of helping to minimize emotional distress and promote resilience for victims.

According to the Civil Defense Manual (2013), which assesses the damages and losses in the country resulting from adverse events, natural or man-made in vulnerable ecosystems, such situations can lead to material, human and environmental damage, resulting in economic and social losses. Thus, the disaster is defined by the intensity of the impact on the affected population, related to the magnitude of the event and, especially, to the degree of vulnerability of the affected system, since the event itself is not the crucial point, but rather its consequences in a vulnerable environment.



According to the Primer for Disaster Intervention (2009), disasters are events that affect a population considered healthy, generating an unexpected situation that disorganizes life in a violent and sometimes traumatizing way. These situations compromise the balance of the people involved, disrupting them emotionally and psychologically, and can result in feelings of insecurity, disbelief and helplessness.

The presence of Psychology in disaster contexts has gradually expanded, especially in recent years. Initially, most studies and intervention strategies were focused on supporting survivors after events. The complexity of analyzing the possible consequences of a disaster was related to the tendency to interpret the event as a direct result of a cause-and-effect relationship. However, it is important to consider that a reported emergency or disaster situation is an isolated incident. Generally, it represents the accumulation of several previous situations and conditions, being only a precursor to more serious consequences.

2 DESCRIPTION OF THE KISS NIGHTCLUB INCIDENT AND ITS AFTERMATH

The Kiss fire went down in history as the second largest in Brazil in terms of death toll. It is second only to the Gran Circo Norte-Americano, on December 17, 1961, in Niterói (RJ): 503 fatalities.

The fire at Kiss Nightclub, located in Santa Maria, Rio Grande do Sul, occurred on January 27, 2013, leaving a mark of tragedy in the history of Brazil. This shocked the country and the world due to the loss of life and the situations that led to the disaster.

The Kiss Nightclub was a popular establishment in the city of Santa Maria, frequented by many young people. That night, the 'Agromerados' party brought together students from six courses at the Federal University of Santa Maria (UFSM). On the night of the fire, the nightclub was overcrowded. Although it had a maximum capacity of approximately 600 people, on the fateful day the nightclub housed almost 1000 people who were in the place, where a university party was taking place. The fire broke out between 2 a.m. and 3 a.m. on Sunday. The tragedy occurred during the performance of the band Gurizada Fandangueira, one of the highlights of the night, when a member of the band lit a pyrotechnic flare on stage. This device caused the fire in the soundproofing located in the ceiling of the nightclub containing highly flammable materials such as foam and plastic. The rapid spread of the fire and the dense toxic smoke that was contained in the place caused an extremely chaotic situation. Many club-goers had difficulty finding emergency exits due to the lack of signage for emergency home exits, and as a result, a tragedy was devastating. Many young people died from burns, smoke inhalation or trampling while trying to survive.

Emergency services arrived at the scene and worked tirelessly to rescue survivors and recover bodies. The city of Santa Maria and the entire country were in mourning after a tragedy, which resulted in the death of 242 people and left hundreds more injured, some of them seriously.



The fire at the Kiss Nightclub exposed many flaws in safety and compliance with regulations in entertainment venues in Brazil. Further investigation revealed that the nightclub did not have adequate licenses and security measures in place to protect patrons in the event of a fire. In addition, there was negligence on the part of the owners and staff of the nightclub.

The Kiss Nightclub tragedy resulted in a national discussion about safety in public places, causing significant changes in legislation and enforcement across the country. After the tragedy at the Kiss nightclub in Santa Maria, Rio Grande do Sul, Brazil, on January 27, 2013, there was a discussion about the urgent need to prevent accidents of this nature. This discussion led to the creation of the so-called Kiss Law.

The KISS Law (Law 13.425/2017) was approved by the National Congress to unify rules for states and municipalities, defining competencies and responsibilities for security in entertainment venues. Establishes general guidelines on measures to prevent and combat fire and disasters in establishments, buildings and public meeting areas;

Article 1 of this Law:

- I - establishes general guidelines and complementary actions on the prevention and fighting of fire and disasters in establishments, buildings and public meeting areas, in compliance with the provisions of item XX of article 21, item I, in fine, of article 24, in paragraph 5, in fine, of article 144 and in the caput of article 182 of the Federal Constitution;
- II - Amends the following Laws:
 - a) Law No. 8,078, of September 11, 1990, which provides for consumer protection and provides other provisions; and
 - b) Law No. 10,406, of January 10, 2002 - Civil Code;
- III - defines acts subject to the application of Law No. 8,429, of June 2, 1992, which provides for the sanctions applicable to public officials in cases of illicit enrichment in the exercise of a mandate, position, employment or function in the direct, indirect or foundational public administration and provides other provisions;
- IV - Characterizes the prevention of fires and disasters as a condition for the execution of artistic, cultural, sports, scientific and other projects that involve tax incentives from the Federal Government;
- V - Provides for responsibilities for the supervisory bodies of the exercise of professions in the areas of engineering and architecture, in the manner specified.

Art. 2 The urban planning under the responsibility of the Municipalities shall observe special rules for the prevention and fighting of fires and disasters for places of great concentration and



circulation of people, issued by the municipal public power, respecting the state legislation pertinent to the subject.

§ 1 The special rules provided for in the caput of this article cover establishments, commercial and service buildings and public meeting areas, covered or uncovered, fenced or not, with a potential simultaneous occupation equal to or greater than one hundred people.

The tragedy at the Kiss nightclub has sparked debate about safety criteria in nightclubs and demanded changes in legislation to prevent similar accidents from happening again. The tragedy also led to changes in fire prevention and safety legislation in Brazil.

