

# **THE INFLUENCE OF STRESS ON SWIMMING**

**Mudayat<sup>1</sup>**

<sup>1</sup>Universitas Primagraha

Email: [mermedak@gmail.com](mailto:mermedak@gmail.com)

## **ABSTRACT**

Stress is a psychological symptom that has been experienced by all human beings in life as well as in sports. Things that can cause stress include hunger, thirst, fear, the need for friends, challenges, failures in competitions, job demands, community demands, family demands, and others. stress does not always contain a negative understanding, because the impact of stress is positive and some are negative. Stress in sports at a certain level is necessary to obtain maximum performance, gain an advantage from the alertness and activation that will be brought, and achieve success in sports. Conversely, excessive stress levels can damage performance and be harmful to exercising. This ability to adjust to stress can be improved by systematic exercises to develop achievements and avoid or adjust to excessive stressful loads. In swimming two stress factors hinder, first is fatigue syndrome in the brain and physical fatigue due to the over-training process and long competitions, while the second factor is an inefficient immune system. Self-supervision of swimmers in a state of stress is very important to understand the stress disorder that occurs. Therefore the coach must know the things related to the symptoms of stress so that stress or the disorder will not become a negative symptom in the further development of the athlete.

Keywords: Stress, Sports, Swimming

### **Introduction**

In swimming two stress factors hinder, first is fatigue syndrome in the brain and physical fatigue due to the over-training process and long competitions, while the second factor is an inefficient immune system. Self-supervision of swimmers in a state of stress is very important to understand the stress disorder that occurs. It is, therefore, necessary for the coach to know the things related to the symptoms of stress so that the stress or disorder will not become a negative symptom in the further development of the athlete.

Stress is a psychological symptom that has been experienced by all humans. Many things can cause stress, ranging from small things to complex problems. Some people can cope with stress well and can perform more in a race and win a race, but not a few experience prolonged stress, decreased achievement, despair, and finally

consider life meaningless. Whereas in life and sports stress is something that must be faced. Some things can also cause stress including hunger, thirst, fear, the need for friends, challenges, failures in the race, job demands, community demands, and family demands. Even as long as there is no excessive stress, it is necessary to encourage progress. Without stress, people may not be able to advance in life, exercise, career, or study. The problem is that not everyone is able and resistant to stress. The term stress itself is more often associated with negative things, when in fact stress does not always contain a negative sense, because the impact of stress is positive and there is also negative.

Parry et.al in Wakefield (2003: 24) suggests that 2 stress factors hinder swimming, the first factor is fatigue syndrome in the brain and physical fatigue due to the process of over-training and long competitions. The second factor is an inefficient immune system, which is a decrease in glutamine availability which results in decreased cell production and results in weak defenses against bacteria and viruses. While the supporting stress factor is the increase in high competitiveness in oneself to improve performance in each race.

## **Definition of Stress**

Stress according to Lazarus and Folkman, (in Wiria, 2000: 54) is an internal condition caused by the need for physical needs in the body (sickness, fatigue, very high temperatures, and the like) or caused by environmental factors and social situations that are considered to have dangerous and uncontrolled potential. On the one hand, stress can cause several physical responses but on the other hand, it can also generate psychological responses such as anxiety, hopelessness, depression, quickly becoming angry, and general feelings of not being able to cope with the circumstances caused by these stressful states (Morgan et.al, in Wiria, 2000: 45). Another expert (Atwater, 1993: 16) defines stress as a demand for an individual to adjust to something, which can be both physical and psychological adjustments.

For this reason, whether or not demand is reached can be stressful, depending on how the individual perceives the demand as a threat or vice versa. It can also happen that the situation or what is perceived as a threat is real or unreal. Stress can occur in different areas of life, such as in education, work, in the social relationships of the individual with people around him as well as in the world of sports. The source of stress can come from oneself, a counter-opponent in the race, the place, and means of the race, from the family as well as from the community. In the development of the understanding of stress, (in Wiria, 2000: 35) posits that stress is an adaptive response influenced by individual differences that are environmental consequences, situations that generate excessive physical and psychological demands on a person.

