

The great potential of *dhikr* as prevention of coronary heart disease: A review

Abdurachman,^{1*} Luqman Hakim Andira,² Dzulqarnain Andira,³ Firas Farisi Alkaff,⁴ Anita Zara Weinheimer,⁵ Adinda Tania Dewanti⁶

¹Department Anatomy and Histology, Medical Faculty, Universitas Airlangga, Surabaya, Indonesia

²Department of Cardiology and Vascular Medicine, Medical Faculty, Universitas Airlangga, Surabaya, Indonesia

³Faculty of Health Sciences, Universitas Muhammadiyah Sidoarjo, Sidoarjo, Indonesia

⁴Department of Health Sciences, University Medical Center Groningen, Groningen, Netherlands

⁵Faculty of Health and Life Sciences, Management and Science University, Selangor, Malaysia

⁶Faculty of Law, Universitas Bhayangkara, Surabaya, Indonesia

Article Info:

Keywords: coronary heart disease; great potential dhikr; light remembrance.

Article History:

Received: February 21, 2024

Accepted: February 14, 2025

Online: April 25, 2025

*Corresponding author:

abdurachman@fk.unair.ac.id

DOI: 10.20885/JKKI.Vol16.Iss1.art12

Review Article

ABSTRACT

Dhikr is a form of Islamic prayer that involves repeating certain phrases or words to focus on God's presence. This article proposed the management of coronary heart disease (CHD) through changes in individual character through reminiscence. This review aims to provide an overview of current knowledge on how dhikr practice can affect cardiovascular health. We conducted a systematic search across various databases such as PubMed, Google Scholar, and Scopus, utilizing keywords like "dhikr," "coronary heart disease," "cardiovascular health," "stress reduction," and "prayer." Only peer-reviewed articles published between 2014-2023 were eligible for inclusion in this review. Articles were chosen based on their pertinence to the subject matter and their methodological robustness. Several studies have demonstrated that regular dhikr practice can lead to reduced stress levels and improved mental health outcomes. Additionally, there is growing evidence suggesting that dhikr may also play a role in promoting physical health by lowering blood pressure and cholesterol levels. The total number of papers extracted from the initial search with the specific keyword was more than 50. The most relevant papers were selected based on their alignment with the basic theory of CHD, risk factors, mechanisms, and therapeutic approaches. These findings suggest that dhikr could potentially serve as a valuable tool for preventing CHD. However, more research is needed to fully understand the underlying mechanisms behind these effects. Based on the available data, it appears that dhikr has the potential to reduce stress and improve overall health, making it a promising intervention for preventing CHD. Further research is necessary to better elucidate the exact mechanisms through which dhikr exerts its beneficial effects on cardiovascular health.

INTRODUCTION

Coronary heart disease stands as the primary contributor to illness and death on a global scale.¹ Globally, it is estimated that 244.1 million people were living with CHD in 2020, with a higher prevalence among men than women (141.0 and 103.1 million, respectively), and a CHD mortality rate of 112.37 per 100,000.² According to data from the Global Burden of Disease and the Institute for Health Metrics and Evaluation (IHME) spanning from 2014 to 2019, heart disease stands as the leading cause of mortality in Indonesia, affecting an estimated 1.25 million individuals out of a population of 250 million. The occurrence of coronary heart disease (CHD) among the working-age population in Indonesia stands at 1.45%, with 1.3% affecting men and 1.6% affecting women, totaling roughly 2.0 million individuals.³

A proposed method of preventing CHD is to engage in dhikr. Dhikr is a form of Islamic



Copyright ©2025 Abdurachman, Luqman Hakim Andira, Dzulqarnain Andira,

Firas Farisi Alkaff, Anita Zara Weinheimer, Adinda Tania Dewanti.

Licensee Universitas Islam Indonesia

prayer entailing the repetition of specific phrases or words to emphasise the presence of God. Recent studies have demonstrated that regular dhikr practice can offer substantial benefits, including a notable reduction in stress levels and an improvement in overall well-being. This review aims to provide an overview of the current knowledge on how dhikr practice can contribute to the prevention of cardiovascular health.

METHODS

A thorough exploration was carried out across multiple databases such as PubMed, Google Scholar, and Scopus. Keywords used included "dhikr," "coronary heart disease," "cardiovascular health," "stress reduction," and "prayer." Only peer-reviewed articles published within the last five to ten years were considered for inclusion in this review. Articles were selected based on their relevance to the topic at hand and their methodological rigor.