- The Kiss Act establishes the following guidelines for fire prevention and disaster response in establishments, buildings, and public gathering areas:
- The need for a fire prevention and emergency plan, which must be approved by the fire brigade and updated annually;
- The need for regular inspections of fire prevention and emergency systems, such as fire extinguishers, smoke detectors, and emergency exits;
- The need for training and simulations for employees and occupants of the establishment, building or public meeting area;
- The need for a risk analysis to identify potential hazards and vulnerabilities;
- The need to comply with technical standards and regulations related to fire prevention and emergency response.
- The Kiss Law also establishes penalties for non-compliance with its provisions, which can range from fines to suspension or revocation of the establishment's operating license.

2.1 JUDGING

On December 10 of last year, the conviction of the four defendants in the case related to the fire - Elissandro Spohr and Mauro Hoffmann, partners of the nightclub, and Marcelo dos Santos and Luciano Bonilha, respectively lead singer and former producer of the band that performed at the venue - became a moment of consternation and recognition for victims and families.

The trial, which lasted 10 days at the Court of Justice of Rio Grande do Sul, in Porto Alegre, 330 kilometers from the city, mobilized the portion of the population that saw criminal accountability as a necessary stage of pain and loss. Groups of volunteers were involved in organizing caravans to the capital and welcoming those who returned after attending the trial.

The decision, in addition to representing a crucial step towards criminal accountability, became a moment of consternation and recognition for the victims and their families. The impact of the verdict reverberated in the community, mobilizing groups of volunteers who organized caravans in the capital and offered support to those who closely followed the trial stage.



This event not only marked a necessary step in the judicial process, but also highlighted the solidarity and search for justice on the part of the affected community. The unfolding of this trial remains an important milestone in the trajectory of confronting and overcoming the consequences of the tragic incident.

On August 3, 2022, a painful twist occurred with the mistrial related to the tragic incident on the Kiss boat, which claimed 242 lives. This decision, reversing the previous verdict, plunged the affected community into deep consternation. The feeling of sadness and pain among the bereaved families and survivors is palpable, as the annulment not only deprives those affected of much-needed replacement, but also represents the absence of recognition by the state.

The lack of accountability and justice in this particular case casts a shadow over the possibility of other similar tragedies in the future. The decision to overturn the judgment not only leaves the wounds open, but also sets a dangerous precedent, indicating that catastrophic events can occur without adequate accountability being provided. Not only does this undermine trust in judicial institutions, but it also leaves victims and their families in a state of helplessness and injustice.

The absence of parts and recognition from the state not only perpetuates emotional pain, but also calls into question the integrity of the judicial system. Bereaved families and survivors are confronted not only with the devastating loss they have already experienced, but now also with the sense that justice has been denied them.

The civil liability of the State consists of the legal consequence of the Public Power, indemnifying the administered for unjust damage caused to it, by the act or omission of its agents. Bandeira de Mello (2008, p. 989) is understood as an "inevitable logical consequence of the notion of the Rule of Law".

Although there is a constitutional and infra-constitutional provision in the sense of holding the State liable, it is necessary to highlight the distinctions between damage to public order and damage to the private life of citizens. Bandeira de Mello (2008) explains that the State, due to its unique position of permanent obligation to the administered, can provide losses on a macroscopic scale, unlike the damages that can be caused by individuals. For this reason, the responsibility of the State has its own physiognomy and is governed by different principles. To this end, the responsibility of the State has, throughout history, received increasingly extensive interpretations. It is no wonder: the impact on the lives of individuals by an entity of the legal position of the State is of an absurd proportion compared to the harmful acts practiced by individuals.



2.2 NARRATIVES OF SURVIVORS OF THE KISS TRAGEDY IN 2013 IN SANTA MARIA/RS

2.2.1 Delvani Brondani Rosso

29 years old, was saved by his brother, Giovanni Rosso, who removed him and other people who were inside the Kiss Nightclub during the fire on January 27, 2013. In a state of shock, Delvani was in a lot of pain.

[...] "Every time I screamed, it felt like they had buried a knife in my throat." He was taken to St. Mary's Charity Hospital. "It looked like a war scene. People screaming, black, burned. And I was also screaming for help. My skin stuck to the shirt and they pulled it out with tweezers. I fainted and spent 1 month in a coma" [...]

He was hospitalized for more than 2 months. He lost 20 kg, had to relearn how to do basic things, such as walking and eating.

[...] "I was bandaged, motionless. He was a prisoner of my body. All I could think about was why there was so much pain and suffering." The brother told him that two friends, Cassius and Henry, did not survive. "At that moment I wanted to explode, to end everything, but even that couldn't happen. I just shed tears. It took me a long time to digest all of this. But, thank God, I'm here."

The experience of grief implies the loss of a close relationship, based on deep affective bonds developed through the conviviality, knowledge and sharing of experiences between two people. Within this context, the loss of the other can manifest itself as something traumatic and highly painful, turning into a disorganizing and frightening experience for the bereaved person, resembling a kind of living death, representing not only the loss of the loved one, but also a part of oneself (Kovács, 1992).

Delvani had approximately half of his body burned in the fire. The young man was one of the witnesses heard in the jury of the four defendants, which was eventually annulled, and moved those present at the hearing. With a detailed and very emotional account, the young man showed the judges the marks he still carries on his body after that night.

[...] "We were seven people, and when this boy shouted fire, and called like that, my brother, Jacó and Charles and Renan, they weren't there in the Pub, but me, Cássio and Henrique stayed, we intertwined our arms so as not to get lost, but then it started to get more intense, the push and shove, And then it was every man for himself. When I started inhaling and it started to get more intense my knees started to get weak, I was losing strength, and at this moment... I fell down and said goodbye to my family and friends, and asked for forgiveness for something I had done."