Furthermore, Lazarus (in Wiria, 2000: 42) posits that stress cannot be seen as a misperceptual imbalance between objective demands and the ability to respond. In other words, stress is an imbalance between the demands received and the perception of the ability to respond. Meanwhile, Widayatun (1999: 21) suggests that stress is self-ability and self-adjustment (S) which requires a response (R). Stress is a

popular term for the presence of a tension in behavior and a form of turbulent feelings, suppressing tension. Allen (in Wiria, 2000: 31) posits that stress is a big problem in the human living environment, that is, 75% of the body's diseases are caused or associated with stress. Stress can cause many things in an individual, such as feeling unhappy, incompetence, and feelings of discontent. From some of the opinions above, it can be stated that stress is the pressure of something that feels oppressive from within a person caused by many factors, which can be in the form of problems of physiological, anatomical, and psychological limitations.

### **Responses And Stress Types**

In exercising a person will constantly react to stressful conditions, if the stress response does not match the needs of the situation, then what happens is a failure in overcoming stress. The duration of this strong stress response depends on the physical and mental condition of the person concerned. Latif (1999: 26) 164 Journal of Sports Achievement states that the stress response is characterized by the presence of reactions of internal changes in a person in the form of (1) increased production of adrenaline, (2) tension in muscles, (3) the influence of blood flow supply to the hands or the feet, (4) faster breathing, (5) increased metabolism of the body. Of all the changes in the body, it also causes mental preparedness in the form of (1) increased brain activity, (2) increased judgment in the short term, (3) acceleration in decision making, (4) increased memory strength, and (5) increased attention focus.

Whereas Quick (in Wiria, 2000: 51) argues that stress can have a negative impact, but it can also have a positive impact, there are two types of stress stimulus related to its impact on the individual, namely: (1). Eustress, is a healthy, positive and constructive response. This response will have an impact on the well-being of the individual and is related to growth, flexibility, adaptability, and a high level of performance. (2). Distress, is an unhealthy, negative, and destructive or destructive response. This response has a detrimental impact on the individual in his activities.

Selye (in Wiria, 2000: 56) defines the body's response to stress conditions as a general adaptation syndrome (General Adaptation Syndrom) which consists of 3 levels or parts, namely: (1). Alarm reaction to dangerous conditions. This reaction is a quick response of the body in the way that the sympathetic nervous system prepares the individual to cope with the causes of stress that occur. (2). Stage of resistance.

If the cause of stress continues to exist, there will be an effect of the body's resistance to the continued existence of stress, although Stress and its Effects in swimming (Agus Supriyanto) 165 resistance to this stress gets a barrier. In this state, certain hormonal responses of the body are the most important defenses in countering the effects of stress, especially those hormonal responses known as adrenocorticotrophic (ACTH). Adrenocorticotrophic hormone is released into the circulatory tract through certain cells within the glands below the brain. Acth pressure is controlled by other hormones such as supporting chemical elements. Corticotropin as a factor of release is created by certain cells in brain structures in the Hypothalamus.

The release factor corticotropin moves from the hypothalamus to the glands under the brain through a special system of blood movement. Thus the movement of ACTH in the blood causes a rise in blood pressure in the body so that the heart palpitations are faster and the hands sweat. (3). Stage of exhaustion, the final part of the common syndrome is fatigue, in which the body's capacity to respond to both as described above is continuously seriously to the cause of stress, which can result in the body becoming susceptible to disease.

## **Stress Tolerance**

Tolerance to stress can be interpreted as the level and time of stress that can be tolerated without being irrational and disintegration. Tolerance to signs of stress usually comes from experience and expertise in certain activities. In the same way, many athletes race under great pressure, such as when racing with equally strong opponents, athletes learn to perform well under pressure because they have a lot of pressure and also demand a lot of expertise. In other words, experiencing repetitive stress makes athletes immune, and conditions like this are indispensable in an environment of a competitive nature.

Tolerance to stress is the result of the restriction of individual motives or the achievement of goals that often arise because his efforts or desires are hindered and have not been successfully achieved as in when the athlete is trying to win a race. Stress can also arise from not achieving the desired goal. Stress is deeply related to each and varies in it. Several conditions can make it stressful to be at a time, for example, the tighter the competition schedule that must be followed, the more obvious the stress that arises that is experienced every time you race.=.