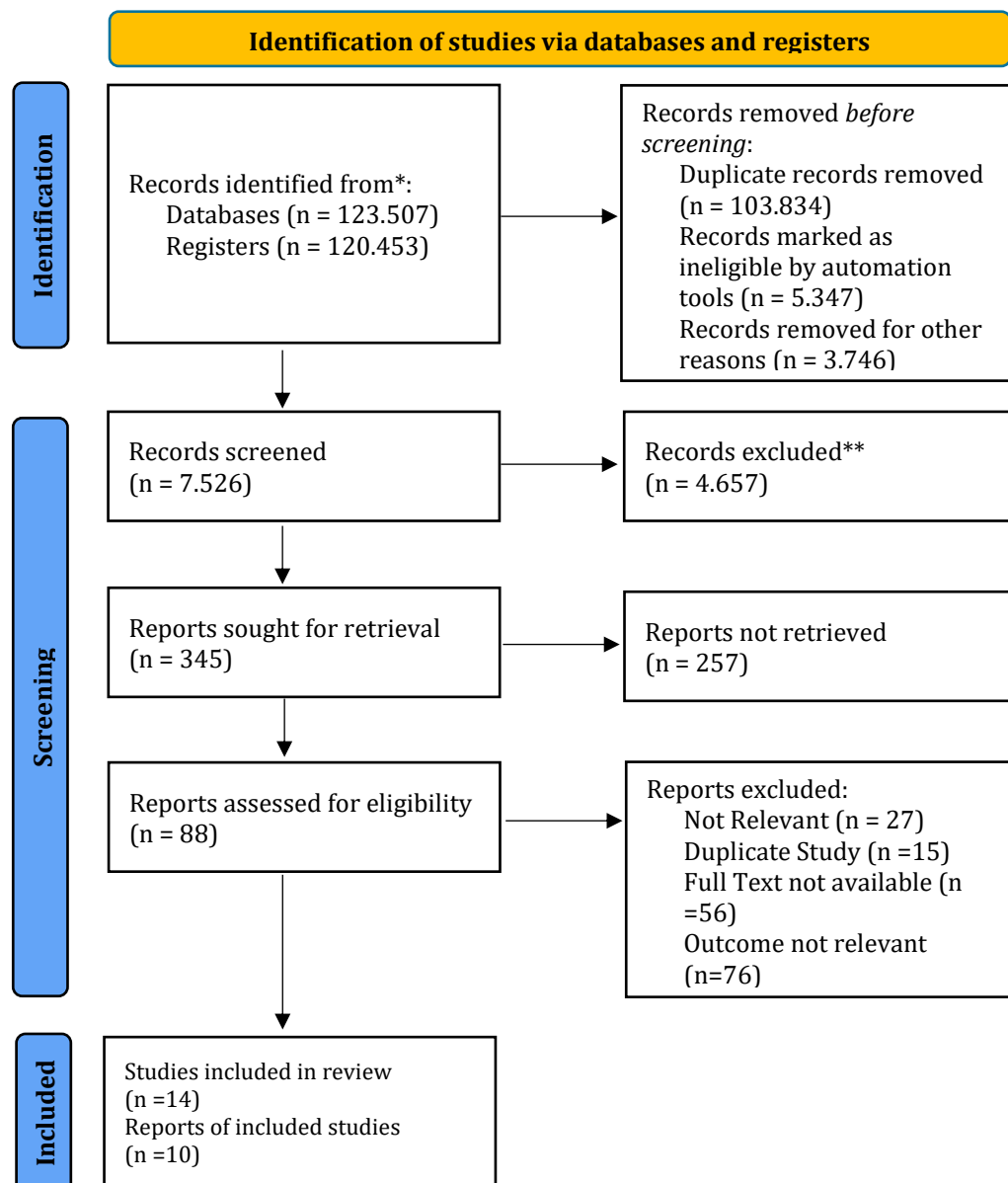


Figure 1. Identification of studies via databases and registers

Identifying relevant articles

The authors established specific criteria for inclusion and exclusion to identify relevant articles for the review. The inclusion criteria encompassed original research articles, WHO and UNICEF guidelines, publications from Google Scholar, English-language articles published between 2013-2024, and articles discussing the supportive aspects of light remembrance activities, bolstered by behavioral factors and positive thoughts, which could potentially reduce CHD. The exclusion criteria included review articles, opinion pieces, articles focusing on instruments, discussions solely on the importance of positive thinking, habits of remembrance, evidence of remembrance practices within the Indonesian community, prevalence rates of CHD, and claims suggesting positive thinking alone can cure diseases. The authors conducted searches across relevant databases, such as PubMed, Wiley Online Library, EBSCO, ScienceDirect, and grey literature sources (Google Scholar and WHO and UNICEF Guidelines). Keywords were formulated using advanced search techniques with Boolean operators "OR" and "AND". Following the input of the keywords, a filter was applied for articles published within the last decade and categorized as "original research". Subsequently, retrieved articles were downloaded and organized using a reference manager.

RESULTS

Brief definition and pathophysiology of CHD

Coronary heart disease occurs due to an imbalance between the supply and demand of oxygen for the heart muscle (myocardium). This results in hypoxia and an accumulation of waste metabolites in the myocardium. Coronary heart disease or coronary artery disease is caused by atherosclerosis in the coronary arteries.⁴ The circulation of blood to the heart diminishes because of the constriction and irregular tension of the blood vessels. This is caused by a dysfunction of the endothelial cells that undergo atherosclerosis. Endothelial cell dysfunction causes disproportionate arterial vasoconstriction and abnormal antithrombotic properties.

In normal individuals, physical activity and mental state produce measurable changes in coronary artery vasodilation. This effect occurs due to a balance in the activities of the autonomic nervous system, which consists of a sympathetic and parasympathetic nervous system. Autonomic nervous activity constantly adjusts to a person's mental state. Individuals who are in a state of no stress experience optimism and gratefulness, and their activities are in accordance with balanced autonomic nervous activity. Expressing gratitude is also linked to improved well-being and health due to it highlights recognizing the positive factors of everyday life.⁵ Balanced autonomic nervous system function is a physiological condition that can enhance overall well-being by enabling the body to effectively respond to stressors and maintain internal stability.

In general, sympathetic nerves (equivalent to states of optimism and gratitude) increase blood flow and its distribution. It stimulates the release of endothelial vasodilators, including nitric oxide, which has a relaxing and constricting effect. In normal individuals, the relaxing effect is greater than the constricting effect. This effect occurs in smooth arterial muscles and causes arterial vasodilation. In patients with endothelial dysfunction, impaired endothelial release of vasodilators results in uncontrolled catecholamine effects. This causes arterial vasoconstriction. In the heart, these effects cause a decrease in coronary blood flow resulting in ischemia of the myocardial. Endothelial dysfunction weakens the impact of adenosine, a local metabolite crucial for vasodilation, by limiting its ability to widen blood vessels. This occurs because endothelial dysfunction disrupts the normal function of endothelial cells, which plays a key role in releasing adenosine and controlling its effects on smooth muscle cells. Consequently, the capacity of adenosine to trigger potassium channels and decrease intracellular calcium levels, thereby promoting vasodilation, is compromised in the presence of endothelial dysfunction.⁶

Body immunity

An individual's ability to stay healthy in any situation is influenced by their immune system. Individuals with high immunity experience higher levels of health and *vice versa*. The body's immunity system can cope with any stimulus, including negative stimuli from metabolic diseases

like CHD. Many studies have revealed that optimism can increase immunity. There are some studies, that confirm the benefits of cellular immunity-boosting therapy in cancer treatment compared to artificial immunization. A study conducted in 2018 titled "*Optimistic people have reduced risk for cardiovascular disease and cardiovascular-related mortality compared with their less optimistic peers?*" found that optimistic individuals have a lower risk of developing cardiovascular disease and cardiovascular-related mortality compared to their less optimistic counterparts⁷.