[...] "The situation has become uncontrollable, out of control. You were pushed where the dough was going and I just tried to go straight. When it got dark, people were screaming even more and I could hear the sound of glass breaking. Desperation, you know? I remember that I kept walking as much as I could and the smoke started to get more intense. There were still a lot of people in front of me. There came a time when I realized I wasn't going to be able to get out..." "Delvani died inside, the Delvani that existed before Kiss. And to this day I have been reborn" [...]



Delvani Rosso showed the scars of the burns he suffered in the Kiss fire – Photo: TJ/RS



2.2.2 Gabriel Rovadoschi Barros

After Kiss, Gabriel Rovadoschi Barros switched from journalism to psychology. Today, at the age of 29, he is a clinical psychologist, and the current president of AVTSM. For a long time, he blamed himself for having survived and his friends did not. It took him more than eight years before he was able to talk about what happened.

We highlight here the complexity of questioning and challenging values internalized in the psychic structure, underlining the false perception that such criteria originate from the internal. Caniato et al. (2010, p. 242) emphasize the self-destruction present in self-punishment, especially when we fail to meet social expectations, citing Freud's "unconscious sense of guilt."



Gabriel Rovadoschi Barros: Survivor of the fire at the Kiss nightclub. 2013. Photo: Personal Archive



[...] "And it was in this tremendous anguish of not recognizing anything, of a value of life after kiss, that I set out to find another way to graduate, after kiss I was immediately thrown into a scenario in which I was a "survivor". And this scenario was unbearable to meet. I wondered, okay, I'm a survivor, and what else? ... I don't just want to be a survivor, but I couldn't attribute any value to another part that would be me. I didn't have a built value of life so hard to understand that I could be anything else, you know. And not just survivors" [...]

In the Lacanian perspective, as in the Freudian one, anguish plays a crucial role as a sign. It indicates a decisive moment in which the subject, seeking to emerge as such, seeks a symbolic response, resorting to imaginary resources. This operation, however, leaves a dispersion in the form of an incessant division, where the remnants of anguish act as the cause of this division. When the passage of the Real through the canyons of the signifier is accomplished, according to Lacan's metaphor, affect ceases to be anguish, it remains a pause, perhaps an alibi. Lacan highlights, according to his publications of 1962-1963, the influence of Kierkegaard's concept of anguish, highlighting the existence of a choice for the subject between symbolic capture and anguish (POLLO, CHIABI, 2013).

[...] "The pain that lasts the most is the pain of impunity. The pain of knowing that everything happened and we don't have the necessary accountability to give a minimum guarantee that it won't happen again," he observes. "The word overcoming does not exist in our dictionary as a collective movement. We have no way to 'overcome' our losses and our grief. We need to rescue the memory so that we have a chance to build a dignified future, so that the crimes committed do not happen again anywhere" [...]



Although in ancient times the idea of state irresponsibility predominated, today we are moving beyond subjective responsibility based on guilt and towards objective responsibility. After the phase of irresponsibility on the part of the State, as pointed out by Odete Medauar (2004, p.434), the consideration arose of holding the State liable only when the intent or guilt of the public agent causing the damage was proven, an approach that imposed an unfair burden on the victim and made accountability considerably more difficult.

Carvalho Filho (2015, p. 573) clarifies that the abandonment of the theory of state irresponsibility marked the emergence of the doctrine of state responsibility in cases of culpable action by its agents, thus adopting the civil doctrine of guilt. In short, in the legal sphere, the idea that the State should not be held responsible for anything initially prevailed. Subsequently, this perspective evolved to the understanding that the public entity could be held liable when intent or guilt was proven.

For Gabriel, telling the story of Kiss is a way that many find to deal with pain.

..."How can we build something positive from telling our story?" Questions.

The testimony becomes feasible in the encounter between the psychoanalyst and the individual in psychic suffering, providing a space for expression through speech. In this therapeutic context, both parties are influenced.

The importance of listening in psychoanalysis, highlighted in Freud's texts, lies in the preservation of the differential of psychoanalysis: the value given to self-knowledge and personal freedom. The practice of listening results in an approach of its own, where lapses, dreams, repetitions and symptoms, free of labels, reveal singularities. Psychoanalytic theory is no substitute for the patient's history, and the ghosts of the analyst should not interfere with the encounter. The fundamental tripod - theoretical training, supervision and personal analysis - stands out as essential resources in improving listening to others (Macedo, Falcão, p.71,72, 2005).

According to Roudinesco and Plon (1988), in view of the discourses presented in this essay, it is noted that the practice of listening emerges as a powerful tool, transcending a mere therapeutic approach domain to enter the skills of depth psychology. Psychoanalysis, in directing its attention to the pain arising from the loss of loved ones, is not content to superficially understand the symptoms, but seeks to penetrate the deepest layers of the unconscious, where the marks of trauma can persist in a subtle, and often imperceptible, way. The symbolic analysis, enriched by a neuroscientific dimension, explores how the horror experienced becomes symbolic elements in the discourse, recognizing the human capacity for meaning in the face of impactful events

In this context, we evoke the positive aspects of the traumatic, based on the words of Maia (2005), who highlights the idea that trauma carries within it a power of change. According to the author, "the traumatic process is capable of modifying forms, senses and meanings in the subject's life, since



it momentarily destabilizes their operating psychic constructions, opening the way for new conceptions to be formed" (MAIA, 2005, p.43).

3 PSYCHOLOGICAL MANAGEMENT IN DISASTER SITUATIONS: CRUCIAL STRATEGIES

The presence of Psychology in disaster contexts has gradually expanded, especially in recent years. Initially, most studies and intervention strategies were focused on supporting survivors after events. The complexity of analyzing the possible consequences of a disaster was related to the tendency to interpret the event as a direct result of a cause-and-effect relationship. However, it is important to consider that a reported emergency or disaster situation is an isolated incident. Generally, it represents the accumulation of several previous situations and conditions, being only a precursor to more serious consequences.

