

Impact of Stress and Spiritual Solution: A Literature Review

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Abstract

In today's fast-paced technological world, life is offering many conveniences and luxuries which were not realistic a few decades ago. However, several pros come along with the cons, and one such con is "Stress". In daily life chores, people are exposed to several factors which could be the causes of stress. On the one hand, age, life experiences make one more mature and wiser. On the other hand, due to age-related changes physically, one may become more fragile and susceptible to the impact of stress. As humans can't control the aging process and the physical adaptability to handle stress, they try to increase the mental grip by finding a better stress-coping system. Therefore, in this modern world, even though people are more passionate about materialism and luxuries, they are also getting closer to spirituality and religion to find a peaceful mind and better mental strength. No doubt, spirituality, and religion are demonstrating a positive influence on mental, physical, and behavioral health and becoming a line of treatment in today's healthcare system.

Spirituality brings happiness to life, calms the nervous system, bring a positive attitude and ways to deal with the daily chore, reduces the stress hormone, secretes the happy hormone, feel compassion, nurture more social and positive connections, manage stress effectively, develop emotional intelligence skills and thereby gains greater moral and physical strength and health. Following spirituality doesn't mean one will not get sick, but rather, it means one developed greater strength and a better coping system to deal with the stress without getting affected by it. Spirituality is becoming one of the best preventives, proactive coping mechanisms to assist the body's immune system, a healing system to remain in good health. In this paper, the author summarized the impact of stress on various body systems producing many acute, chronic, and challenging illnesses, and discussed several ways to calm the mind and develop a better stress-coping mechanism, increasing tolerance and mental strength.

Key words: Psychological stress; Spirituality; Yoga; Diseases; Psychological health; Mental health; Medical conditions.

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Introduction

Stress is described as an occurrence in which external and internal demands burden one's abilities, causing both mental and physical changes that could reflect in the form of illness [1]. Regardless of age, sex, and socioeconomic factors, it can affect anyone, and the factors which cause stress are called stressors [2].

Life's stressors can come in many forms, shapes, and sizes. These stress inducers could be controllable or uncontrollable due to various reasons, related situations, and limitations. Apart from outside factors such as work stress, and various challenges in daily life, inner factors such as physical health issues, less moral strength, fewer abilities than norms to cope with the stress, sensitivity to get affected by the stress, unnecessary worries, and irrelevant thoughts causing stress due to people's own faulty overanxious thinking system.

There are three philosophies about sources of stress, environmental stress, mental stress, and physical or biological stress [1]. Either of these sources requires an assessment of the situation and analysis to find the cause and its resolution. The impact of stress depends on the body's ability to deal with stress, related past experiences, and background, personality traits such as genetic predisposition, stress endurance abilities, and methods, thinking perspective to find resolution, mental strength and sensitiveness, and availability of social and family support [3].

When the body endures stress and uses it to overcome lethargy or enhance performance, the stress is positive, healthy, and

challenging. According to Hans Selye, one of the discoverers of the prevailing study of stress, it is marked as eustress [4]. When Stress energizes people to adapt, it increases the strength of the adaptation mechanism while requiring people to make lifestyle changes to conserve the mental and physical strength, and energy and maintain ideal health. Stress is harmful when one can't deal with it due to the weakness or due to the nature, severity, and impact of the stress, and it could lead to psychological and mental health issues such as fear, anxiety, depression, confusion, emotional sensitiveness, various mental disorders, poor performance, overreactions, poor concentration, and fatigue and various physical health issues as described in this article. Hence going through the stress described as mental or physical distress.