Research has found that optimism, a mindset characterized by the tendency to expect good things to happen in the future, can reduce the risk of heart disease and stroke. A meta-analysis of 15 studies, comprising 229,391 participants, found that optimism was associated with a lower risk of cardiovascular events and all-cause mortality. The conclusion suggests that the intervention significantly reduces the risk of both cardiovascular events and all-cause mortality. Although there is some variability in the studies analyzed, the overall findings suggest a clear benefit in lowering these risks.⁸ Optimism is a belief in the good results of any endeavor. Individuals who are optimistic share a belief that efforts lead them to profit, fun, happiness, and prosperity. Higher optimism was associated with a longer life span and a greater likelihood of exceptional longevity.⁹ Optimism can suppress body stress. Low levels of stress can be indicated by low levels of free radicals that can damage anything they encounter. Under conditions of low levels of free radicals, the individual's body has high levels of immunity. Individuals who are optimistic having low levels of free radicals, they are more youthful, and their immunity is high. Optimists generally experience better physical health and exhibit biomarkers related to lower levels of oxidative stress and enhanced immunity.¹⁰

Individuals can increase their levels of optimism by repeating words that are optimistic. Words that are repeated will be affirmed by the body. Repeated words lead to beliefs, affect behavior, and manifest in character. Character animates all activities of the body, including the activities of the body's immunity system.

The importance of psychological well-being

One of the techniques to reduce CHD is through psychotherapy¹¹ that brings about a change in an individual's outlook. Psychotherapy is also known as cognitive behavior therapy. Such efforts are the key to changing behavior through the construction of a better mindset. In psychology, good character and optimism are the terms given to psychological well-being^{12,13}

Psychologically, human character can be classified into psychological well-being (PWB) and psychological ill-being (PIB). Individuals with PIB have a poor psychological status. They tend to experience higher stress levels that easily damage the coronary vascular endothelium. This can lead to accelerated damage through an inflammatory process that occurs due to the first damage. Inflammation triggers plaque formation, hardens vessels, and increases vascular tone which causes stiffness. Plaque causes a narrowing of blood vessels, which decreases the supply of oxygen. As a result, hypoxia occurs in the myocardial, causing CHD symptoms.¹⁴

Individuals with PWB have a good psychological status. They have little or no stress, and they are generally optimistic and grateful. Their sympathetic and parasympathetic systems respond proportionally to stimuli from the surrounding environment and from within their own bodies. As a result, their coronary arteries respond to each stimulus in harmony with their body's physiological needs. Such conditions occur both during rest and active state.¹⁵

PIB harms the body's immune system. Traylor *et al* found a correlation between psychological susceptibility and antibody response when people have a medical intervention. Traylor *et al* demonstrated in pregnant women that both acute and chronic stress can lead to disruptions in the maternal-placental-fetal endocrine and immune system responses. Meanwhile, pregnant women practicing mindfulness meditation with maintained tranquility have been proven effective in enhancing mental health and birth outcomes.¹⁶ Cañas-González *et al* propose that maintaining a positive psychological state enhances the immune system's ability to respond effectively to diseases.¹⁷ Positive psychological factors, such as optimism, resilience, and social support, have been associated with better immune function and reduced susceptibility to

infections. These factors can influence the immune system through various pathways, including the neuroendocrine system and behavioral patterns.¹⁸ Individuals with good character are more adaptive in interpreting life's problems, not easily panicked, have more positive thinking and are optimistic, and can deal with problems more effectively.¹⁵

Mikko *et al* found that individuals who passed away due to CHD exhibited notably higher levels of pessimism at the beginning of the study compared to others.¹⁹ Meanwhile, individuals who have greater happiness and optimism levels might foster sustaining a healthy lifestyle over time, which could contribute to lower disease/mortality risk.²⁰ Nuno Laranjeira *et al.* found evidence that individuals with inflammatory bowel disease recover more quickly when they have good character.²¹

Manczak et al. discovered that parental attitudes, particularly empathy, can significantly benefit children's health both psychologically and physically. Through blood analysis, they observed a reduction in markers of systemic inflammation. Additionally, levels of interleukin-1, interleukin-6, and C-reactive protein were measured. The empathetic behavior of parents positively influenced adolescents' emotional regulation. Furthermore, parental empathy correlated with higher self-esteem and a stronger sense of purpose in life. These findings underscore the significance of fostering gratitude, mutual support, and understanding to enhance both psychological and physical well-being.²²

Attempts to change the character through remembrance

According to the Great Indonesian Dictionary, remembrance means repeated praise to Allah. Remembrance of Allah can simply be interpreted as remembering Allah by repeating Allah's name.²³ The names of Allah are in *asmaa-ul Husnaa*, Al-Qur'an *surah al-A'raf* verse 180:

وَلِلّٰهِ الْأَسْمَاءُ الْحُسْنَىٰ فَادْعُوهُ بِهَا ۖ فَادْعُوهُ الْحُسْنَىٰ ۖ الْأَسْمَاءُ وَلِلّٰهِ

Wa lillaahil asmaa-ul Husnaa Fad'uuhu Bihaa

Only belongs to Allah *asma-ul Husnaa*, so pray to Him by mentioning *asma-ul Husnaa*

A prayer to God is done through remembrance. One of the recitations of remembrance is *Subhaanallah wa Bihamdihi, Subhaanallahil 'Adzim*. This remembrance is light on the tongue, heavy on the scales, and has tremendous benefits, and is very much loved by the Most Merciful.²⁴ According to the Qur'an, this remembrance is read after prayer in every situation. Surah An-Nisa verse 103:

فَإِذَا قُضِيَتْ الصَّلَاةُ فَادْكُرُوا اللَّهَ قِيَامًا وَرُكُوعًا وَعَلَى جُنُوبِكُمْ جُنُوبِكُمْ وَعَلَى وَرُكُوعًا قِيَامًا فَادْكُرُوا اللَّهَ قِيَامًا وَرُكُوعًا

Fa iżā qadaitumus-salāta faʼzkurullāha qiyāmaw wa qu'udaw wa 'alā junubikum

So when you have finished (your) prayer, remember Allah while standing, sitting, and lying down

This remembrance is read in *salah*, when bowing. Here it is read in a slightly different redactional:

سُبْحَانَ رَبِّيَ الْعَظِيمِ وَبِحَمْدِهِ

Subhaana Rabbiyal 'Adzim wa Bihamdihi

Glory be to God, the Most Great and Most Praised

The Prophet forbade people who are in a hurry to bow²⁵ and recommended to increase remembrance during bowing. This remembrance is a prayer to replace pessimism and disappointment (in all its forms) with optimism and gratitude. It is understandable that if this remembrance is recited repeatedly as a prayer during pessimism and disappointment, it will gradually transform pessimism into optimism and disappointment into gratitude.