Certain levels of stress shape the individual towards a process of maturity and maturity in the face of a race. Social disturbances are also the cause of stress as an example of the influence of the audience, if someone wins, the other must lose, the failure sometimes becomes stressful when the audience also makes negative comments about the athlete's failure to race.

Weis in (Atwater, 1993: 17) posits that a person's beliefs can help avoid stress tendencies, that is, by reducing the experience of stressful emotions noticeably. Meanwhile, a person's excessive self-confidence in his abilities in the race can be an obstacle in facing an obstacle to a certain extent well. Feelings of guilt in athletes also lead to the breakdown of pleasure or need in expressing oneself. Stress often produces feelings of anger and aggressive habits. The lower the tolerance a person is stressed, the greater the desire to be aggressive (Wiria, 2000: 62).

## **Sources of Stress Causes**

As previously stated, stress can come from within the individual, as well as from outside the individual. Sources of stress from within the individual can be: (1) Athletes rely heavily on their technical abilities, if the athlete only relies on his technical abilities will have difficulties when facing unfavorable race situations, for example facing tenacious and careful opponents. (2) The athlete feels that he is playing very well or vice versa, if the athlete there is feeling like this, it will put a mental burden on him. (3) The existence of negative thoughts due to being ridiculed

or scolded, if there is a feeling like this, there will be a repressing and frustration that interferes with his appearance. (4) The existence of a complacent mind, if this is ingrained in the athlete, it will cause the seeds of tension in him that cause him to be required to realize something that may be beyond his ability so that it will unconsciously arouse his performance.

While sources of external tension can be: (1) Confusing stimuli, this is usually due to comments by officials who feel competent, whether for corrections, strategies or tactics to be done or other instructions to the athlete. (2) The influence of the masses of spectators, can have a positive or negative effect, for example in the form of ridicule against athletes or a form of motivation that can arouse enthusiasm or self-confidence.

Petri (1980: 18) suggests that the existence of an audience can have a positive or negative effect. If the athlete is confident in the results, then the presence of an audience (audience) will have a positive effect, but if the athlete is not sure of the results to be achieved, it will have a negative effect. (3) A rival who is no match for him, if this is experienced by the athlete, then in his little heart there will be an acknowledgment of his inability to win. (4) The presence or absence of a coach, can have a positive or negative effect. If the athlete has a good personal relationship with the coach, the presence of the coach will have a positive effect, but if the athlete has a bad personal relationship with the coach, the presence of the coach can have a negative effect. (5) The condition of the field where you race, and the weather when racing that is not used to being faced can also negatively affect the appearance of athletes.

Stressful situations are indeed an inseparable part of something competitive in nature, including in terms of achievement in sports activities. Stress will always occur in the individual if something expected gets a challenge, so the possibility of not achieving that expectation haunts his mind. Stress is an emotional tension, which ultimately affects physiological processes.

Scanlan in Sudibyo (1993: 108) written in his book stated that Competitive stress that arises in a race is a negative emotional reaction if his sense of self-esteem feels threatened. This kind of thing happens when the athlete considers race as a tough challenge to be successful, given his appearance ability and in these circumstances, the athlete thinks more about the consequences of his defeat. Stress and Its Effects on Swimming (Mudayat, 2022 )

Stress in sports at a certain level is necessary to obtain maximum performance to benefit from the alertness and activation that will be brought to achieve success in sports. However, excessive stress levels can be detrimental to performance and harmful to exercising. This excessive level occurs in the following circumstances: (1) What is done in exercising is beyond the ability possessed, (2) Too many things are requested in too narrow a time distance, (3) The presence of unnecessary obstacles at the time of completing something important in achieving the goal.

The negative effects of stress are: (1) Influencing a good path of consideration and control in a person, (2) Resulting in the competition being seen as a threat, not a challenge, and (3) Damaging the positive thinking framework necessary to undergo competition with good quality, for example increasing negative thinking, damaging

self-confidence, weakening attention, disrupting the train of thought, (4) Spending psychic energy, for example, the onset of prolonged worry. Stress can also be related to the supply of adrenaline in the body, for example, when in a competitive atmosphere.

This supply of adrenaline can have both positive and negative effects on the body, the positive effects are: (1) Adrenaline can result in a physiological awakening of the athlete's appearance, (2) Cause alertness, (3) Prepare the body to carry out activities explosively. While the negative effects are: (1) Hindering decision making, (2) Disrupting cognitive control, and making the implementation of complex skills difficult.