In the current fast-paced technological world, stress-related disorders are ever-increasing, and so are the treatment costs, stress-related morbidity, and mortality, and it is concerning! Countries like Japan and Korea both acknowledged work-related suicide as a compensable condition [5]. In the United States, acute and chronic psychological stress is considered the foremost reason for the prominent causes of death such as coronary heart disease, accidental injuries, cancer, drug abuse, alcoholism, liver disorders, respiratory disorders, and suicide. The Centre for Disease Control and Prevention of the United States revealed that stress constitutes the reason for approximately 75% of all doctor visits, which includes various physical ailments such as heart issues, gastric, sleep problems, fatigue, headache, backache, and accidents along with the chronic illnesses such as hypertension, diabetes, cancer, and many more [6]. As

reported by the National Council on Compensation of Insurance and Occupational Health and Safety News, stress-related complaints constitute nearly 90% of visits to primary care doctors.

Impact of stress on various body systems

Meta-analysis of 293 independent studies which included nearly 18,941 participants between 1960-2001 demonstrated that stress impacts immunity [7]. During short-term stress, the immune system prepares itself to face and weaken the challenge via an adaptive mechanism, a fight-or-flight response, and hence it acts as the boosted mechanism. However, in prolonged chronic stress, adaptive immune response shifted to possibly harmful effects, which initially affect cellular immunity followed by broader immune function. The immunity system is a body's ability to fight against external infection and abnormal cell division [8]. As mentioned earlier, the impact of chronic stress also depends on the adaptive and coping abilities of an individual.

Several studies have revealed, during chronic stress, there is a profusion of corticosteroid secretion, producing a disproportion in corticosteroid levels and weakening immunocompetence [9,10]. The weak immune system reflects its effect by straining various body systems, for example, chronic stress causes degeneration of the thymus affecting the production of T cells and related hormones which are required to stimulate them, reflecting the inadequacy of the complete immune response in the form illness on various body systems.

Dr. Robert Ader, the Director of the Division of Behavioral and Psychosocial Medicine at

the University of Rochester, established the field of psychoneuroimmunology in 1964. Psychoneuroimmunology studies the convoluted interaction of the body's immunity and psychological and central functionality.

The logical connection between psychic and emotional abilities, and brain and physical health are also described in the spiritual aspect of many religions and philosophies worldwide. Immune responses are harmonized by lymphocytes, hormones, antigens, cytokines, and antibodies. Coordinating the functions of the immune system is the utmost duty of Lymphocytes. Immune response works well when the T and B cells are equalized and acting effectively, establishing physical harmony; on the contrary immune system gets compromised when the ratio of T to B cells is unbalanced [11].

Asthma exacerbation occurs due to exposure to external factors, such as exposure to allergens, and poor atmospheric condition, and due to internal factors, such as genetic predisposition and psychological stressors. A study by Gauci, et al., demonstrated the strong relationship between stress-affected immune dysfunction and atopic and asthmatic disease clinical symptoms [12]. Liu, et al., also presented data that stress can increase the allergic inflammatory response [13].

Psychiatric illness-Stressful life events followed by the onset of depression as shown by the number of studies [14-16]. Few studies [17-19] showed the inadequate relationship between stress and the manifestation of psychotic illnesses such as schizophrenia and

a strong association between stress and neuroses [20-23].

Kessler established that chronic stress increases the impact of various daily life events on depression [24]. Vincent and Roscenstock confirmed that psychiatric patients are exposed to more events with psychological stress than those with physical stress or illnesses prior to hospitalization [25].

Cooper and Sylph located that the neurotic group was exposed to 50% additional stressful factors as compared to the control group [20]; Young D, found that neurotic patients experience more life changes and higher stress than the control group [22]. Heng and Rajendran, et al., also reported that normal and neurotic groups show major differences in the frequency of life events and stress [23].

Various inflammatory disorders, such as psoriasis, peptic ulcer, bowel disease ulcerative colitis, gastroesophageal reflux, and functional gastrointestinal disorders, are known to be caused by or aggravated by stress, anger, and hostility.