In *Subhaanallah wa Bihamdihi, Subhaanallahil 'Adzim*, the name of Allah is also *as-Subbuh* (The Most Holy), *al-Hamid* (The Most Praised), *al-'Adzim* (The Most Great). In Indonesian Muslim society, this remembrance is not specifically intended to alter character from a less good to a better one. Was the Messenger of Allah not sent just to perfect the glory of morality? The Messenger of Allah guides Muslims to direct every deed through intention. "Indeed, all actions depend on intentions," al-Bukhari and Muslim.²⁶

Prayer in medical efforts

Numerous medical researchers have provided evidence of the role of prayer to solve problems.

*When a serious illness suddenly vanishes like a gust of wind, it's not uncommon for people to think that a miracle has happened. However, this event demonstrates the extraordinary healing power of ordinary things, because the trigger is something as simple as prayer. Unexpected healing news in professional journals generally negates the emotional, psychological and spiritual factors experienced by patients. However, countless modern medical studies have begun to acknowledge the very significant role emotional plays.*²⁷

A research experiment carried out at the cardiac care unit of the Mid-America Heart Institute (MAHI) examined the impact of prayer on patients with CHD. Led by William S. Harris, a cardiologist from the cardiology division of the department of internal medicine at Saint Luke's Hospital in Kansas City, the study concluded that prayer can be a beneficial addition to the healing process for CHD patients.²⁸

Scientific Evidence Supporting the Healing Effects of Dhikr (Remembrance) on Various Diseases

There is scientific evidence that supports the therapeutic benefits of Dhikr (remembrance) on various diseases. The research conducted by Ririn *et al* proves that dhikr therapy has a significant effect on reducing anxiety in cancer patients. The findings indicate that incorporating dhikr therapy into the treatment regimen can potentially contribute to improving patient well-being and quality of life. This underscores the importance of further research and integration of complementary therapies like dhikr in addressing the psychological aspects of cancer care.²⁹ The research conducted by Kusuma *et al* proves that the study demonstrates that Dhikr therapy has a significant effect on decreasing anxiety levels in patients with chronic kidney failure receiving hemodialysis treatment at RSUD Dr. Drajat Prawiranegara in 2019. Prior to the intervention, a majority of respondents exhibited anxious tendencies, which subsequently shifted to mild anxiety levels following Dhikr therapy. The statistical analysis indicates a significant association between Dhikr therapy and anxiety reduction among the participants. Future research should explore the influence of family support on anxiety levels in chronic renal failure patients undergoing hemodialysis.³⁰

Additionally, research held by Irawati *et al* highlights the significant role of religious activities, specifically salat and dhikr, in enhancing the spiritual well-being and mental health of Muslim patients with schizophrenia. Despite facing barriers such as insufficient prayer tools and physical limitations, patients demonstrated a strong commitment to performing these religious practices. The regularity and timing of salat and dhikr positively influenced patients' emotional states, mindfulness, and concentration, while the absence of these activities led to negative impacts on both physical and emotional health. The findings underscore the importance of integrating religious activities into mental health care settings and ensuring access to adequate prayer equipment for patients.³¹

Dhikr As-Subbuh, al-'Adzim

When referring to the name of Allah *as-Subbuh* ³², *Subhaanallah* can also mean "O Allah, please clear this mind of negative thoughts, please cleanse this heart of bad perceptions that make people pessimistic, anxious, and worried about losing pleasure. For that, replace it with good thoughts and optimism." According to the Great Indonesian Dictionary, a pessimist is a person who has a character outlook without hope, and typically worries about losing, getting hurt, and other concerns. Pessimistic people tend to see everything from a negative perspective. In contrast, optimism views everything from a good and pleasant perspective.³³ When referring to the name of Allah *al-Adzim*, the Greatest, saying *al-'Adzim* in *Subhaanallahil 'Adzim* can also mean praying to Allah, "O Allah, make me very optimistic". We can see that when mentioning *as-Subbuh* and *al-Hamid*, the two sentences are separated by a conjunction (*waw*) which means "and"; but when mentioning *as-Subbuh* and *al-'Adzim*, the two sentences are connected. The second

sentence is an adverb that strengthens the first sentence.

However, if optimism is so important, then conversely, prejudice and pessimism are equally dangerous. There is evidence about the effect of dhikron increasing optimism and preventing pessimism. This article explains the importance of dhikr in developing intellectual, emotional, and spiritual intelligence. This research focuses on how dhikr can improve cognitive function and reduce stress and anxiety.³⁴ We therefore ask Allah to always be optimistic, because negative thinking can be very dangerous. Did He not cast Adam out of heaven? Satan whispered misgivings to Adam. If Adam had not eaten the fruit of *Khuldi*, then Adam and Hawa will probably still be in heaven.