In the face of disaster situations, the initial assessment is a fundamental step before any intervention. Careful analysis of the situation includes identifying the affected emotional needs, assessing the degree of exposure to trauma, observing individual risk factors, and gathering information about the context of the disaster.

Immediate intervention plays a crucial role in stabilizing the emotional situation. This involves providing accurate and reassuring information, offering emotional support, promoting peer and family support, and reducing stigma around emotional distress.

Ongoing support is imperative to cope with acute and potentially traumatic stress reactions. This includes identifying signs of trauma and post-traumatic stress disorder (PTSD), offering individual or group counseling, teaching stress self-management techniques, and fostering social connectedness and a sense of community.

In addition to addressing immediate responses to the disaster, it is essential to implement long-term prevention measures. This involves empowering individuals to develop emotional resilience, educating the community on disaster preparedness, identifying high-risk groups and providing targeted support, as well as monitoring progress and adjusting instructions as needed. These comprehensive strategies aim not only to deal with the immediate consequences but also to foster resilience and prevent future adverse psychological impacts.

4 GRIEF: CONTACT AND TRANSFORMATION, CHALLENGES AND GROWTH

The experience of grief is a journey marked by contact and distancing, by the destruction and assimilation of intense feelings arising from the loss of a loved one. The grief triggered by this loss often leads the individual to distance themselves emotionally, refusing to fully face the complexities of this process.



Polster & Polster (2001) highlight the intense mobilization of energy when previously ignored feelings emerge, which can generate varied reactions, such as contentment, anxiety or shock. Facing the threat to reality, according to Ribeiro (1997), leads the "I" to seek a quick and economic adaptation, resorting to defense and resistance mechanisms to maintain a precarious balance.

The difficulty in dealing with the loss often comes from blocking the perception of the grieving process as an integral part of the "self". Alienation from the reality of loss impedes the necessary mobilization to experience and reformulate this situation, hindering growth and adaptation to the environment.

The expression of anger, a common feeling in grief, can manifest itself in a variety of ways, from internal resistance to external projections. Backbending, for example, causes the person to turn their anger on themselves, resulting in depression, guilt, and, in extreme cases, self-destructive behaviors.

Overcoming grief requires acknowledging and expressing the emotions associated with the loss. Anger persists even after the object's absence, seeking not only annihilation, but destruction and assimilation. The grieving process, according to Perls, Hefferline and Goodman (1997), involves a complete expression and elaboration of emotions, allowing the construction of a new configuration of life.

The pain of grief must be recognized as part of one's own reality, being experienced and expressed until exhaustion. The instability caused by the loss provides a break in the routine, allowing reflection and reassessment of the values and meaning of life.

In the midst of pain, joy and grief coexist, forming an inseparable web that is life. Denying suffering is a way of distancing oneself from what is unwanted, but it also prevents the opportunity to understand and cope with it. Acknowledging suffering as an integral part of life enables learning and empowerment, transforming pain into a less overwhelming component and making room for new experiences.

In this way, the grieving process, when fully faced, becomes an opportunity for growth, resignification and help, allowing the contact-distancing to take place in relation to a figure beyond the pain of loss.

5 PSYCHOPHARMACOLOGY AND PSYCHOTHERAPY INTEGRATED IN THE MANAGEMENT OF PSYCHOLOGICAL EFFECTS IN DISASTER AND TRAUMA SITUATIONS

Modern psychopharmacology is intrinsically linked to the history of chemical neurotransmission, and it is essential to understand the effects of drugs on the brain, the impact of diseases on the central nervous system, and the repercussions of psychiatric drugs. The importance of



having a deep knowledge of the language and principles of chemical neurotransmission is highlighted. Neuroscience addresses how disorders and drugs influence the central nervous system (STHAL, 2014).

Neurons, the cells responsible for by brain chemical communication, they total tens of billions in the human brain, forming trillions of specialized synapses (Sthal, 2014). The diversity of neural sizes, lengths, and shapes determines their functions, with location in the brain being a determining factor. Neuronal dysfunctions can result in behavioral symptoms, while a drug intervention can modulate these symptoms, providing relief, worsening, or even brief induction of behavioral symptoms.

However, when traumatic events occur, many people may experience emotional difficulties such as post-traumatic stress disorder (PTSD), anxiety, depression, and other stress-related conditions. The use of psychotropic medications may be an important part of treatment in certain cases.

Post-Traumatic Stress Disorder (PTSD): In disaster situations, some people develop PTSD, a condition characterized by flashbacks, nightmares, hypervigilance, and avoidance of stimuli associated with trauma. Medications such as selective serotonin reuptake inhibitors (SSRIs), norepinephrine and serotonin reuptake inhibitors (SNRIs), and other mood stabilizers may be prescribed to help relieve these symptoms.

Disaster situations can trigger or aggravate anxiety disorders and depression. Anxiolytics, such as benzodiazepines, may be prescribed to treat acute anxiety, while antidepressants can help relieve depressive symptoms.

Early psychopharmacological intervention can be crucial to prevent worsening of symptoms and promote emotional resilience. Medications are used in conjunction with psychological therapies to provide comprehensive treatment.

The choice of drug and dosage should be based on a careful assessment of the individual needs of the patient. Not all people who experience trauma are subject to medication, and the approach should be customized according to the severity of symptoms and individual response.

The use of medications should be monitored by mental health professionals, who monitor side effects, adjust dosages accordingly as needed, and evaluate the effectiveness of treatment over time.

In some cases, psychopharmacological treatment may be necessary in the long term, especially in situations where symptoms persist or become occasional.