Research also shows a strong relationship between psychological stress and a significant risk for coronary heart disease and related mortality [26,27,3,28]. Tennant revealed a confirmatory association between daily life stress and myocardial infarction-related death [27]. According to the large study of 1,600 hospital patients conducted by Dunbar, certain individuals' traits were characteristic of hypertensive patients, such as short temperedness, easily upset by criticism, pent-up anger, and emotional sensitiveness [29].

Some studies noted that in clinical coronary heart disease, hostility is an independent risk

factor, and it is linked to atherosclerosis [30-34]. Coronary heart disease risk factors are high cholesterol, hypertension, alcohol, cigarettes, and unhealthy dietary practices. In early investigations, Friedman, et al., found stress is one of the actuating factors for hypercholesteremia [35].

Other researchers studied medical students exposed to stress during the exam and military pilots exposed to stress at the beginning of the training and at the time of the examination confirmed the findings [36,37]. Blood pressure and serum cholesterol upsurge during psychological stress, and hence it is concluded as the key factor in the causation of Hypertension [38].

People who suffered from myocardial infarction reported a higher incidence of stress, such as work stress, stress at home, and financial stress, according to the Interheart study [28]. Rosengren, et al., revealed that coronary heart disease mortality was doubled for patients experiencing three or more precursor life events [3].

Identifying stress-causative factors, their management, and resolution in stress management programs are an integral part of the hypertension treatment plan. Rheumatoid Arthritis (RA) is an autoimmune condition. Rheumatoid factor-positive patients who experience chronic stress become susceptible to this condition [39]. Stress malfunctions the immunological system, aided by an existing genetic predisposition to RA, and the patient could develop RA condition and manifest related symptoms. Stress suppresses the immune system, and the atmospheric viruses and microbes which are latently present in the

body's economy system can overpower the weakened immune system. The association between psychological stress and vulnerability to get affected by cold viruses has been substantiated by several studies [40,41].

Biomarker Prostate-Specific Antigen is associated with a greater risk of prostate cancer development. Stony Brook's medical school researchers discovered three times higher levels of blood PSA in men with high levels of stress and two times higher in men with unsatisfied relationships with friends and family and low levels of support [42]. This shows the impact of psychological state on health.

As stated by American poet Ralph Waldo Emerson "the foundations of a person are not in matter but in spirit" [11]

Around the globe, the belief is commonly acknowledged that cultural factors, religion, and spirituality give structure and meaning to behaviors, value systems, and experiences [42]. Researchers at the Mayo Clinic indicated that according to most studies, spirituality and religious involvement yield better health outcomes which include longer life span, the better quality of life, lesser anxiety, better depression, and suicide even during incurable illness. According to several studies, during illness, healing is boosted when the spiritual needs of the patient are addressed [42].

American Psychological Association suggested nearly 80 percent of people have some kind of spiritual belief hence it is crucial to consider this factor during the treatment. Therapists suggested taking a break from the daily chore and pursuing a variety of calmness and positive activities to feel more energetic,

stable-minded, and develop critical tasks managing abilities [43].

Researchers at Harvard-MGH Center on Genomics stated, the possible impact of spirituality and religion on health couldn't be ignored, especially when we are interested in reducing health inequalities. Shields and other speakers debated, if people oppose the treatment by putting themselves in the hand of God, can such beliefs negatively impact health outcomes, or does it positively influence healing?" [44].

The spirituality which makes one completely depend on God and avoid taking the further right action for the illnesses, good health, and happiness should not be defined as spirituality. This could be considered blind faith.

Removing one's anxiety, worries, and stress and developing coping skills via mindful techniques calms the mind and the stress system of the body, taking corrective decisions and actions to resolve the cause of stressful situations will be constructive rather than following the blind faith.

At least self-initiative actions to calm the mind accompanied by faith can yield positive results and improve coping skills. Spirituality gives a feeling of well-being and enhances the brain with hormones that boost the immune system. Elements like mental and physical stress and pressure can take a vast clang on the body. Pursuing spirituality shape positivity in the mental sphere with positive thoughts and optimism, and in the physical sphere, it boosts the immune functioning of the body and helps people manage chronic and lingering illnesses. Spirituality, thus, is a

way to gain good health while living in a world full of stressors and possibilities.