The interpretation of verse 36 of *surah al-Baqarah* by Shihab highlights the dreadful danger of prejudice. Shihab described the bad perception in accordance with the verse: "The desire for personal gain while prejudice against others and this is the source of all kinds of animosity. Hostility was born mainly because of bad suspicion towards the other party".³⁵ *Surah al-Baqarah* verse 36 reads:

فَأَزَلَّهُمَا الشَّيْطَانُ عَنْهَا فَأَخْرَجَهُمَا مِمَّا كَانَا فِيهِ ۖ وَقُلْنَا اهْبِطُوا بَعْضُكُمْ لِبَعْضٍ عَدُوٌّ ۖ وَلَكُمْ فِي الْأَرْضِ مُسْتَقَرٌّ وَمَتَاعٌ إِلَىٰ حِينٍ

Fa azallahumasy-syaitānu 'an-hā fa akhrajahumā mimmā kānā fihi wa qulnahbiṭu ba'dukum liba'din 'aduww, wa lakum fil-arḍi mustaqarruw wa matā'un ilā hīn

Then both of them were derailed by the devil from heaven and brought out of their original state, and We said: "You come down! some of you are enemies to others, and for you there is a place to live on earth, and the pleasure of living until the appointed time".

In light remembrance, the second *Subhaanallah* is characterized by another attribute of *asmaa-ul Husnaa*, namely *al-'Adzim*. Moreover, there is another kind of optimism that is not necessarily in line with the meaning of optimism meant in this light remembrance. The Qur'an provides examples of high optimism, one of which is not true. Instructions regarding this matter are found in the Al-Qur'an *surah Al-Kahf* verses 32-42, where one man is very optimistic about his future—not only in facing his future in this world, but also his future in the afterlife. He assumes that he will still be valuable, and still have many pleasures due to his efforts. In contrast, his friend relies on his high optimism based on his monotheistic faith in Allah. The Qur'an is critical of the first kind of optimism. The first man in the story suddenly becomes bankrupt, and fails to prove that his efforts on his farm will make a huge profit. *Subhaanallahil 'Adzim* refers to optimism that is based on monotheism, in other words, optimism that leans on the Greatness of Allah, and optimists who rely on the Highest God.

Table 1. Mechanism of Dhikr in Preventing CHD

Step	Dhikr Mechanism Component	Description
1	Spiritual Reflection	Engaging in dhikr promotes spiritual reflection, fostering a sense of inner peace and tranquility.
2	Stress Reduction	Dhikr acts as a stress-reducing practice, mitigating the impact of chronic stress on the cardiovascular system.
3	Mind-Body Connection	Establishing a strong mind-body connection through dhikr contributes to overall well-being and heart health.
4	Autonomic Modulation	Dhikr practices impact the autonomic nervous system, fostering equilibrium between sympathetic and parasympathetic functions.
5	Positive Hormonal Changes	Dhikr induces positive hormonal changes, including the release of endorphins and a reduction in cortisol levels.
6	Blood Pressure Regulation	Regular dhikr is associated with improved blood pressure regulation, contributing to the prevention of CHD.

Recent studies have explored the potential benefits of dhikr, an Islamic practice of remembrance, in managing cardiovascular health issues. Dhikr therapy has been shown to significantly reduce cardiac chest pain in patients with Acute Coronary Syndrome (ACS) when combined with pharmacological treatment.³⁶ Additionally, dhikr has demonstrated effectiveness in reducing anxiety levels among ACS patients, with those practicing dhikr experiencing lower

rates of severe anxiety compared to control groups.³⁷ The practice has also been found to decrease stress levels and blood pressure in hypertensive patients, with significant reductions observed in both systolic and diastolic measurements.³⁸ Furthermore, *dhikr* has been suggested as a non-pharmacological method to alleviate anxiety in chronic kidney failure patients undergoing hemodialysis.³⁹ These findings indicate that *dhikr* may serve as a valuable complementary therapy in managing various cardiovascular and stress-related conditions.

Dhikr Al-Hamid

To mention the name of Allah *al-Hamid*³² in *wa bihamdihi*, means asking Allah to “make us always give thanks to You, O Allah. Never have the slightest feeling of disappointment.”⁴⁰ Individuals who have such a character, always try to see the positive side of every situation. Various forms of deficiencies in solving problems in the past jump-start more perfect efforts to deal with future problems: efforts that trigger a resounding success⁴⁰. There is some evidence about the effect of *dhikr* on health conditions. This research was conducted by Destiya *et al.* This study provides evidence that *Dhikr* (a form of Islamic meditation) is beneficial for health, specifically in reducing chest pain in patients with ACS. The background of the research highlights that cardiac chest pain is a common complaint among ACS patients in Emergency Departments (EDs), and while pharmacological therapy is a major intervention, it often does not fully alleviate the pain, necessitating additional therapies. The purpose of this study was to examine the effect of *Dhikr* therapy as an adjunct therapy for cardiac chest pain in ACS patients in EDs. The research was conducted using a quasi-experimental pretest-posttest control group design. A total of 52 ACS patients were recruited through consecutive sampling and equally divided into intervention and control groups. The intervention group received both pharmacological and *Dhikr* therapy for approximately 17 minutes, while the control group only received pharmacological therapy as per the hospital's protocol. The intensity of cardiac chest pain was measured using the Numeric Pain Rating Scale (NPRS), and data were analyzed using both paired and independent t-tests. The results showed a significant reduction in pain in both groups ($p=0.000$), with the intervention group experiencing a greater decrease in pain compared to the control group. Additionally, the difference in pain reduction between the groups was statistically significant ($p=0.021$). In conclusion, the combination of *Dhikr* and pharmacological therapy was more effective in reducing the intensity of cardiac chest pain in ACS patients than pharmacological therapy alone. Therefore, this study recommends integrating *Dhikr* with pharmacological therapy for patients with ACS.⁴¹

Optimism leads to healing and longevity

Bruno Klopfer once reported on a case of malignant lymphoma he was treating. There are a number of large tumors all over the patient's body. The patient's chest was filled with fluid, and he had difficulty breathing.⁴³ Klopfer was convinced the patient would die within the next two weeks. Therefore, all treatment was abandoned except for oxygen. The last step that Klopfer took was to inject the patient with Krebiozen, an experimental drug that was later found to be ineffective. Klopfer observed:

I was so amazed! I left him with a fever, difficulty breathing, [and in a] very weak condition. Now he walks around the rooms in the hospital. He happily chatted with the nurses, bringing a cheery influence to anyone who would listen. The tumor lump melted like a snowball in the oven. In just a few days the tumor had halved its initial size. This must have been shrinking more rapidly than any tumor that could be diagnosed with a high-grade diagnosis. There was no other treatment other than one injection which was later found to be wasteful.

