



## Investigating the effect of Salat (Muslim prayer) on mental health in the results of clinical studies: A mini review

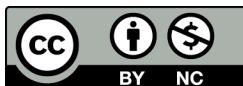
Mohammad Reza Behdar<sup>1</sup>, Reza Sheikh<sup>2\*</sup>

1. Department of Islamic Studies, Jundi-shapur University of Technology, Dezful, Iran.

2. Department of Exercise Physiology, Faculty of Sports Sciences, Shahid Chamran University of Ahvaz, Ahvaz, Iran. (\*Corresponding author: ✉ [dreza.sheikh@gmail.com](mailto:dreza.sheikh@gmail.com),  <https://orcid.org/0000-0001-5554-9250>)

Article Info	Abstract
<p>Review Article</p> <p><b>Article history:</b> Received: 16 December 2022 Revised: 18 June 2023 Accepted: 27 June 2023 Published online: 01 July 2023</p> <p><b>Keywords:</b> mental health Muslims prayer Salat.</p>	<p><b>Background:</b> Research shows that there is a relationship between religion and spirituality with social behavior and mental health. Among the different religions, Muslims have the largest number in the world. Muslims pray five times a day.</p> <p><b>Aim:</b> The purpose of this study was to review previous findings on the effect of Salat (Muslim prayer) on the mental and psychological health of people.</p> <p><b>Materials and Methods:</b> More than 50 articles were reviewed and finally the most relevant articles were separated and analyzed.</p> <p><b>Results:</b> The results indicate that there is a direct relationship between Salat and increasing the desire to live, hope, endurance of hardship, feeling happy and happiness, hope for recovery in patients. Also, prayer has an inverse relationship with anxiety and depression, despair, dissatisfaction with life, discomfort with illness and problems.</p> <p><b>Conclusion:</b> According to these findings, doctors and researchers in the health sector are expected to conduct new studies without religious and belief bias in order to understand and improve the mental and psychological conditions of patients, so that the mechanisms involved in these positive effects are revealed and possibly insight new in the process of improving people's mental and psychological conditions.</p>

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## 1. Introduction

Studies in medical sciences over the last 3 decades have demonstrated a significant connection between the mind and body. As far as, many physiological changes of the body are related to mental changes [1]. During an extensive study conducted at the Mayo Clinic, researchers reviewed 350 studies on the relationship between religion and physical health of patients. They also reviewed the results of 850 studies related to the possible relationship between religion and mental health. Analysis indicates that the majority of studies have shown that religious and spiritual involvement is associated with health-related outcomes. Most of the findings are related to achieving longer life expectancy, increased coping skills and health-related quality of life (even when terminally ill), and reduced anxiety, depression, and suicide. In their finding, they stated that religion can promote disease prevention, disease coping, and recovery [2].

Other studies have also announced reports agreeing with this study. It was reported that high levels of spirituality and religiosity can be associated with lower mortality, improved quality of life and well-being, and lower levels of depression and psychological stress [3].

William James (1902), one of the leading psychologists and an expert in the study of religious psychology, recognized the difficulty and complexity of creating a single definition of religion, and his goal was not to find a definition. For his own purposes, however, he gave this definition of religion: "The actions, experiences, and feelings of individuals in private, so far as they regard themselves against anything that may be considered divine" [4]. During his studies, he comes to different conclusions about religious life in general.

Ultimately, he concluded that the physical world in which we live derives its significance from its relationship to a spiritual world. This spiritual world is our ultimate goal. James concludes that prayer and spiritual association is an effective tool to communicate with this world and brings psychological and material effects [4]. For individuals who identify with religion, James found that they tend to have a zest for life, as well as a certainty of peace, security, and affection. "Happiness! Happiness! Religion is only one of the ways in which men gain that gift. Easily, permanently, and successfully, it often transforms the most intolerable misery into the deepest and most enduring happiness" [4].

Numerous studies from various aspects have shown that prayer has positive effects on health. It is clear that any mental and spiritual activity can affect the physiological conditions of a person. The nature of prayer includes the implementation of an order based on humility and submission before God and the expression of special words (Quran and prayer) which are at the head of God's service, seeking refuge in the Holy Essence and asking for mercy and forgiveness from God. Therefore, it is predictable that such an act will have effects on the human mind and psyche.

