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Case Report

Physical Complaints of Pain and Heartburn as Part of The Symptoms of Somatization

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Submitted : September 21, 2022
Revised : July 2, 2023
Accepted : April 10, 2023
Published : October 18, 2023

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Abstracts

Introductions: One of the mental health disorders that have an impact on physical health is called somatization disorder. Somatization is characterized by the appearance of complaints of pain in body parts that occur repeatedly. Anxiety, various physical complaints, and an increasing number of symptoms accompany symptoms of somatization disorder. The most common physical complaint is heartburn. **Case:** This case report discusses the case of a 36-year-old woman who complained of heartburn by visiting various doctors, but no medical results showed any abnormalities. **Purpose:** This case report aims to provide a literature review of heartburn symptoms due to somatization. Discussion: The Relationship between Heartburn Levels and Somatoform Disorders Psychosocial stressors are related to psychological factors that influence medical conditions that cause prominent psychological and somatic disorders. Psychological disorders and vice versa can cause physical disturbances. The patient's bodily medical condition can cause psychological disorders. Patients with severe acute pain will experience anxiety, fear, and sleep disturbances. This is due to the patient's discomfort with his condition, where he suffers from the pain he experiences and cannot move. With increasing duration and intensity of pain, the patient may experience a depressive disorder, and then the patient will be frustrated and irritable towards those around him and himself. **Conclusion:** The high pain intensity in the patient will cause sensitivity and increase his concern for his physical, lowering the threshold for detecting physical sensations or expressing distress and pain.

Keywords: Pain, Heartburn, Somatization

Cite this as: Prasetya. E. C., Afifah. I., et. al. "Physical Complaints of Pain and Heartburn as Part of The Symptoms of Somatization". Jurnal Psikiatri Surabaya, vol. 12, no. 2, pp.186-193, 2023. doi: 10.20473/jps.v12i2.39192

Introductions

The International Association for the Study of Pain (IASP) describes pain as an unpleasant sensory and emotional feeling associated with tissue damage or has the potential to cause harm [1]. The definition of content explains that pain is not always described as a physical problem characterized by tissue damage but also psychologically related to emotional factors. This definition also illustrates that pain is associated with something equivalent to tissue damage. This IASP emphasizes the suffering aspect of pain, which is an uncomfortable feeling. The emergence of pain is not just a sensory process but a complex perception that involves cognitive, mental, emotional, and memory functions [1].

Pain is significant as a protective mechanism of the body that arises whenever the tissue is damaged and causes the individual to react to relieve the painful stimulus. Pain perception is very individual much influenced by various non-physical factors [2]. Pain is not only a physical disorder but is a combination of physiological, pathological, emotional, physiological, cognitive, environmental, and social factors [3]. The cause of the pain can be due to mechanical, thermal, chemical, or electrical trauma, neoplasm, inflammation, blood circulation disorders, and others. Psychologically, the cause of pain can occur due to psychological trauma [2], [4].

The World Health Organization (WHO) defines a healthy condition as not only the absence of disease or physical disability but also a state of complete physical, mental, and social well-being [5]. Any disturbance in mental health will impact physical health, which can undoubtedly affect daily activities and hinder productivity [6]. One of the mental health disorders that have an impact on physical health is called somatization disorder [7]. Somatization is characterized by the appearance of complaints of pain in body parts that occur repeatedly. This makes individuals believe they have a severe disease but often cannot be diagnosed medically [8]. Anxiety, various physical complaints, and an increasing number of symptoms accompany symptoms of somatization disorder. The bodily complaints commonly felt are headache, dizziness, fatigue, and stomach pain [9]. Moreover, people who experience somatization often tend to feel negative emotions towards doctors or nurses because they are considered to have no medical symptoms. People with somatization tend to believe they are in severe pain and need medical help. This will undoubtedly make them feel confused and anxious about the conditions they are experiencing [10].

The purpose of this case report is to provide a literature review of the symptoms of heartburn due to somatization.

Case

Patient Mrs. E, 36 years old from Lamongan, Indonesia, was brought by her husband to the Psychiatric outpatient at Muhammadiyah Lamongan Hospital on November 16, 2021, with complaints of feeling afraid of her physical condition for the last six months. The patient said that the pit of his heart ached continuously until the patient said he was worried about his condition, and could worsen with his current situation. The patient thinks that he feels there is a disturbance in his heart. The patient also never told the beginning that something like this could happen because he was a teacher who always taught. At that time, the patient's condition got the mandate to give answers to his students during the exam. That's where the patient feels afraid and anxious with the answers he has given to his students. After the incident, the patient fell ill and complained of recurrent heartburn. Previously, the patient had also been treated at the Siloam Hospital, Surabaya, to check his condition, and the doctor had said there were no abnormalities. Because they are not satisfied with the doctor's answer. The patient finally returned to another doctor, apparently get-

ting the same answer.

