

ANGER; ITS IMPACT ON HUMAN BODY

PRAKASH KUMAR YADAV*, RAM LOCHAN YADAV, NIRAJ KHATRI SAPKOTA

Department of Physiology, Chitwan Medical College, Bharatpur, Nepal. Email: nirajkhatri22@yahoo.com

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ABSTRACT

Anger is one of our most powerful and vital emotions with behavioral manifestation. It is described as an intense feeling in response to frustration, hurt, disappointment, or threatening. The benefits of anger include overcoming fears and building confidence to counter dangerous phenomenon or threats which lead to the fight or flight response while the disadvantages of anger consist of excess anger serving as a numbing agent emotionally, physically, and cognitively. Physiologically, emotions are considered to commence from brain nucleus named as amygdala, part of brain responsible for identifying threats to our well-being, and relaying out an alarm when threats are identified that result in taking steps to protect ourselves. It is important to recognize the physiological effects of anger especially with all the damage this emotion might produce to our body system. This review article examines the physiology, causes of anger, and impact of anger on the body.

Keywords: Anger, Emotion, Amygdala, Prefrontal cortex, Body system.

INTRODUCTION

Anger is one of our most powerful and vital emotions. It can be a necessary tool for survival and can cause significant difficulties in remained for long run persistently knocking mind associated with thinking, feeling, behavior, and relationship [1]. It is an emotion that involves a strong uncomfortable and awkward response to a perceived provocation, hurt or threat [1]. When personal boundaries get demolished than anger get aroused and some even show coping anger can occur when a person feels their personal boundaries are being or going to be violated. Some have a learned tendency to react to anger through retaliation as a way of and some even show coping behavior. Raymond Novaco of UC Irvine, since 1975 has published a plethora of literature on the subject, layering anger into three modalities: Cognitive (appraisal), somatic-affective (tension and agitations), and behavioral (withdrawal and antagonism) [2]. William DeFoore, an anger-management writer, described anger as an example of pressure that can only be applied up to limit with time boundary if exceeded it will burst and destroy everything [3].

A person experiencing anger will also activates emotional literacy to any harmful disturbances that impacts on the different body system resulting into alteration in physiological conditions, such as increased heart rate, elevated blood pressure, and increased level of adrenaline and noradrenalin due to sympathetic discharge that is matched physiologically to cover up body systemic balance to fear, hurt or sadness [4]. Some view anger as an emotion which triggers part of the fight or flight response [5-7].

Anger is by nature a warning to protect on self from fear, sadness or hurt cognitively or behaviorally or physiologically on the external threatening exposure by action opted on choice such as facial expressions, biological response and later public acts of aggression or body language [6-8]. Animals, for example, make loud growling sounds, physically become larger, bare and crush their teeth, and stare [9]. All these changes are made as a warning to stop aggressor to their threatening behavior. Physical altercation is rare without the prior expression of anger while most of those lose self-monitoring capacity and observability [10].

Modern psychologists believes that anger has a functional value for survival and is a primary, natural, and mature emotion felt by virtually all humans at any moment can negatively affect personal or social well-

being [10,11] and impact negatively both on the body and in the mind if it remained insidiously [12,13].

PHYSIOLOGY OF ANGER

Amygdala, the two almond-shaped structures that are located inside the brain that is the point where emotion is evoked are efficient in identifying and recognizing threat and relays alarm signal to protect ourselves before the cortex (the intellectual, reasoning, and judgment) [10]. In other words, neural networking is wired in such a way that our reaction of thought was damned in a way so as to influence to act before properly considering the consequences of actions. It does not mean behaving badly is an excuse in public but practicing to control aggressive impulses is appreciated, it means that learning to manage anger properly is a skill that is always appraised, instead of something one is born knowing how to do instinctually [14].