The purpose of this study is to review the current evidence on the effects of prayer (regardless of its specific meaning and purpose in Islam) and to discuss what is known about these effects. Therefore, we will examine what researchers measure and evaluate in clinical research. This study has been done away from any religious and belief bias and only reveals the results of previous researches.

## 2. Background

Ayele, Georgiou and Reyes (1999) observed a variation of this happiness in their study when they examined the relationship between religious activity and life satisfaction of doctors and elderly patients. They found that doctors (75%) use religion as a source of coping. There is also a positive correlation between internal religious activities such as prayer and reading the Bible and life satisfaction. About the older patients who participated in this study, 86% used religion as a source of coping, and internal religious activity was positively related to life satisfaction. Interestingly, this connection persisted even after consideration of factors such as age, gender, health, and marital status [5].

Ghufran (2011) also reached similar results in his study. He studied the relationship between collective religious practices, life satisfaction and psychological well-being among 200 Muslims (65-75 years old). He compared 100 Muslims who pray in congregation five times a day in a mosque and 100 Muslims who do not regularly pray in congregation. The results indicate greater satisfaction and enjoyment of life for those who regularly participate in communal religious prayers compared to those who do not. The study's results suggest that engaging in public religious activities could be associated with higher life satisfaction and a better sense of well-being among older adults [6].

Baetz et al. (2002) also conducted a study with the aim of investigating the effects of religion and religious practices on mental health. This study examined the effects of religious beliefs and practices on the mental health of patients hospitalized in psychiatry. They only included people with a Beck depression score of 12 or higher.

The researchers concluded that greater worship attendance was associated with fewer depressive symptoms, shorter length of stay, greater life satisfaction, and lower current and lifetime alcohol use compared with those who attended less or no worship attendance [7].

Koenig et al. (2004) found that religious activities, attitudes, and spiritual experiences of elderly hospitalized patients are associated with greater social support and better physical health [8].

The study of Maltby et al. (2010) showed that meditative prayer has the greatest effect on physical and mental health [9].

If religiosity proves to be a prominent element in the client's life, examining this further and making religiosity an integral part of therapy could yield significant improvements in the life of the patients [10].

de Mamani et al. (2010) conducted a study on people hospitalized in a mental hospital. This article examines whether religion and spirituality (R/S) should be included in the treatment of patients with serious mental illness. This integration of religiosity into treatment has been found to be beneficial to the patient, especially when the treatment is aligned with the individual values of the patient involved [11].

Possible mechanisms through which spirituality and religiosity may influence health outcomes include style healthier living (e.g., healthy diet, less smoking and alcohol consumption), less stress and depression, optimism and hope, stronger social relationships, less suicide, and better safety [12].

## 3. Materials and Methods

This study was conducted with the aim of

investigating the effect of prayer on mental health. Since prayer is a religious activity and is similar to some religious practices of other religions such as Christianity, studies on the effects of worship were searched. In the following, only studies that focused on factors related to mental health were studied. These factors included the desire to live, hope, endurance of hardship, feeling of joy and happiness, hope of recovery in patients, as well as anxiety and depression, hopelessness, despair, dissatisfaction with life, discomfort with illness and problems. In the following, 25 articles with the most relevance in factors related to mental health were selected. Of these, 17 articles that examined the effect of Muslim prayer were evaluated and studied carefully. Also, 8 other related articles that were conducted on the impact of other acts of worship on mental health were reviewed, which were used in the introduction and discussion section.

#### 4. Findings

Prayers in Islam are held at five fixed times a day. As stated in the Qur'an (heavenly book): "It is true that the prayer is obligatory for the believers to be performed at its time" (Qur'an 4: 10). Prayer consists of different postures, which include standing (qiyam), raising and lowering the arms (takbeer), bending from the trunk (ruku), sitting on the legs, putting the head on the ground (sajdah) and turning the head.