The patient also said that during pain in the solar plexus, the pain scale was worth 4. The patient was often silent at home and did not interact with others. The patient at home only lives with her husband and two small children. The patient also admitted that he rarely talked to his husband because his husband always did his work outside. For the food eaten, the patient said that he ate his food at home. He just ate quickly because he had to care for his young child and the baby at home.

The awareness of compos mentis GCS 456 was obtained in the psychiatric status. For the general appearance, women were neatly and cleanly dressed using a long red hijab covering the chest and wearing a mask. The behavior and psychomotor activity of the patient can stroll and sit quietly, and the patient is very cooperative. Mood and affect are anxious and harmonious, verbal contact +, relevant, and eye contact +. Realistic thought forms coherent thought flow and content of thought preoccupation with anxiety and heartburn for the orientation of time, place, and people within normal limits. The patient's memory is also within normal limits. Perception: there is no perceptual disturbance found, with sufficient impression intelligence, the patient's view is grade 6, and the patient is fully aware of his situation and is motivated to improve. The patient's physical status was within normal limits.

The patient's multiaxial diagnosis is axis I F45.0 somatization disorder. Axis II anxiety personality traits. Axis III showed no systemic disease. Axis IV problems with work. Axis V GAF Scale 80-71. In addition to being given tricyclic antidepressant psychopharmaceuticals, the patient is given simple cognitive therapy to provide a slightly slow response to the stressful stimulus he is facing, and this is to help the patient not emotionally jump to the conclusion or magnify the problem when feeling frustrated. Cognitive therapy also encourages patients to begin to accept that when they are facing a crisis. These problems they understand will be easier to deal with. The patient is encouraged to stop spending time with a doctor gradually. In addition, you should be able to control the stress level that can trigger symptoms with physical activity, hobbies, sports, or recreation with family and closest people. Communicating with family and friends will also increase the confidence that the patient is accepted and beneficial to his community.

Discussions

Parts of the body that function to receive pain stimuli are called pain receptors. Pain receptors, often called nociceptive, are accessible nerve endings in the skin that respond only to strong, potentially damaging stimuli. The cutaneous part's reactors are divided into two components: delta A-fibers and C-fibers. Delta A-fibers are fast component fibers that allow sharp pain to occur but will quickly disappear. While C-fibers are slow component fibers found in deeper areas, the pain is usually dull and difficult to localize. The physiology of pain goes through the following processes [9], [10]:

a. Transduction Process

The transduction process is when a painful stimulus is converted into an electrical activity that nerve endings will receive. This stimulus can be physical (pressure), temperature (heat), or chemical (pain substance) [11].

b. Transmission Process

The transition process is described as transmitting impulses through the sensory nerves following the transduction process. The notion is then transferred by A delta nerve fibers and C fibers as the first neuron, from the periphery to the spinal cord, where the impulse is modulated before being transmitted to the thalamus by the spinothalamic tract as the second neuron. From the thalamus, the impulse is continued to the somatosensory part in the cerebral cortex through the third neuron, where the impulse is interpreted and perceived as pain perception [12].

c. Modulation Process
The modulation process is a process where there is an interaction between the endogenous analgesic system produced by the body when pain enters the posterior horn of the spinal cord. This endogenous analgesic system includes enkephalins, endorphins, serotonin, and noradrenaline, which suppresses pain impulses in the posterior horn of the spinal cord. The posterior horn can be likened to a door that can be closed or opened as a door of pain. The above endogenous analgesic system plays this. This modulation process causes the perception of pain very subjective to each person [13], [14].
d. Perception
Perception is the point of a person's awareness of pain. When the individual becomes aware of pain, a complex reaction occurs. Pain perception occurs when nociceptor stimulation activates Aδ fibers, resulting in sharp and stabbing pain. When the strength of the stimulus increases, it will cause the involvement of C fibers so that the pain increases and will cause a burning sensation [15].