Importantly, psychopharmacology is not the only approach to treating disaster-related trauma and mental disorders.

5.1 PSYCHOTHERAPY FROM AN EPIGENETIC PERSPECTIVE

Regarding the management of psychological effects from the epigenetic perspective of trauma, both medications and psychotherapy can share a neurobiological basis, since both have the ability to



modify specific circuits (Stahl, 2014). Therefore, it is not surprising that both psychotherapy and psychopharmacology demonstrate clinical efficacy in the treatment of psychiatric disorders, and their combination is synergistically therapeutic. Psychotherapy, similar to other forms of learning, can theoretically induce epigenetic changes in brain circuits, increasing the effectiveness of information processing in dysfunctional neurons and thus improving the symptoms of psychiatric disorders, in a manner analogous to drugs.

Regarding the progress of mental disorders, Freitas and Ortega (2016) propose the epigenetic hypothesis as one of the main approaches to understand how environmental factors impact development, leaving chemical marks on the brain and affecting individual health.

In this way, psychotherapy acts epigenetically, just like psychotropic drugs, both environmental experiences and psychotherapy can alter neuronal activity and gene expression. Both negative experiences, such as childhood traumas, and positive experiences, such as those experienced during psychotherapy, have the potential to induce epigenetic changes that underlie long-term memories. Traumatic memories can trigger psychiatric disorders by producing unfavorable changes in specific circuits, while positive memories formed during psychotherapy have the power to positively influence these same circuits, relieving symptoms and improving information processing (Stahl, 2014, p). This understanding highlights the relevance of psychotherapy not only as a psychological intervention, but also as an epigenetic agent that contributes to beneficial modifications in brain circuits.

As described by Stahl in "Psychopharmacology: Neuroscientific Bases and Practical Applications" (2014).

Laboratory animals exhibit epigenetic mechanisms linked not only to spatial memory formation, but also to fear and reward conditioning, models for mood disorders, anxiety disorders, and substance abuse. Both drugs and psychotherapy can facilitate the formation of new synapses that block fear or reward memories and offer a possible explanation not only for how psychotherapy would modify symptoms by altering neuronal circuits, but also how the combination of drugs that facilitate neurotransmission would increase the effectiveness of psychotherapy by modifying neural circuits and, therefore, how psychotherapy would increase the effectiveness of psychotherapy by modifying neural circuits and, in other words, thus, it would reduce symptoms (STAHN, 2014).

5.2 CHOICE OF DRUGS BASED ON SYMPTOMS

Psychopharmacology, based on neurobiology, can take a symptom-oriented approach when choosing antidepressants. This involves organizing symptoms into a diagnostic strategy, disassembling into specific patient-reported symptoms, and matching them to specific circuits and neuropharmacological regulation. The goal is to create a portfolio of agents to treat all residual symptoms of unipolar depression until pain remission is achieved. The choice of treatments aims to target the neuropharmacological mechanisms related to the symptoms, which are adjusted as necessary.

For example, for a patient with "difficulty concentrating," "decreased interest," and "fatigue," the approach suggests targeting norepinephrine (NA) and dopamine (DA) with first-line



antidepressants and potentiating agents. In the case of "insomnia," associated with a different circuit, treatment may involve hypnotics agitated over the GABAergic system or sedative antidepressants that block the serotonergic or histaminergic system.

This approach can be tailored on an individual basis, adjusting the treatment regimen to reduce specific symptoms in a way that is most effective and tolerable for each patient. In addition, a symptom-based approach can be extended to the treatment of common symptoms associated with depression, such as anxiety, pain, excessive daytime distress, sexual dysfunction, and vasomotor symptoms in women.

5.2.1 Symptom-based algorithm for antidepressants, part 1:

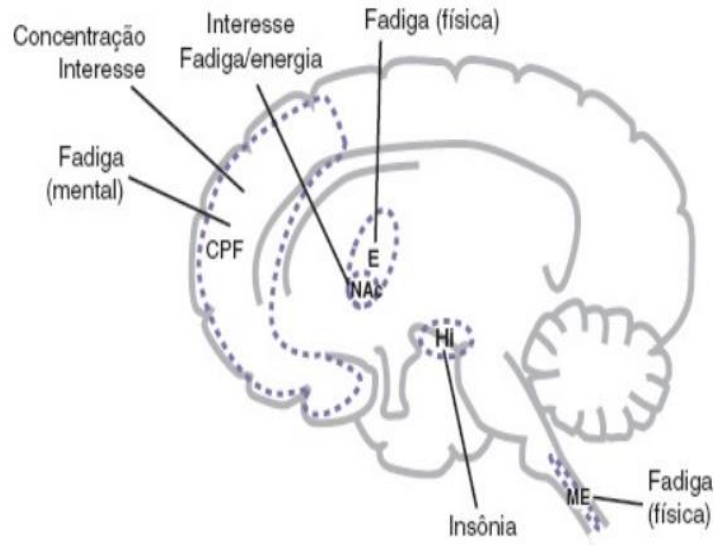
Figure 1. Symptom-based algorithm for antidepressants, part 1. The figure shows the diagnosis of major depressive disorder deconstructed in its symptoms (defined by formal diagnostic criteria). Of these, sleep disturbances, difficulty concentrating and fatigue are the most common residual symptoms.