Currently, across the country and around the globe, chaplains have been established in hospitals, becoming a novel custom [45]. An existence that is not proven to exist as per the science, an invisible strength “God” still has the highest followers in the world!

New perspectives

Epigenetics is the study of evaluating how behaviors and environment can cause changes and impact the way genes work. DNA methylation is an epigenetic process that changes a gene’s performance, skewed methylation leads to diseases. Therefore, spirituality needs to be examined through the angle of epigenetics [44].

In the Black Women’s Health Survey, it has found that in women with a history of child abuse, increasing methylation levels were seen in the glucocorticoid receptor pathways, whereas who received psychological support during their childhood, the methylation effect lessened. Researchers conducted multiple studies to find the impact of mindfulness practices on stress-related gene expression. The studies demonstrated that Trauma could leave a chemical mark on a person's genes, and it can transfer to the offspring. This mark is epigenetic and not genetic, it doesn’t change the gene expression, but it changes genes’ behavior.

A mouse study conducted by Johns Hopkins revealed that stress hormone exposure has a long-lasting impact on the genome and stimulates the expression of mood and behavior control genes. This finding could

pioneer studying various behavioral disorders and associated treatment options [44].

During physical exercise muscle and various organs contract boosting their functions, circulating blood and lymph throughout the body, similarly through spiritual practices and through self-reflection methods one’s thought process circulates while refreshing individual and other’s perspectives. Spiritual practices filter negative thoughts, bring a fresh perspective with positive thoughts, and bring correct understanding about the self and about the world in a fair, unbiased way with a calm positive attitude, with the goal of finding the right resolution for an issue or the challenge. It has often been found that spiritual or self-reflective person try to find out the cause of stress or issues in a calm optimistic peaceful way without blaming others, and it calm down the nervous system and increase the person’s ability to deal with the challenge while reducing or eliminating various stress hormone and its effects on the body.

Yoga, meditation, and repetitive prayer can impact the body psychologically and physiologically [44]. The most important thing is, these techniques of inner strengthening are devoid of medicine.

Can we define spirituality as the exercise of mind and spirit?

Spirituality strengthens the immune system

Spiritual practices such as meditation or mindfulness make one calm, peaceful, and happy, stop stressful response of our body, triggers the body’s healing ability, and brings back balanced mental and physical harmony.

Lowers risk of depression

Spirituality helps to motivate and self-reflect on a deeper and more meaningful level. Mind and body are interconnected, stable, and correct thoughtful processes, thus building the strength to handle difficult situations while providing optimistic feelings to solve problems. Spirituality reduces loneliness, increases coping abilities with chronic illnesses, increases the ability to resolve conflicts and bring a stable sound mind, reduces the effects of depression or other mental disorders, and establishes physical well-being.

Stress reduction

Spiritual practices like yoga, and meditation, along with good health habits like nutritious food, and bodily exercise, are effective in stress management and increasing positivity.

Lower blood pressure

Mediation causes calmness of body and mind, starts the healing process, and promotes better sleep [11].

Spiritual practices literature review

Yoga is an ancient spiritual practice, it includes physical postures and exercises, moral and ethical behaviors, breathing exercises, mindful meditation, holy chanting, reading holy scriptures, prayer, connecting with self and with supreme Lord. It has been found that in some cultures like Hinduism, Buddhism following spirituality is a synonymous name for following Yoga. Yoga has been helpful for mental and physical wellbeing as it reduces stress, and inflammation and can help overcome psychological difficulties [29].

Contemplative practice is an introspective practice that includes the practice of self-reflection to understand self and others and to increase compassion, sympathy, and forgiveness. This practice quiets the mind and reduces the puzzle of life and related confusion.