In sports, the most suitable example is shooting, where motor control is important, and adrenaline can be a negative factor. Nevertheless, in sports such as sprinting, short-distance swimming, or heavy lifting, where explosive activity is required, adrenaline can be beneficial in generating optimum performance. Stress is a situation that develops in parallel with the unfolding of sports events and cannot be eliminated. Symptoms during the race indicate a strong level of psychiatric stress.

According to Soedjono in Andini (2003: 16), this ability to self-adjustment to stress can be improved by systematic exercise to develop achievements and avoid or adjust to excessive stressful loads. If the athlete is unable to adjust, then this situation will result in the emergence of tension, so which will interfere with coordination between the muscles and nerves. This will result in the disruption of sports activities or competitions.

### **Identification of Stress That Hinders In Swimming Sports**

Experience shows us that some swimmers can survive stronger in the face of heavier workloads, and others cannot survive with the same workload. This is in line with what was stated by Parry et.al in Wakefield (2003: 15) posited that two factors cause stress that hinders in swimming sports, first is the fatigue syndrome in the brain and physical fatigue due to the process of over-training and long competition. The second factor is an inefficient immune system, which is a decrease in glutamine availability which results in decreased cell production and susceptibility to bacteria and viruses. Supervision of the self of each swimmer in the aforementioned circumstances is very important to understand the stress disorder that occurs.

Surveillance can begin with:

1. Observing his behavior by comparing his normal daily behavior,
2. Checking the time of his achievements at certain times,
3. Listen to the rhythm of the breath when exhausted sprint (speed) training,
4. Look at his pupils,
5. The color of the peel,
6. Look at his reaction time when sprinting (speed) training,
7. Changes in his personality,
8. Reluctance to get into the water when starting the beginning exercises,
9. Mood swings (mood),

10. Supervision of sleep patterns, eating habits, and the presence of symptoms of low enthusiasm in studying at school.

If the irregular symptoms mentioned above run for 3 or 4 days, it can be considered abnormal and special treatment is needed to overcome the symptoms of stress that arise so as not to interfere with his performance in swimming. In connection with it all, it is clear that the symptoms of stress that will affect a person's activities, especially in the world of sports will greatly affect the appearance and achievements of athletes in participating in a race. Sport is not merely a process but this activity involves also another aspect, namely the psychic aspect.

In exercise what occurs is basically "man in movement", meaning that what is engaged in sports activities is not solely parts of the human body but is a form of a human psychophysical process as one roundness, as it is known that humans consist of aspects of the soul and body in a unique and mutually influencing arrangement. It is, therefore, necessary for the coach to know the things related to those stress symptoms and can be applied in practicing training athletes so that the stress or disorder will not become a negative symptom in the subsequent development of the athlete.

## **Conclusion**

Stress is a psychological symptom that has been experienced by all humans in life as well as in sports and stress is something that must be faced. Even stress as long as it is not excessive is necessary to encourage progress. Without stress, people may not be able to advance in life, exercise, career, or study. The problem is that not everyone is able and resistant to stress. Stress is pressure or something that feels oppressive from within a person. This feeling of distress arises due to many factors, so stress does not always contain a negative sense, because the impact of stress is positive and some are negative.

The length of the strength of this stress response depends on the physical and mental condition of the person in question and previous experiences. Tolerance to signs of stress usually comes with a wealth of experience and expertise in certain activities. In the same way, many athletes are racing with great pressure, as when racing with equally strong opponents, athletes learn to perform well under pressure. In other words, experiencing repetitive stress makes it invulnerable and this is especially important in an environment of a competitive nature.

Stress can come from within the individual, as well as from outside the individual, all of which can have a positive or negative effect on their appearance. In swimming, two stress factors hinder, the first is fatigue syndrome in the brain and physical fatigue due to the process of over-training and long competitions. The second factor is an inefficient immune system, which is a decrease in glutamine availability which results in decreased cell production and susceptibility to bacteria and viruses. The coach must know the things related to these stress symptoms and can be applied in training athletes so that the stress or disorder will not become a negative symptom in the subsequent development of the athlete.



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