5.2.2 Symptom-based algorithm for antidepressants, part 2:

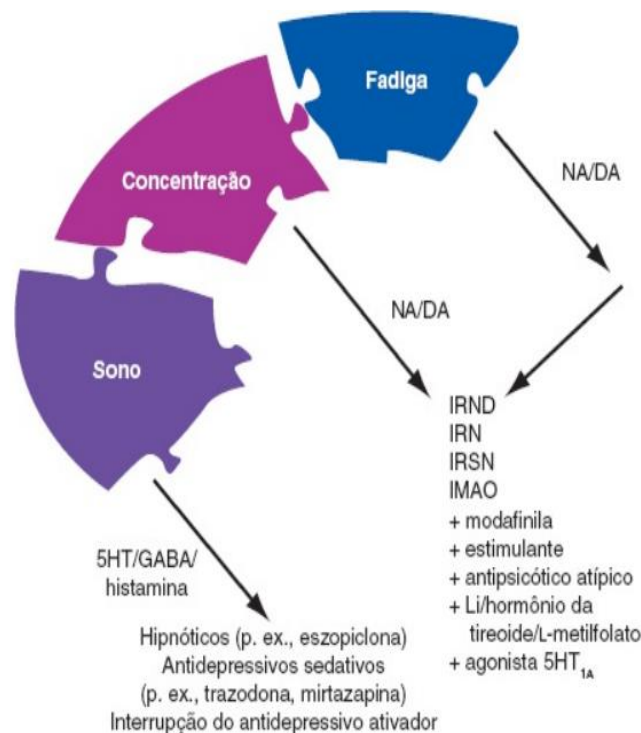


Figure 2. Symptom-based algorithm for antidepressants, part 2. In this figure, the main residual symptoms of major depression are linked to hypothetically dysfunctional brain circuits. Insomnia may be related to the hypothalamus; difficulty concentrating with the dorsolateral prefrontal cortex (CPF); the reduction of interest, with the CPF and the nucleus accumbens (NAc); and fatigue, with the CPF, the striatum (E), the NAc and the spinal cord (ME).



5.2.3 Symptom-based algorithm for antidepressants, part 3:

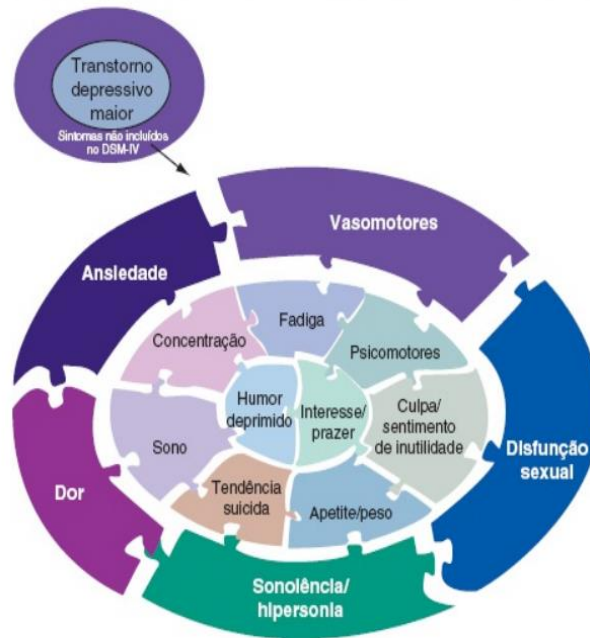
Figure 3. Symptom-based algorithm for antidepressants, part 3. The residual symptoms of depression may be linked to the neurotransmitters that regulate them and, in turn, to pharmacological mechanisms. Fatigue and concentration are regulated to a large extent by noradrenaline (NA) and dopamine (DA), which are affected by many antidepressants, such as noradrenaline and dopamine reuptake inhibitors (NDRIs), selective noradrenaline reuptake inhibitors (NRIs), serotonin and noradrenaline reuptake inhibitors (SNRIs), and monoamine oxidase inhibitors (MAOIs). Potentiating agents that affect AN and/or AD are modafinil, stimulants, atypical antipsychotics, lithium, thyroid hormone, L-methylfolate, and serotonin (5HT) 1A agonists γ . with sedative antidepressants, such as trazodone or mirtazapine; or by discontinuing an activated antidepressant.





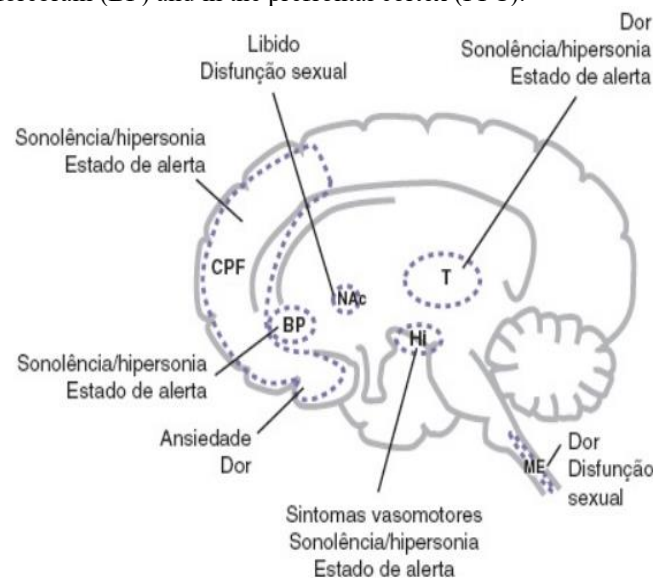
5.2.4 Symptom-based algorithm for antidepressants, part 4:

Figure 4. Symptom-based algorithm for antidepressants, part 4. There are several common symptoms of depression that, however, are not part of the formal diagnostic criteria for major depressive disorder. These are painful physical symptoms, excessive daytime sleepiness/hypersomnia with activation and wakefulness problems, anxiety, vasomotor symptoms, and sexual dysfunction.