Klopfer's optimism convinced the patient that he would recover with just one injection to keep him safe from the tumor, which Klopfer was convinced would claim his death in no more than two weeks. The patient's conviction made him immediately “pass away” prematurely.

Renè Descartes, born on March 31, 1596, in the small town of La Haye, France, is renowned for his statement, *Cogito Ergo Sum* ("I think, therefore I am"). This quote evolved over time into a more optimistic sentiment in English: "You can if you think you can." Dr. Norman Vincent Peale further transformed this optimistic notion into "You can if you believe you can." Individuals with

positive thinking patterns are likely to achieve positive outcomes, while those with negative thinking patterns may encounter negative outcomes.

Daniel B. Mark, a cardiologist from Duke University School of Medicine, in Durham, North Carolina, conducted an observational study of 1,719 men and women who had undergone cardiac catheterization. Twelve months later, 12% of those in the group who were pessimistic from the start, had died. Meanwhile, those who were in the optimistic group had a mortality rate of only 5%. Dr. Nancy Frasure-Smith of the Montreal Heart Institute found a predictive rate of death for heart patients with high levels of pessimism over eighteen months. Pessimistic patients had an eight times greater mortality rate than those who were optimistic.⁴⁴

Researchers at the University of Pennsylvania in Philadelphia found evidence that optimistic men and women aged 62 to 87 had higher levels of helper T-cells. This means that they have a greater ability to win against disease. Buchanan and Seligman found that older adults who survive into their 80s exhibit higher levels of optimism as a group.⁴⁴

Gratitude, happiness, and love increase immunity

Bernie Siegel, a native American surgeon, tells the story of a number of sufferers of a breast malignancy mammary carcinoma, who were able to recover completely, not because of the radiotherapy or chemotherapy they received, but through love therapy. Siegel had similar responses in several HIV/AIDS sufferers.⁴⁵

Masaru Emoto conducted research in which he was able to prove that the presence of a positive human character, including words of gratitude, can induce water to form perfect crystals.⁴⁶ After cooling water until it froze, Emoto used microscopic techniques to slice the frozen crystals. The results of the microscopic decomposition revealed significant differences in the water crystals. The crystals of the container that were fixed with a "thank you" note, left for a while, and then frozen, had the appearance of perfectly formed, complexly arranged, and beautiful crystals. Conversely, the crystals obtained from water that has been stored for some time with a note "you are stupid" (disappointed, the opposite of gratitude) affixed to the container revealed damaged water crystals, with no complete crystals.⁴⁶

Emoto also examined the effect of gratitude on solid objects, namely rice. The rice that was induced by a note of "thanks" lasted a long time and did not spoil easily, but the rice induced with a note "you are stupid" decayed quickly.⁴⁶

The Emotional Freedom Technique research group conducted a study on Rebecca Marina in August 2003.⁴⁷ Marina was conditioned to be sad. A peripheral blood smear was made and then examined under a light microscope. Marina's blood smear showed red blood cells in the shape of a "tear drop" rather than perfectly round. Such forms cause problems when crossing blood vessels. Red blood cells that are abnormally shaped interfere with the smooth flow of blood, causing red blood cells to disintegrate prematurely. Marina was then induced with feelings joy, the pleasure of being in love, and complete gratitude. Marina's peripheral blood smear showed the appearance of round, disc-shaped, double-concaved, well spaced, red blood cells. This form shows perfect physiological function which the blood can transport oxygen and nutrients perfectly, and is able to release nutrients to the tissue properly.

Experiments continued on the white blood cells of Marina's immune system. The results were red blood cells and showed that individuals who are grateful increase their immunity, while feelings of disappointment decrease their immunity. Gratitude is emitted by individuals who have good character. Disappointment is emitted by individuals who have poor character. Siegel, Emoto, and Marina produced similar evidence that gratitude, joy, and love increase immunity, and may even dispel diseases at the level of cancer and HIV/AIDS.⁴⁸

Light remembrance has the potential to elevate optimism and increase gratitude. This remembrance, if repeated, will help individuals to develop a character that can amplify immunity and has great potential to reduce CHD.

CONCLUSION

This article delivers new insights by connecting the culture of light *dhikr* (remembrance of Allah) with underlying positive behaviors that may contribute to reducing the incidence of CHD. The result is also supported by other findings that discuss the impact of positive behavior and mindset in combating other diseases besides CHD. The article also demonstrates a tangible correlation between reciting specific phrases and a decrease in the prevention of CHD, which could have significant implications for public health initiatives. Implementing culturally sensitive interventions rooted in spiritual practices could lead to more effective prevention strategies.

CONFLICT OF INTEREST

There is no conflict of interest.

REGISTRATION AND PROTOCOL

This review was not registered in any public review protocol databases, such as PROSPERO or INPLASY. However, the methodology followed standard guidelines for narrative and thematic reviews, including systematic search, inclusion/exclusion criteria, and thematic synthesis. All procedures adhered to scientific publication ethics.

ACKNOWLEDGMENTS

The authors thank the Faculty of Medicine, Universitas Airlangga Surabaya.

DATA AVAILABILITY STATEMENT

This article is a literature-based review and does not involve primary data collection. All data supporting the findings of this study are available through the cited references. For any additional inquiries, data access requests may be directed to the corresponding author via email.

SUPPLEMENTARY MATERIAL(S)

No supplementary materials are provided with this article. All relevant content is included within the main text and reference list. Should additional files be required, such as data extraction tables or protocol checklists, they will be made available upon reasonable request.

AUTHOR CONTRIBUTIONS

AL conceived the main idea, formulated the conceptual foundation, and led the development and finalization of the manuscript. FFA supported content development under the guidance of Abdurachman, assisting in literature integration and critical refinement. LHA contributed as the authoritative expert in cardiology, ensuring clinical relevance and validation of cardiovascular content. DA provided final content alignment, assisted in editorial harmonization, and ensured consistency across the manuscript. AZM contributed significantly to scientific editing, cross-disciplinary contextualization from biomedical perspectives, and ensured the integration of international standards in medical writing. ATD contributed to editorial formatting, legal-philosophical contextual review, and verification of references. All authors have read and approved the final version of the manuscript.