Anger can get provoked to highest degree to rage that be out of control meaning left prefrontal cortex that handles judgment instinctively regulate anger emotions in proportion, therefore, keeping anger under control means learning ways to help your prefrontal cortex get the upper hand over amygdala and hence minimizing or suppressing anger reaction so that one have control in anger feeling. There are many techniques to make prefrontal cortex supreme among the many ways to make this happen one is relaxation techniques (which reduces arousal and decrease amygdala activity) and the use of technique that controls cognition under which help to practice using judgment to override anger emotional reactions [15].

It is important to recognize the physiological effects of anger especially with all the damage this emotion can cause to our body. It is also important to learn how to express anger appropriately and learn healthy and socially respectful methods to express angry feelings. Knowing how to control anger can make a major impact on relationships, employment, and other family problem [15].

WHAT CAUSES ANGER?

Surrounding publicly polluted environment always play an important role to elicit ones anger along with other factors such as socio-economic situations, overwhelming nature, genetic issue, and neurotransmitter depletion such as serotonin has pivotal role in managing anger [16]. It is attributed to past experience low, learned behavior, genetic predispositions and diminished decision or problem-solving ability [16].

According to Loo, an experienced negotiator and an expert in conflict resolution, there are two sources of anger: Insidious and outer source, earlier one stems from irrational perceptions of reality, and low frustration point. Psychologists have put forward four types of thinking that lead to internal sources of anger:

- Emotional reasoning: Some people innocent and emotionally reason and often become irritated and apprehend these things as attacks on themselves [16].
- Low frustration tolerance: Experience of low tolerance to frustration is inevitable in everyone life at some point. Assertion is stress-related anxiety tends to lower our tolerance.
- Unreasonable expectations: In some occasion, people make demands unnecessarily without knowing the exactness of the condition. Unable to have things go their way or have others act a certain way, lowers the tolerance for frustration and causes people to get frustrated and angry [16].
- People-rating: Reason to cause anger triggers derogatory labeling, dehumanizes and makes it easier become angry at other people [16].

As for extrinsic sources, psychologists have come up with hundreds of events which cause people to get angry and assembled the point as below:

- Verbal abuse one way of attacks against other people
- Confronting with cut and paste of another idea, opinion and downcasting it
- People threaten other people's basic needs family, life, work and another thing, etc.
- Due to environmental factors in their lives, their level of tolerance toward frustration diminishes.

Both external and internal sources of play an important role in terms of anger issue recognizing and thence resolving is vital for smooth continuation, though following factors invariably tends to lower frustration tolerance level [17].

- Stress/anxiety
- Pain-physical and emotional
- Drugs/alcohol
- Recent irritations - "Having a bad day."

HOW ANGER IMPACTS THE BODY

Many biological reaction jump up as one get angry, the changes is brought in the body is due to brain neural activating system such as noradrenergic system release brush of catecholamine that has systemic effect such depicted as an alteration in physiology such as acceleration of heart, rising of blood pressure, and rate of respiration as well as flushing of face due to increased blood flow attributed to physical action in addition that energizes musculature to brush with energy lasting up to several minutes so-called adrenaline rush which is executed to take an immediate protective action of angry desire energizing the level that one become ready to fight due to adrenaline rush [14].

Experiencing psychological effects of anger causes chemical as well as hormonal imbalance that results into alteration in body's metabolism, sometimes excessive feeling stressed, and anger provokes eating that it leads to weight gain. In addition, stress, as a reaction to anger, provokes our stomach parietal cell to produce too much acid making us victim of gastric ulcers and gastroesophageal reflux disease [15], anger state being one of the stressful conditions releases stress hormone cortisol which contribute to deplete glucose uptake and increase its availability in the blood thus playing role to disturb the balance of blood sugar level, on the contrary the same glucose will be effective in facing with stressful situation by providing it to heart and brain as an immediate energy source. Moreover, this stress hormone suppress thyroid function hence one can have hypothyroid symptoms during progressing exacerbated stressful situation, decrease bone density and suppresses Immune system making one more susceptible to get infection at the moment of stressful condition. Research have demonstrated that chronic-angry

people are more susceptible and suffer frequent colds, flu's infections, asthma, skin disease flare-ups, and arthritis, as compared to non-chronic-angry people [15].