5.2.5 Symptom-based algorithm for antidepressants, part 5:

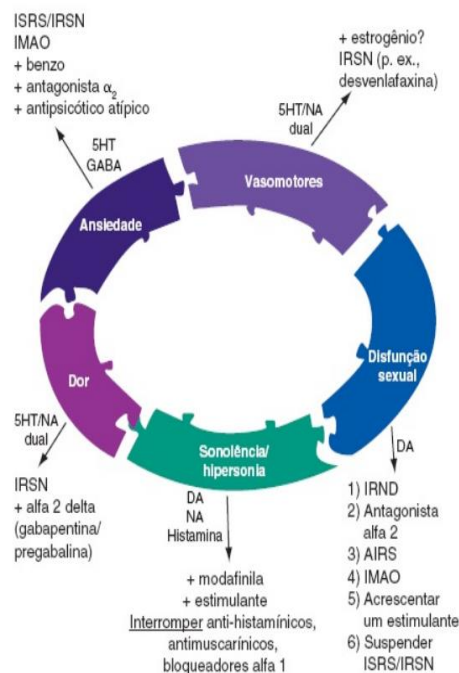
Figure 5. Symptom-based algorithm for antidepressants, part 5. In this figure, common residual symptoms of major depression that are not part of the formal diagnostic criteria are linked to hypothetically dysfunctional brain circuits. Painful physical symptoms are related to the spinal cord (BM), thalamus (T), and ventral parts of the prefrontal cortex (PFC), while anxiety is associated with ventral PFC. Vasomotor symptoms are mediated by the hypothalamus (Hi), and sexual dysfunction by BD and nucleus accumbens (NAc). Sleep symptoms that are part of the diagnostic criteria for depression mostly involve insomnia, which is linked to the hypothalamus. However, problems of hypersomnia and excessive daytime sleepiness are shown here, which may be beyond the symptoms included in the diagnostic criteria and which may be linked to activation and wakefulness problems and activation pathways, not only in the hypothalamus, but also in the thalamus (T), in the basal part of the forebrain (BP) and in the prefrontal cortex (PFC).





5.2.6 Figure 6 - Symptom-based algorithm for antidepressants, part 6:

Residual symptoms of depression may be linked to the neurotransmitters that regulate them, and therefore pharmacological mechanisms. Painful physical symptoms are mediated by noradrenaline (NA) and, to a lesser extent, serotonin (5HT) and can be treated with serotonin and norepinephrine reuptake inhibitors (SNRI) or by $\alpha_2\gamma$ ligands (pregabalin, gabapentin). Anxiety is related to 5HT and γ -aminobutyric acid (GABA). It can be treated with selective serotonin reuptake inhibitors (SSRIs), SNRIs, or monoamine oxidase inhibitors (MAOIs) as monotherapies, as well as by potentiation with benzodiazepines, α_2 agonists, or atypical antipsychotics. Vasomotor symptoms can be modulated by NA and 5HT and treated with SNRI. Potentiation with estrogen therapy is also an option. Sexual dysfunction is regulated primarily by dopamine (DA) and can be treated with norepinephrine and dopamine reuptake inhibitors (NDRIs), α_2 antagonists, serotonin 2A antagonists/serotonin reuptake inhibitors (AIRS), MAOIs, addition of a stimulant, or discontinuation of SSRIs or SNRIs. Hypersomnia and activation and alertness problems are regulated by AD, AN, and histamine and can be treated with activating agents such as modafinil or stimulants, or by discontinuing sedative agents with antihistamine, antimuscarinic, and/or α_1 -blocking properties.



In summary, the strategy of contemporary psychopharmacology to treat major depression is based on an algorithm that is based on symptoms. This algorithm is used to choose and combine antidepressants, thus creating a set of mechanisms that aims to eliminate each symptom diagnosed and associated with depression. This approach reflects modern conceptions of neurobiological disease and



pharmacological mechanisms, with the ultimate goal of achieving effective symptom remission (Sthal, 2014).

6 DISCUSSION

Both in the miniseries "Every Day the Same Night" produced by Netflix, and in the documentary series "Kiss Nightclub - The Tragedy of Santa Maria", from Globo Play, it is possible to see the perspective of the families who were directly affected by the accident, among these people many were parents who lost their children.

Historical traumas have an invariable impact on a community's self-preservation and self-preservation. Traumatic environmental events, such as disasters, violence, wars, and other situations that pose a serious threat to life, can significantly influence people's psychic functioning. This can result in consequences that are difficult to symbolize (Fuks, 2010).

The trauma does not reside in the event itself, but in the way in which a disruptive event affects the psychic apparatus of the subjects and how it is integrated into their singular experiences. Traumatic experiences can radically disrupt the psychic organization, triggering a series of psychopathological symptoms (Rudge, 2009). Therefore, it is crucial to pay attention to the possible effects of trauma on the psyche, involving the creation of effective therapeutic interventions that facilitate the process of psychic reorganization and the symbolization of the experience, allowing the construction of meaningful narratives.

Currently the death of children is seen as something out of the ordinary, something difficult to understand, Reis et al (2021) point out that in the popular imagination, child and risk of death are dissociated, there is a false sense of control over death in which parents will die before children.

However, there are also other points to be considered, there is a strong feeling of injustice and frustration of the victims with the public authorities and the firefighters, who allowed a "rat trap" to work, receive people and cause their death.

In addition, the fire was highly unpredictable, and the city and its inhabitants were not prepared to deal with the intense demands that arose. It was necessary to mobilize a task force in Santa Maria, involving many volunteer professionals, supported by Médecins Sans Frontières and representatives of public mental health management, to organize the work processes in an emergency manner.