Meditation can induce feelings of calmness, clear-headedness and improves concentration and attention. Brain researcher Richard Davidson's research demonstrated that meditation increases the brain's gray matter density, which can reduce sensitivity to pain, boost the immune system, help to regulate difficult emotions, and relieve stress. A Study conducted in 2012 compared the brain images of 100 adults, half of the adults meditated regularly, and half didn't. Adults who meditated regularly, the brain images show increased folds in outer layer density as compared to those who didn't. It is thought to improve memory [46]. Prayer may stimulate the relaxation response, faith induces hope, gratitude, optimism, a sense of confidence, patience, and ease in difficult times, and compassion produces a positive effect on overall well-being. Journaling is a thoughtful practice of writing during stressful times. Studies show it could help one understand life's challenges and gain strength in the face of those challenges and connect with self, with the surrounding people, and with the world.

All these above practices are beneficial for patients with various medical conditions. Dr. Steven Southwick's book, *Resilience: The Science of Mastering Life's Greatest Challenges*, described how some people found solace in spirituality or religion to weaken trauma, and with a leap of faith,

spring back and move on [47]. Researcher Kristin Neff articulated, “when the feeling of distress is supported by the understanding that many others have suffered similar adversities the impact of the sufferings get reduced and we compassionately remind ourselves, failure is the part of the shared human experience” [47]. Many people claim spirituality and religion are not the same, but the reality is they are linked. One could be spiritual without being religious. Religious people follow a particular belief and may be associated with specific assemblies. If one is religious without being spiritual and not following core principles of spirituality, then it debatable if that religion is religion of peace and that will be a separate discussion!

Practicing spiritual customs impact health in a positive way as it emphasizes health, ethical practices, spreading kindness and love. It has also been found that people who follow peaceful religion or faith are more prone to peaceful activities which protect themselves, others, society, current and future generations, people are less prone to unhealthy habits, and criminal activities. Spirituality is a practice of belief, modern science shows the impact of letting go of blame, abandoning negative feelings, anger, and disappointments, and providing forgiveness after hurtful incidences. The benefits of letting go of resentments are numerous and give a better immune function, longer lifespan, secretion of the happy hormone, reduction of the stress hormone, normalizing blood pressure, and improving cardiac health, these beliefs are also adapted as the core beliefs in spirituality and in many religions [47].

Effect of spirituality on psychological health

The core principles of spirituality influence one's personality in various perspectives and often contribute to making various sound decisions and good deeds. It involves a better relationship with oneself, with others and with every living being. It develops inner strength, gives new perspective to situations, and thereby assists in coping with emotional and physical distress and establishing harmony of peace, purpose and meaning in life [48].

- One nurtures and cultivates feelings of kindness, love, generosity, peace, compassion, sympathy, forgiveness to living creatures.
- Good virtues give one a higher sense of purpose, peace, hope, and meaning.
- Abandoning anger, attachment, hate, ego, greediness, one may feel cleansed, increase self-control, great decision-making abilities, feeling of sanctity and self-confidence and self-esteem.
- It can help in understanding the challenges, gives strength, makes sense of all past challenging experiences in life, and promotes its utilization to take better decisions in the future.
- Gives wisdom and inner strength to pursue the right decision without insisting on inaction or pursuing blind faith.
- Enjoy the company of fellow spiritual beings, boost spiritual

- support and spiritual community [48].
- Being kind to oneself and to others, enjoying self-confidence and good relationships with everybody while acknowledging others' beliefs and without distracting from the correct path in the life.

For different people the understanding of spirituality could be different in reference to their spiritual belief, customs, and practices. Some core values are universal and general which are kindness, forgiveness, sympathy, cultivation of wisdom for the betterment, discipline, healthy habits, and these are also the universal core principles of spirituality and reflect the positive effect of spirituality on mental, physical health and wellbeing [49].

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