In addition to the above, voluntary prayers are highly encouraged and recommended as a mean of seeking divine help, especially in times of personal distress [13].

In Islam, regular prayer is emphasized more than in Christianity and Judaism. While prayer is very important for devout Christians, it is often performed less than

five times a day (which is required in Islam) [14]. The five prayers are: Morning Prayer (Fajr), noon (Dahar), early evening (Asr), sunset (Maghrib) and night prayer (Isha).

Muslims engage with their whole body by standing towards Mecca, reciting verses of the Qur'an, kneeling and bowing, bowing to the ground and touching it with the forehead (prostration). Orthodox Jews also stand and face Jerusalem during prayer. Then, they bow and finally stand and shake their heads back and forth repeatedly. Of course, unlike Muslims, they do not prostrate on the ground during prayer, although it is stated in the book of Daniel that Daniel prostrated on the ground during prayer. Orthodox Jews pray three times a day: early morning, afternoon, and night [15].

#### 4. 1. The effect of prayer on mental health

Some recent studies have attempted to examine the health effects of prayer from a scientific perspective. It is clear that physical activity even in small amounts can have positive effects on health and well-being [16, 17]. But the focus of the present study is on the positive effects of prayer from a spiritual and mental point of view. In a survey of 4,404 Muslims, researchers found that participants who prayed regularly were healthier. They demonstrated favorable health-related behaviors and use of preventive services, and reported greater satisfaction with care [18]. Islamic prayer, commonly represented by the Arabic term salat, is the second pillar of Islam. As an obligatory requirement of ritual worship, salat combines the essential tenets of Islam; worship of one God, remembrance of Allah, submission to Allah's will, supplication, as well as, a symbol of unity of the Muslim community [1].

#### 4. 2. *Psychological effects of salat*

Many patients face deep psychological and emotional distress during illness and suffer from severe diseases in which the risk of death is felt by the patient. As a result, high levels of anxiety and distress may worsen their physical condition. However, several reports of different studies on the use of prayer in psychotherapy show a positive result in a person who previously showed pathological symptoms such as tension, anxiety, depression and antisocial tendencies [19].

Yucel (2007) conducted a study at Brigham Hospital and examined the effects of prayer and prayer on patients. This study was conducted on 16 Muslim adults between 18 and 85 years old. He found that prayer reduced stress and depression while providing comfort and hope. The findings were consistent with previous studies on the relationship between prayer and health. The study also found that 75% of the participants stated that Islam had been an important factor in their lives. The relationship between mind and body in prayer can be a basis for overcoming the demands of life, reducing anxiety and depression by relying on divine support and guidance [20].

In a study aimed at investigating the effect of Salat (Muslim prayer) on the relative power (RPa) of electroencephalography (EEG) and autonomic nervous activity, Doufesh et al. (2014) were conducted on 30 healthy Muslim men. The results showed that during prayer, there is a significant increase ( $P < 0.05$ ) in the average RPa in the occipital and parietal regions of the brain and a normalized unit of high frequency power (nuHF) HRV (as a parasympathetic index). Meanwhile, normalized low-frequency

power (nuLF) and LF/HF HRV (as sympathetic indices) decreased. The increase in occipital electroencephalogram (EEG) and parietal RPA during prayer shows that it produces positive changes in brain function and human emotion. These changes are associated with an increase in the parasympathetic component and a decrease in the sympathetic component in the autonomic nervous system (ANS). According to these results, they announced that prayer can be considered with the aim of strengthening peace, minimizing the risk and risk of contracting the disease [21].

#### 4. 3. *Salat or meditation*

Meditation is a practice in which a person uses techniques to achieve relaxation such as focusing the mind on a specific object, thought, or activity to train awareness and achieve a clear mental and emotionally calm state. Several studies have reported the benefits of meditation on mental and physical health [22]. It has been reported that meditation may be a potentially attractive and cost-effective adjunct to traditional medical treatments. On the other hand, almost all religions include some form of meditation.

In Islam, prayer serves as a type of meditation. However, according to Islamic teachings, prayer is not an end in itself. The true objective of engaging in prayer and focusing one's attention during it is to remember and concentrate on God (... and Iqamah al-Salwa for remembrance. Qur'an 14: 20).