DECLARATION OF USING AI IN THE WRITING PROCESS

Artificial Intelligence (AI) tools, including ChatGPT (OpenAI), were employed to support the writing process, specifically for language polishing, grammar refinement, and structural clarity. The authors confirm that all intellectual content, analysis, interpretation, and conceptual novelty are the results of original human scholarly work. No AI was used to generate scientific content or fabricate data.

LIST OF ABBREVIATIONS

CHD: Coronary Heart Disease; PWB: Psychological Well-Being; PIB: Psychological Ill-Being; ACS: Acute Coronary Syndrome; EDs: Emergency Departments;

REFERENCES

1. Shaya GE, Leucker TM, Jones SR, Martin SS, Toth PP. Coronary heart disease risk: low-density lipoprotein and beyond. *Trends in Cardiovascular Medicine*. 2022;32(4):181–94. DOI: 10.1016/j.tcm.2021.04.002.
2. Tsao CW, Aday AW, Almarzooq ZI, Anderson CAM, Arora P, Avery CL, et al. Heart disease and stroke statistics—2023 update: A report from the American Heart Association. *Circulation*. 2023;147(8). DOI: 10.1161/CIR.0000000000001123.
3. Uli RE, Satyana RPU, Zomer E, Magliano D, Liew D, Ademi Z. Health and productivity burden of coronary heart disease in the working Indonesian population using life-table modelling. *BMJ Open*. 2020;10(9):e039221. DOI: 10.1136/bmjopen-2020-039221.
4. Shao C, Wang J, Tian J, Tang Y da. Coronary artery disease: From mechanism to clinical practice. In 2020. p. 1–36. DOI: 10.1007/978-981-15-2517-9_1.
5. Newman DB, Gordon AM, Mendes WB. Comparing daily physiological and psychological benefits of gratitude and optimism using a digital platform. *Emotion*. 2021;21(7):1357–65. DOI: 10.1037/emo0001025.
6. Zhang Y, Wernly B, Cao X, Mustafa SJ, Tang Y, Zhou Z. Adenosine and adenosine receptor-mediated action in coronary microcirculation. *Basic Research in Cardiology*. 2021;116(1):22. DOI: 10.1007/s00395-021-00859-7.
7. Boehm JK, Chen Y, Koga H, Mathur MB, Vie LL, Kubzansky LD. Is optimism associated with healthier cardiovascular-related behavior? *Circulation Research*. 2018;122(8):1119–34. DOI: 10.1161/CIRCRESAHA.117.310828.
8. Rozanski A, Bavishi C, Kubzansky LD, Cohen R. Association of optimism with cardiovascular events and all-cause mortality. *JAMA Network Open*. 2019;2(9):e1912200. DOI: 10.1001/jamanetworkopen.2019.12200.
9. Lee LO, James P, Zevon ES, Kim ES, Trudel-Fitzgerald C, Spiro A, et al. Optimism is associated with exceptional longevity in 2 epidemiologic cohorts of men and women. *Proceedings of the National Academy of Sciences*. 2019;116(37):18357–62. DOI: 10.1073/pnas.1900712116.
10. Boehm JK. Positive psychological well-being and cardiovascular disease: Exploring mechanistic and developmental pathways. *Social and Personality Psychology Compass*. 2021;15(6). DOI: 10.1111/spc3.12599.
11. Nuraeni A, Suryani S, Trisyani Y, Sofiatin Y. Efficacy of cognitive behavior therapy in reducing depression among patients with coronary heart disease: An updated systematic review and meta-analysis of rcts. *Healthcare*. 2023;11(7):943. DOI: 10.3390/healthcare11070943.
12. Dr. M. Dhanabhakym, Sarath M. Psychological wellbeing: A systematic literature review. *International Journal of Advanced Research in Science, Communication and Technology*. 2023;603–7. DOI: 10.48175/IJARSCT-8345.
13. Hernandez R, Bassett SM, Boughton SW, Schuette SA, Shiu EW, Moskowitz JT. Psychological well-being and physical health: Associations, mechanisms, and future directions. *Emotion Review*. 2018;10(1):18–29. DOI: 10.1177/1754073917697824.
14. Shahjehan RD BBS. Coronary artery disease. United States: StatPearls Publishing; 2023.
15. Abdurachman, A HN. The role of psychological well-being in boosting immune response: An optimal effort for tackling infection. *African Journal of Infectious Disease*. 2018;12:54–61.
16. Traylor CS, Johnson JD, Kimmel MC, Manuck TA. Effects of psychological stress on adverse pregnancy outcomes and nonpharmacologic approaches for reduction: An expert review. *American Journal of Obstetrics & Gynecology MFM*. 2020;2(4):100229. DOI: 10.1016/j.ajogmf.2020.100229.
17. Cañas-González B, Fernández-Nistal A, Ramírez JM, Martínez-Fernández V. Influence of stress and depression on the immune system in patients evaluated in an anti-aging unit. *Frontiers in Psychology*. 2020;11. DOI: 10.3389/fpsyg.2020.01844.
18. Vedhara K, Ayling K, Jia R, Fairclough L, Morling JR, Ball JK, et al. Relationship between