Classification of Pain Based on the type of pain is classified:
a. Nociceptive pain
Nociceptive pain is caused by the activity of nociceptors on both A-delta fibers and C-fibers caused by painful stimuli. The pain includes mechanical, terminal, and chemical pain. Nociceptive pain is caused by tissue damage, both somatic and visceral. Bodily pain is dull, the location is related to the lesion and usually improves with rest. Examples are musculoskeletal pain, arthritis pain, and postoperative and metastatic pain. Visceral pain is associated with the distension of hollow organs. Their location is difficult to describe: deep, squeezing, and cramping. This pain is usually associated with autonomic symptoms, such as nausea, vomiting, and diaphoresis. Nociceptive stimulation will result in the release of inflammatory mediators from tissues, immune cells, and sensory and sympathetic nerve endings produced by chemical, mechanical, and temperature stimuli that cause activation and sensitization of peripheral nociceptors (nerves that will be responsible for pain stimuli) [16].
b. Neuropathic pain
Neuropathic pain is caused by neural damage to the peripheral nerves and the central nervous system, including major and peripheral afferent nerve pathways, usually described as burning and stabbing. Neuropathic pain is caused by neural trauma or nerve irritation. This pain will persist even though the precipitation factor has disappeared. This group includes trigeminal neuralgia, postherpetic neuralgia, and peripheral neuropathy [16], [17].
c. Psychogenic pain
This pain is associated with a mental disorder accompanied by real psychological symptoms. These symptoms are often called somatoform, idiopathic, and atypical pain. Psychogenic pain can be included in the group of psychosomatic pain, but there is also a separation [18], [19].
Based on the source, pain is classified as follows [20]:
a. External somatic pain
Pain that is stimulated by the skin's subcutaneous tissue and mucous membranes. The pain is usually burning, sharp, and localized.
b. Deep somatic pain
Dull and poorly localized pain due to stimulation of skeletal muscles, bones, joints, and connective tissue.
c. Visceral pain
Pain due to stimulation of visceral organs or membranes covering them.
To determine the degree of pain, used NRS (Numeric Rating Scale). Patients are invited to select the location of the level of pain. The NRS is a straight line with numbers 1-10, representing continuous pain intensity and a verbal description at each end. This scale gives the patient complete freedom to feel the severity of the pain. NRS is a more sensitive measure of pain severity because the patient can identify each point. The NRS in-

terpretation is that a value below four is considered mild pain, between 4-7 is considered moderate pain, and between 8-10 is regarded as severe pain [9], [21].

Somatization is a somatoform disorder characterized by the appearance of somatic (physical) symptoms that occur repeatedly without a clear cause. People with this disorder usually believe they have a physical illness, so see a doctor. However, often, they do not get information regarding the disease they feel. This condition is usually called medical orphans. Somatization can also occur in individuals who have a medically detectable physical illness. However, what makes the difference is that the physical complaints in somatized individuals tend to show a significant and excessive number of complaints from the general medical history [22]–[24].

Four symptoms of somatization are commonly felt: (1) feeling symptoms of pain in the head, stomach, back, joints, chest, and rectum, and pain during menstruation; (2) feeling gastrointestinal symptoms or disorders of the digestive system such as nausea, bloating, vomiting, or diarrhea, (3) sexual symptoms such as irregular menstruation, excessive menstrual bleeding, etc., (4) pseudo neurological or neurological related symptoms such as impaired coordination or balance, localized paralysis or weakness, difficulty swallowing or throat lump, retention urine, hallucinations, loss of touch or pain sensation, blindness, deafness, and seizures. Symptoms that appear vary. Everyone generally feels these symptoms, but what is different is that individuals who experience somatization tend to feel these symptoms repeatedly for an indefinite period. These physical complaints appear from time to time and cause concern for the individual over the conditions experienced [25].

Several studies have shown that patients with a psychiatric disorder are more likely to report the symptoms of heartburn, heartburn-induced exercise, and dysphagia than those without a psychiatric disorder. In addition, as many as 42% of psychiatric patients, compared to 5% of control subjects, reported gastroesophageal reflux disease (GERD). Furthermore, according to several studies of psychological comorbidities in GERD patients, anxiety, depression, and somatization are significantly more common than patients without psychological comorbidities. There is evidence that increasing GERD severity, as determined by the frequency and duration of symptoms, is more likely to be associated with psychological distress [26]. Heartburn symptoms were reported in 38% of patients who had more symptoms, such as stomach pain when eating, bloating, acid regurgitation, and chest pain, than those without heartburn symptoms. Unsurprisingly, these specific gastrointestinal symptoms are significantly increased in patients with functional dyspepsia who report heartburn because they are common overlapping symptoms of gastroesophageal reflux disease [27].