Studies have shown that prayer leads to the activation of the parasympathetic nervous system and the reduction of sympathetic activity. This may explain why prayer is often thought of as a form of meditation. Because it reduces anxiety and

promotes a sense of relaxation. Most studies on meditation show a decrease in the alpha rhythm and an increase in the coherence of the alpha rhythm in the EEG [21].

Doufesh et al. (2012) investigated the concept of relaxation that is obtained during the Muslim prayer by measuring alpha activity in the brain. In this research, the subjects were asked to perform the required four rounds of "Zhahi" prayer movements, and then the EEG was recorded. Similar to other studies, this research also showed an increase in alpha amplitude in the parietal and occipital regions of the brain during meditation and mental concentration. The occurrence of increased alpha amplitude suggests parasympathetic activation, thus indicating a state of relaxation [23].

However, it is worth mentioning that more studies are needed to explain the role of mental focus and eye focus on the alpha wave range while performing religious acts. Another study also investigated the difference in mean EEG gamma power between real and simulated (symbolic) prayers in 20 healthy Muslim individuals. In the main group (the first group), the participants were asked to read and perform the regular steps of prayer correctly. While the participants who imitated the prayer (the second group) were taught to do only the physical steps without reciting the Qur'an and praying. The findings of this research showed that the gamma power during real prayer was statistically higher than during simulated prayer in the frontal and parietal regions in all stages. An increase in gamma power during actual prayer, possibly related to increase cognitive processing, is consistent with the concept of prayer as a meditation of focused attention [24].

Future research focusing on the medical benefits of prayer should aim to teach prayer as a form of mind and body

medicine. It has been showed that meditation may be considered as an aid to guideline-guided cardiovascular risk reduction with lifestyle modification [24].

Neurophysiological studies suggest that meditation may have long-term effects on the brain [21].

Achour et al. (2021) investigated how prayer moderates the relationship between job stress and life satisfaction among 335 Muslim nursing staff in Kuala Lumpur, Malaysia. They found that job stress has a negative relationship with life satisfaction. There was a positive and strong correlation between prayer and life satisfaction, and prayer helped reduce stress and may improve the life satisfaction of these Muslim nurses [25].

## 5. Conclusion

There is almost a consensus that physical activity is beneficial for physical and mental health [26, 27, 28, 29, 30]. But we're talking about more than just physical activity here. Given the dramatic increase in chronic stress-related disorders worldwide, clinicians should consider mind-body techniques more. Examining past studies reveals that there is a relationship between prayer and improving mental health indicators. The improvement of mental and spiritual conditions created through prayer has been reported in many studies. Although this study was focused on the prayers of Muslims, according to the results of the studies, it seems that other religious practices can have similar effects.

Doctors and researchers should be useful in searching for the origin of these works, regardless of religious and extremist biases. It is better to conduct future studies to better understand the mechanisms involved in these beneficial effects. Of course, it may have some metaphysical

effects that are beyond the scope of our discussion. But it is appropriate to think about them and discuss them in their place.

Furthermore, it is important to discuss the impact of Salat on mental health across different populations, cultural contexts, and religious beliefs. This could provide a more comprehensive understanding of the potential variations in the impact of Salat on mental and psychological well-being.

## 6. Limitations

In this study, we tried to avoid any religious bias. However, most of the studies that have evaluated the effects of prayer have been conducted by Muslim scientists. Although the researchers have pledged to avoid any religious bias, but since the religion is related to the way of thinking of people, the possibility of bias cannot be ignored. This doubt can be resolved with the studies of non-Muslim researchers on this issue.

## Conflict of interest

The authors declared no conflicts of interest.

## Authors' contributions

All authors contributed to the original idea, study design.

## Ethical considerations

The authors have completely considered ethical issues, including informed consent, plagiarism, data fabrication, misconduct, and/or falsification, double publication and/or redundancy, submission, etc. The participants were informed about the purpose of the research and its implementation stages; they were also assured of the confidentiality of their information. Moreover, they were allowed to leave the study whenever they wanted, and if desired, the results of the research

would be available to them.