Fear also sometimes can trigger anger multitude of response will be on action so-called domino effect as similar to aforementioned state stress hormone cortisol, adrenaline and noradrenaline will be released that surge up blood pressure (normal average blood pressure 120/80 that can jump up to 220/130) or higher that fears of possible heart attack or stroke), heart rate (normal 70-80 beat/min but during anger it can rise up to 180) muscle tense up which are actively involved in fight and flight response escalate respiratory rate that tries to get more oxygen in the circulation so as to supply to heart and brain. Further worsening can lead to tension headaches, insomnia, chest pain, and even stroke [15].

When we become angry or stressed, our body releases chemicals that clot the blood. These blood clots can create serious health problems. The clots can travel up the blood vessels thus reaching brain or heart causing a stroke or heart attack, both of which can be fatal [15].

MECHANISM OF PARASYMPATHETIC NERVOUS SYSTEM (PSNS) VERSUS SYMPATHETIC NERVOUS SYSTEM (SNS) IN ANGER RESPONSE

PSNS releases the neurotransmitter acetylcholine to prevent arousal of the emotion of anger by neutralizing stress hormone so that body can relax and calm down. People with dominating PSNS are under less risk of heart disease this concludes that people with Type A personalities are higher in risk of heart disease duets their weaker PSNS responses with less life time period in relaxation [16,17].

Evidenced of anger being hazardous to health

A review documented based on 44 studies published in 2009 in the Journal of the American College of Cardiology, disclosing connection demonstrating anger and hostility being significantly associated with cardiac disease also revealing the secrecy that adults without history of heart disease, but incessantly having chronic anger are 19% more likely to develop heart problems as compared to those who rarely experience these personality traits [18]. It also depicted gender wise difference in heart problem suggesting more effect would be to men linking the fact that women stress and pressure on daily life be less compared to men [18,19].

According to Dr. Johan Denollet from CoRPS Researcher Center at Ilburg University in the Netherlands, Coronary Heart Disease Development and Progression is associated with psychological elements. Therefore, clinician are suggested to take symptoms of anger and hostility seriously, and do not ignore to consider referring their patient to relevant health expert for their behavioral intervention preceding to, close monitoring and studying the personality traits of the patient to do a better job in identifying high-risk patients who are more liable to future fatal and non-fatal coronary events [20] the most difficult aspect of it is the stress unmeasurable as cholesterol or sugar as it is a behavioral subjective trait that depend on moods [18].

Freidman and Rosenman classified Type A and Type B attitude personalities, being early one are those who exhibit immediate anger and demonstrate explosive reactivity, competitiveness, impatience, irritability, hostility and more likely to display aggressive and competitive personality traits and to achieve great professional success while later one personalities, have a more easygoing attitude toward life [17,18]. Physiologically studies demonstrated that men with Type A personalities depicted relatively lower parasympathetic (calm down) response than Type B personalities. Thus, with the conclusion that Type A personalities people exhibit arousal and invokes heavy anger responses by overflowing the body with cortisol, adrenaline and noradrenaline due to reactivity of SNS [19,20].

CONCLUSION

Anger is described as an intense sentiment in response to feeling frustrated, hurt, disappointed, or respond to disturbance or threats that evokes the fight or flight response while disadvantage of anger consist of excess anger serving as a deadening agent physically, emotionally and cognitively, failure to recognize and understand our levels of anger leads to many serious health problems. Overall, suppressing anger and overexpression of anger can negatively affect the body and lead to bad health. It is important to learn how to express anger appropriately and learn healthy and socially respectful methods to express angry feelings. Managing anger effectively motivates individuals to adopt effective assertive skills and leads to an increase in life expectancy. It is important to recognize the physiological effects of anger especially with all the damage this emotion can cause to our body. Knowing how to control anger can make a major impact on our relationships, employment, and especially on our health.

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