The American Psychiatric Association the DSM-5, explains that individuals can be said to have somatization disorder if they meet the following three criteria: (1) Somatic symptoms that cause significant stress and are hampered in daily life. Previous research has shown that somatization symptoms in children have a strong relationship with children's absence from school and withdrawal from the environment. (2) There are one or more thoughts, feelings, or behaviors related to somatic symptoms, which are persistent, excessive, and closely related to high anxiety levels and cause reduced energy and time spent. (3) Symptoms have been experienced for at least six months or more [7], [24], [28].

Various factors cause the emergence of somatization: (1) Genetics and personality. Individuals with a history of somatization from their parents are likely to experience somatization symptoms and are prone to physical symptoms. Then, the individual character also plays a role in the development of somatization. Previous research explained that somatization disorder is apt to be experienced by individuals with anti-social personalities

who behave obsessively, sensitively, and aggressively, meaning that social competence influences individual somatization. (2) The level of sensitivity to physical disturbances. Individuals who have somatization disorder tend to have physiological [7], [22], [23].

Which is more sensitive, so if physical symptoms appear, they tend to respond excessively. Generally, they firmly believe that the symptoms they are experiencing are serious illnesses. (3) Family environment. Family factors have a role in the development of somatization in individuals, especially children. Physical symptoms can be a sign of disturbances in communication, cohesiveness, and support in the family, so individuals are susceptible to feeling somatic symptoms. (4) Stress and unpleasant past events also contribute to the development of somatization in individuals. A study explains that traumatic events such as physical violence and sexual harassment will cause high somatization in individuals. For children and adolescents who are still in school, the factors that lead to the development of somatization are due to the pressure in the school environment and the lack of ability to overcome the problem. (5) Emotional stress. Previous research has shown that somatization is an individual's defense mechanism against emotional stress [10], [29].

The Relationship between Heartburn Levels and Somatoform Disorders Psychosocial stressors are related to psychological factors that influence medical conditions that cause prominent psychological and somatic disorders. Psychological disorders and vice versa can cause physical disturbances that occur; the patient's bodily medical condition can cause psychological disorders. Patients who suffer from severe acute pain will experience anxiety, fear, and sleep disturbances. This is due to the patient's discomfort with his condition, where the patient suffers from the pain he experiences and is also unable to move. With increasing duration and intensity of pain, the patient may experience a depressive disorder, and then the patient will be frustrated and easily angry with those around him and himself. Patient conditions such as anxiety and fear will release cortisol and catecholamines, which can affect other organ systems. Organ system disorders that occur later will worsen the patient's condition, and the patient's psychology will worsen. The high intensity of pain in the patient will cause sensitivity and increase the patient's concern for his physical, lowering the threshold for detecting physical sensations or expressing distress and things that are painful for them [10], [22].

The first step to stopping somatization disorder is to accept that the symptoms that arise from the mind with an attitude of acceptance will make it easier to overcome the symptoms. Then, stop the habit of paying a doctor gradually. In addition, you should be able to control stress levels that can trigger symptoms with physical activity, hobbies, sports, or recreation with family and closest people. Complaints that arise come from the mind, so you must be able to control if these complaints start to arrive. Expand communication with family and friends to help them forget these symptoms. Joining a new community is also able to get rid of the symptoms gradually [9], [10], [21].

If possible, to follow specific programs. One of the programs for people with this disorder is Cognitive Behavior Therapy (CBT). This therapy is one of the most effective treatments for managing somatoform conditions in the long term. Psychotherapy or cognitive therapy can examine and adjust beliefs and expectations about physical symptoms, learn how to reduce stress, cope with physical symptoms and reduce focus on symptoms that arise. Try not to shy away from situations and activities because of the body's normal response that may occur, improving self-function at home, at work, in relationships, and in social situations. Antidepressant medications can reduce symptoms associated with depression and the pain that often occurs with somatic symptom disorder [10], [21], [24].

Conclusions

The degree of heartburn symptoms can be used as an indicator of somatization because the patient's condition, such as anxiety and fear, will cause the release of cortisol and catecholamines, which can impact other organ systems. When patients say that their pain scale is more than the top scale and doctors spend more than 2x, we can start to suspect that the pain is part of somatization. Organ system disorders that occur later will worsen the patient's condition, and the patient's psychology will worsen. The high intensity of pain in the patient will cause sensitivity and increase the patient's concern for his physical, lowering the threshold for detecting physical sensations or as a form of expressing distress and pain for them so that it will trigger things always to make him come to many doctors of choice for make sure of the situation.

Conflict of Interest

There is no conflict of interest.

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