## Data availability

The dataset generated and analyzed during the current study is available from the corresponding author on reasonable request.

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## References

- [1] Saniotis A, "Understanding mind/ body medicine from Muslim religious practices of Salat and Dhikr". *Journal of Religion and Health*. 2018; 57: 849-857. doi: <https://doi.org/10.1007/s10943-014-9992-2>.
- [2] Mueller PS, Plevak DJ, Rummans TA. *Religious Involvement, Spirituality, and Medicine: Implications for Clinical Practice in Mayo Clinic Proceedings*. Elsevier. 2001. doi: 10.4065/76.12.1225.
- [3] Levin JS. "How religion influences morbidity and health: Reflections on natural history, salutogenesis and host resistance". *Social Science & Medicine*. 1996; 43(5): 849-864. doi: [https://doi.org/10.1016/0277-9536\(96\)00150-5](https://doi.org/10.1016/0277-9536(96)00150-5).
- [4] James W. *The Varieties of Religious Experience: A Study in Human Nature*. 1902: Modern library.
- [5] Ayele H, Mulligan T, Gheorghiu S, Reyes C. "Religious activity improves life satisfaction for some physicians and older patients". *Journal of the American Geriatrics Society*. 1999; 47(4): 453-455. doi: <https://doi.org/10.1111/j.1532-5415.1999.tb07238.x>.
- [6] Ghufuran M. "Impact of religious practice on mental health of elderly people belonging to Muslim community". *Indian Journal of Community Psychology*. 2011; 7(2): 380-387.
- [7] Baetz MI, Larson DV, Marcoux G, Bowen R, Grif fin R. "Canadian psychiatric inpatient