- anxiety, depression, and susceptibility to severe acute respiratory syndrome Coronavirus 2 infection: Proof of concept. *The Journal of Infectious Diseases*. 2022;225(12):2137–41. DOI: 10.1093/infdis/jiac006.
19. Pänkäläinen M, Kerola T, Kampman O, Kauppi M, Hintikka J. Pessimism and risk of death from coronary heart disease among middle-aged and older Finns: An eleven-year follow-up study. *BMC Public Health*. 2016;16(1):1124. DOI: 10.1186/s12889-016-3764-8.
 20. Trudel-Fitzgerald C, James P, Kim ES, Zevon ES, Grodstein F, Kubzansky LD. Prospective associations of happiness and optimism with lifestyle over up to two decades. *Preventive Medicine*. 2019;126:105754. DOI: 10.1016/j.ypmed.2019.105754.
 21. Laranjeira N, Fonseca J, Meira T, Freitas J, Valido S, Leitão J. Oral mucosa lesions and oral symptoms in inflammatory bowel disease patients. *Arquivos de Gastroenterologia*. 2015;52(2):105–10. DOI: 10.1590/S0004-28032015000200006.
 22. Manczak EM, DeLongis A, Chen E. Does empathy have a cost? Diverging psychological and physiological effects within families. *Health Psychology*. 2016;35(3):211–8. DOI: 10.1037/hea0000281.
 23. Muchamad Toif Chasani. The urgency of zikir in modern life. *Formosa Journal of Multidisciplinary Research*. 2022;1(8):1663–74. DOI: 10.55927/fjmr.v1i8.2082.
 24. Imam Bukhari. Hadits narrated by Bukhari number 6405 and muslim number 2691.
 25. Muhammad Nashiruddin Al-Albani. *Shifatus shalatin nabi*. Jakarta: Griya Ilmu; 2007. 131 p.
 26. Imam Bukhari. Soheh Buhori, juz 1. Bairut: Dar Al-Kutub Al-Amaliah; 1995. 3 p.
 27. Dossey L. Miracle healings. *EXPLORE*. 2018;14(5):315–20. DOI: 10.1016/j.explore.2018.06.001.
 28. Harris WS, Gowda M, Kolb JW, Strychacz CP, Vacek JL, Jones PG, et al. A randomized, controlled trial of the effects of remote, intercessory prayer on outcomes in patients admitted to the coronary care unit. *Archives of Internal Medicine*. 1999;159(19). DOI: 10.1001/archinte.159.19.2273.
 29. Sulistyawati RA, Probosuseno, Setiyarini S. Dhikr therapy for reducing anxiety in cancer patients. *Asia-Pacific Journal of Oncology Nursing*. 2019;6(4):411–6. DOI: 10.4103/apjon.apjon_33_19.
 30. Nugraha Kusuma A, Rahmawati D, Lusiani M, Dede R. The effect of dhikr therapy on anxiety levels in chronic kidney failure patients that have done hemodialysis therapy in Indonesia. *Enfermería Clínica*. 2020;30:175–8. DOI: 10.1016/j.enfcli.2019.11.048.
 31. Irawati K, Indarwati F, Haris F, Lu JY, Shih YH. Religious practices and spiritual well-being of schizophrenia: Muslim perspective. *Psychology Research and Behavior Management*. 2023;Volume 16:739–48. DOI: 10.2147/PRBM.S402582.
 32. Abdurrazzaq bin Abdul Muhsin Al-‘Abbad Al-Badr. *Fikih Asma’ul Husna*. Jakarta: Darus Sunnah; 2019. 324 p.
 33. Artha DJ, S W. Optimism and pessimism of hazel grace in john green’s novel the fault in our stars. *KnE Social Sciences*. 2019. DOI: 10.18502/kss.v3i19.4847.
 34. Irhas I, Aziz AA, Satriawan LA. The power of dhikr: Elevating intellectual, emotional, and spiritual quotients. *Al-Hayat: Journal of Islamic Education*. 2023;7(2):601. DOI: 10.35723/ajie.v7i2.434.
 35. Muhammad Quraish Shihab. *Tafsir Al-Mishbah: Pesan, kesan dan keserasian Al-Quran*. Jakarta: Lentera Hati; 2002. 159–160 p.
 36. Pangestika DD, Trisyani Y, Nuraeni A. The effect of dhikr therapy on the cardiac chest pain of acute coronary syndrome (ACS) patients. *Nurse Media Journal of Nursing*. 2020;10(2):200–10. DOI: 10.14710/nmjn.v10i2.25638.
 37. Sulistiyowati H, Jumaiyah W, Purnamawati D, Sofiani Y, Susanto B, Prima A, et al. The influence of dhikr on anxiety in acute coronary syndrome (ACS) patients at dr. Chasbullah Abdulmadjid hospital, Bekasi city. *Jurnal Keperawatan Komprehensif (Comprehensive*

- Nursing Journal). 2024;10(1). DOI: 10.33755/jkk.v10i1.616.
38. Annisafitri FN. The effect of dhikr on the stress level and blood pressure in the patients with hypertension at Puskesmas Gamping 1. Gaster. 2022;20(2). DOI:10.30787/gaster.v20i2.592.
 39. Hasanah AM. Metode dzikir dalam penurunan tingkat kecemasan pada pasien gagal ginjal kronik terhadap terapi hemodialisa. Jurnal Keperawatan Profesional. 2022;10(2):55–77. DOI:10.33650/jkp.v10i2.4222.
 40. Abdurachman. Potensi positif dinamika Covid-19. Surabaya: Airlangga University Press; 2020. 135 p.
 41. Pangestika DD, Trisyani Y, Nuraeni A. The effect of dhikr therapy on the cardiac chest pain of acute coronary syndrome (ACS) patients. Nurse Media Journal of Nursing. 2020;10(2):200–10. DOI:10.14710/nmjn.v10i2.25638.
 42. Püschel K, Sperhake JP. Corona deaths in Hamburg, Germany. International Journal of Legal Medicine. 2020;134(4):1267–9. DOI:10.1007/s00414-020-02332-x.
 43. Klopfer B. Psychological variables in human cancer. Journal of Projective Techniques. 1957;21(4):331–40. DOI:10.1080/08853126.1957.10380794.
 44. Dreher H. Mind-body unity: A new vision for mind- body science and medicine. Baltimore: Johns Hopkins University Press; 2004.
 45. Bernie S. Siegel MD. Love, medicine and miracle. Toronto: Fitzhenry & Whiteside; 1998. 39–40 p.
 46. Emoto M. The hidden messages in water. Tokyo: Sunmark Publishing; 2001. 27–28 p.
 47. Zainudin AF. Spiritual emotional freedom technique. Jakarta: Arga Publishing; 2008. 240–244 p.
 48. Abdurachman. Melesatkan imunitas. In: Menjaga nalar, mencari jalan keluar dari pandemi Covid 19. Surabaya: Airlangga University Press; 2020. p. 142–6.