Given the magnitude of the disaster, many victims were pulled lifeless from the nightclub. About 230 young people were transported by truck to the Municipal Sports Center (CDM) to facilitate the identification and release of the bodies. Five Army trucks were used for this purpose, and the site was chosen due to the limited capacity of the Medico-Legal Institute (IML) to accommodate only 10 bodies. This organization was carried out within an estimated period of four hours for the loading and organization of the victims in the CDM (SMS Bulletin, 2013).



After the transport of the bodies, actions were carried out to identify the relatives, a moment marked by intense anguish and suffering. The families had been searching for information around the city since three o'clock in the morning. An urgency and emergency health sector was organized to offer emotional support to the families, divided into responsible teams for medicines, shelter and donations (water and food). It is crucial to emphasize that the affected families were not only from the Santa Maria region, covering several regions of the state of Rio Grande do Sul, highlighting the state character of the event.

Another humanitarian care front was the reinforcement of ambulances on duty at the entrance of the CDM, providing care and support in emergency situations. At the same time, professionals from the Municipal Health Department registered volunteers by professional categories to establish multidisciplinary teams for on-site care. Volunteer professionals were organized to support the accompaniment of family members in the identification of the bodies and to assist in the mediation and containment of situations of despair (SMS Bulletin, 2013).

With this, one can think again about the role of the psychologist in the emergency situation, in the context of the nightclub, there was an intersectoral work between the fire department, police and doctors, but it would still be very important to include psychologists at the time of rescuing the victims, to welcome and guide the families. In a way, that tragic incident caused all the people involved to create a bond between them, and this could be used for group therapy.

Welcoming work after a disaster situation is critical, as it allows the individual to cope with and give meaning to the traumatic experience. This intervention contributed to the process of psychic representation of what happened, providing a way of representing the experience that does not imprison the subjects in the anguish of annihilation that abandons and disorganizes. Health professionals, especially psychologists, can offer to listen.

According to the WHO, the care of disaster victims had to be planned in the medium to long term, not only by psychologists, but by several municipal health agencies such as SINPDEC, SUS and SUAS (CREPOP).

7 FINAL THOUGHTS

The model of psychological intervention in disaster situations presented in this essay highlights the crucial importance of the work of psychology professionals to promote the emotional well-being and resilience of individuals affected by traumatic events. In the face of the tragedy that occurred at the Kiss Nightclub in 2013, it is evident that the emotional consequences have endured over time, significantly impacting the lives of survivors, victims' families, and the entire community.

The positive approach to trauma, as highlighted by Maia (2005), highlights the power of change that can arise even in the midst of extremely adverse situations. However, the narratives of the



survivors, such as those of Delvani Brondani Rosso and Gabriel Rovadoschi Barros, reveal the complexity of the overcoming process, marked by physical and intense challenges. The upheaval in the quest for accountability and justice, with the mistrial, adds an additional layer of pain and uncertainty to the victims and the community.

The Kiss Law, despite representing an advance in Brazilian legislation for the prevention of similar tragedies, highlights the continuous need for strict vigilance and inspection to ensure effective compliance with safety standards. The lack of accountability in the judicial sphere, as seen in the case of Kiss Nightclub, underscores the importance of an effective legal system to ensure justice for victims and prevent further mishaps.

Psychological management in disaster situations, as proposed, requires a multifaceted approach, from initial assessment to implementation of long-term strategies. The integrated work of mental health professionals, along with preventive and educational measures, is essential to promote individual and community resilience.

In the context of psychopharmacology, it is clear that the approach must be personalized, considering the individual needs of survivors. Pharmacological treatment, when indicated, should be carefully monitored, and integration with psychotherapy is critical for comprehensive management of adverse psychological effects.

Regarding the diagnosis of Post-Traumatic Stress Disorder (PTSD), it involves a careful clinical evaluation, considering criteria ranging from exposure to traumatic events to the impacts on symptoms and the individual's functioning. The nature of the trauma, potentially traumatic medical events, and the differentiation between direct and indirect exposure are central elements.

First., et al. (2017, p. 96-103), highlight the importance of professional sensitivity when dealing with patients who have experienced traumatic events, encouraging a careful approach to obtain detailed information.

The specific nature of the trauma experienced is discussed in detail, highlighting events such as exposure to war, physical assault, sexual violence, kidnapping, as well as the Kiss incident, among others.

In addition, it emphasizes the need to understand direct and indirect exposure to trauma, especially when it comes to children, and how this can affect clinical assessment.

By addressing patient sensitivity when discussing traumatic events, the text highlights the importance of clinicians recognizing signs of discomfort and encouraging open communication. Understanding patient hesitancy and careful approach to obtaining detailed information are emphasized as crucial clinical practices.

According to the SCID-5-CV clinical version, the evaluation process of criteria B to E, detailing intrusive symptoms, changes in cognition and mood, persistent avoidance of stimuli associated with



trauma, and marked changes in arousal and reactivity. The need to consider the persistence of these symptoms over time, as well as their association with the traumatic event, is emphasized.

In addition to the aspects already mentioned, specific criteria such as irritable behavior, reckless or self-injurious behavior, hypervigilance, exaggerated startle response, concentration problems and sleep disturbance are highlighted. Considering the minimum duration of one month for the presence of these symptoms and the significant clinical impact, as essential elements for the diagnosis of PTSD.

Finally, it emphasizes the importance of ruling out other medical conditions or substance use as causes of symptoms, thus ensuring accuracy in diagnosing PTSD. This structured clinical approach provides valuable guidance for mental health professionals who are involved in the assessment and diagnosis of PTSD in patients (First, et al. (2017, p. 96-103).

In summary, this essay highlights the complexity and persistence of the challenges faced by individuals and communities in the aftermath of traumatic events. Interdisciplinary action and the continuous search for improvements in disaster prevention and response policies are essential to ensure that victims receive the necessary support to elaborate on their pain and that lessons are learned to avoid future tragedies.



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