- religious commitment: An association with mental health". *The Canadian Journal of Psychiatry*. 2002; 47(2): 159-166. doi: <https://doi.org/10.1177/070674370204700206>.
- [8] Koenig HG, George LK, Titus P. "Religion, spirituality, and health in medically ill hospitalized older patients". *Journal of the American Geriatrics Society*. 2004; 52(4): 554-562. doi: <https://doi.org/10.1111/j.1532-5415.2004.52161.x>.
- [9] Maltby J, Lewis CA, Freeman A, Day L, Cruise SM, Breslin MJ. "Religion and health: The application of a cognitive-behavioural framework". *Mental Health, Religion & Culture*. 2010; 13(7-8): 749-759. doi: <https://doi.org/10.1080/13674670802596930>.
- [10] Beach VL. "Religiosity and prayer in relation to health and life satisfaction in older adults". 2016.
- [11] de Mamani AGW, Tuchman N, Duarte EA. "Incorporating religion/ spirituality into treatment for serious mental illness". *Cognitive and Behavioral Practice*. 2010; 17(4): 348-357. doi: <https://doi.org/10.1016/j.cbpra.2009.05.003>.
- [12] Rasic D, Robinson JA, Bolton J, Bienvenu OJ, Sareen J. "Longitudinal relationships of religious worship attendance and spirituality with major depression, anxiety disorders, and suicidal ideation and attempts: Findings from the Baltimore epidemiologic catchment area study". *Journal of Psychiatric Research*. 2011; 45(6): 848-854. doi: <https://doi.org/10.1016/j.jpsychires.2010.11.014>.
- [13] Sayeed SA, Prakash A. "The Islamic prayer (Salah/ Namaaz) and yoga togetherness in mental health". *Indian Journal of Psychiatry*. 2013; 55(2): S224-S230. doi: 10.4103/0019-5545.105537.
- [14] Koenig HG, Al Shohaib S. *Health and Well-Being in Islamic Societies*. Springer. 2014.
- [15] Chamsi-Pasha M, Chamsi-Pasha H. "A review of the literature on the health benefits of Salat (Islamic prayer)". *Med J Malaysia*. 2021; 76(1): 93-97.
- [16] Sheikh R, Nikbakht M. "Physical activity and apoptosis, a brief review of previous findings". *Sport Sciences and Health Research*. 15(1): 137-144. doi: <https://doi.org/10.22059/sshr.2023.1097>.
- [17] Sheikh R, Shakerian S, Tabatabaei SR, Habibi A. "Moderate and high-intensity interval training protect against diabetes-induced modulation of hepatic CD86 and CD206 expression associated with the amelioration of insulin resistance and inflammation in rats". *Immunobiology*. 2023; 228(6): 152745. doi: <https://doi.org/10.1016/j.imbio.2023.152745>.
- [18] O'Connor PJ, Pronk NP, Tan A, Whitebird RR. "Characteristics of adults who use prayer as an alternative therapy". *American Journal of Health Promotion*. 2005; 19(5): 369-375. doi: <https://doi.org/10.4278/0890-1171-19.5.369>.
- [19] Majeed A. "Salat offset the negative health effect of stress". *Inter J Adv Res*. 2016; 4: 339-43.
- [20] Yucel S. *The Effects of Prayer on Muslim Patients' Well-being*. Doctoral dissertation. 2007.
- [21] Doufesh H, Ibrahim F, Ismail NA, Wan Ahmad WA. "Effect of Muslim prayer (Salat) on  $\alpha$  electroencephalography and its relationship with autonomic nervous system activity". *The Journal of Alternative and Complementary Medicine*. 2014; 20(7): 558-562. doi: <https://doi.org/10.1089/acm.2013.0426>.
- [22] Levine GN, Lange RA, Bairey-Merz CN, Davidson RJ, Jamerson K, Mehta PK, Michos ED, Norris K, Ray IB, Saban KL, Shah T. "Meditation and cardiovascular risk reduction: A scientific statement from the American Heart Association". *Journal of the American Heart Association*. 2017; 6(10): 18-22. doi: <https://doi.org/10.1161/JAHA.117.002218>.
- [23] Doufesh H, Faisal T, Lim KS, Ibrahim F. "EEG spectral analysis on Muslim prayers". *Applied Psychophysiology and Biofeedback*. 2012. 37: 11-18. doi: <https://doi.org/10.1007/s10484-011-9170-1>.
- [24] Doufesh H, Ibrahim F, Safari M. "Effects of Muslims praying (Salat) on EEG gamma activity". *Complementary Therapies in Clinical Practice*. 2016; 24(1): 6-10. doi: <https://doi.org/10.1016/j.ctcp.2016.04.004>.
- [25] Achour M, Muhamad A, Syihab AH, Mohd Nor MR, Mohd Yusoff MY. "Prayer moderating job stress among Muslim nursing staff at the University of Malaya Medical Centre (UMMC)". *Journal of Religion and Health*. 2021; 60: 202-220. doi: <https://doi.org/10.1007/s10943-019-00834-6>.
- [26] Ahmadi S, Sheikh R. "Effect of incremental interval training on levels of FasL protein in lung tissue of mature male Wistar rats: Does exercise training reduce lung inflammation?". *Journal of Exercise & Organ Cross Talk*. 2023; 3(2): 66-72.
- [27] Sheikh R, Gallehdari M. "The effect of herbal supplement and exercise training on plasma lipid profile in diabetic male rats". *Journal of Exercise & Organ Cross Talk*. 2023; 3(2): 86-92. doi: 10.22034/JEOCT.2023.399703.1083.
- [28] Sheikh R, Habibi A. "Exercise training increases the chance of the body's immune system to fight against the disease of Covid-19: A mini review of exercise, immune system and myokines". *Journal of Exercise & Organ Cross Talk*. 2023; 3(3): 150-155. doi: 10.22122/JEOCT.2023.403936.1085.
- [29] Soleimani N, Gallehdari M, Sheikh R. "Effect of six weeks of interval training and curcumin consumption on apolipoprotein A and B in diabetic male rats". *Journal of Exercise & Organ Cross Talk*. 2023; 3(2): 73-80. doi: 10.22034/JEOCT.2023.400236.1084.
- [30] Bostani M, Sheikh R. "The effect of different degrees of dehydration on the plasma levels of creatine kinase and lactate dehydrogenase of professional wrestlers in Ahvaz". *Sports Sciences Quarterly*. 2023; 15(49): 49-70.