

# BNHC E-MAGAZINE

**Introducing a convenient way!** *Earn your diploma online with one of the most comprehensive study programs available in social network*



BioNatural Healing  
College

## **Online 5 Diplomas**

*Offers a dynamic quality education to change and improve your quality of life by offering online education In convenient way.*

***FIND YOUR KEY  
TO SUCCESS!***

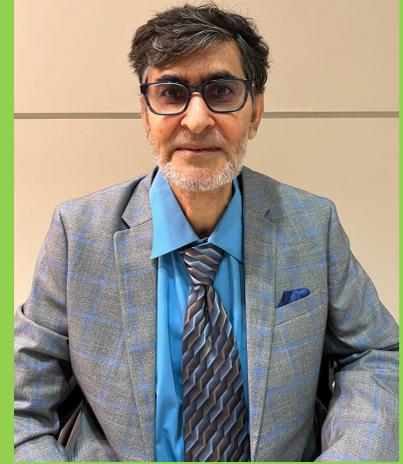


# Contents

- **Message:** from the President of BNHC
- **BNHC Directory: Board of Directors:** Dr. Nadir Sidiqi Ph.D., Mrs. Aziza Sidiqi, Mr. Zalmi Gulzarzada, Mr. Ghaus Siddiqi, Mr. Naveed Siddiqi
- **Staff & Faculty:** Mr. Shareef Karim, Mr. Wais Siddiqi, Prof. Rosalie Stafford, Dr. Muhammed Adil, Dr. Nadir Sidiqi Ph.D., Dr. Tanveer Alam, and Dr. Vivek Sharma.
- **Learning:**
- **BioNatural Healing**
- Medicinal plants, Nutrition, Health, Diet, Body, Mind, Spirit, Sleep, Exercise and related issues.
- **Science Research:**
- Agriculture, Environment, Public Health, Technology
- **Innovation, Educational Announcement (Conference, Workshop):**
- **BNHC News & Advertisements:**
- **About US:** Mission, Vision
- **Contact US:**
- **Email:** [info@bionaturalhealingcollege.org](mailto:info@bionaturalhealingcollege.org)
- **Phone:** (909) 242-6342 P.O. Box 218 La Verne, California 91750 USA.
- [BioNatural Healing College.org](http://BioNaturalHealingCollege.org)

# Message: from the President of BioNatural Healing College (BNHC)

Greetings!



I am thrilled to express my heartfelt gratitude to the Almighty God for granting me the privilege to introduce the BioNatural Healing College (BNHC) E-Magazine April 2024 edition to our esteemed readers. Additionally, I extend my thanks to each one of you, especially our cherished readers, for your invaluable feedback and unwavering support. It's important to emphasize that the content within this magazine is intended solely for educational purposes, the author's perspectives are independent of any affiliation with BNHC.

We have high hopes that this BNHC E-Magazine will prove to be a valuable resource, made possible by the diligent contributions of esteemed researchers and colleagues from across the globe. With gratitude, I wish you all the best in health and a life filled with prosperity.

Warmest regards,

Dr. Nadir Sidiqi, Ph.D.



# BioNatural Healing College

## **BioNatural Healing College Stands on Seven Core Pillar Foundations as follows:**

1. All living organisms are made from the water this beautiful connection, connects us to praise the Creator of Creation for the provision of feeding, fueling, and healing to humanity.
2. No harm to public health and environmental health (Biodiversity) including pollinators, surface water, groundwater, soil, and air.
3. A series of complex chains involved with food production from the field to the mouth of the human body desperately needs scientific research to maximize healthy nutritionally food production and end malnutrition and food insecurity.
4. Harmful pests such as insects, and pathogens causing to human and plant health and loss of economic problems. BioNatural chemicals from plants, microorganisms, and ocean-living organisms exist and need further research to discover along with safety to utilize for the health improvement of humans as well as BioNatural Pest Management (insects, fungi, bacteria, various, nematodes, weeds, rodents, etc.).
5. Listen, love, appreciate, and respect with deep conscience and subconscious the connection between the genes of your body and beautifully ecologically in sense of feeling, feeding, fueling, and healing.
6. The brilliant human mind can irrigate with balance drinking clean water as a whole-body system to detoxify the toxicant from their body systems as well as to detoxify the soil, water, and environment from harmful chemicals, particularly pesticides through collaboration, and dedication from the individual, family, community, and scientific community locally and globally.
7. BioNatural Healing College provides a high-quality science base foundation through online education to fit and accommodate the needs of each prospective student for the sustainability and prosperity of his or her own, family, community, and humanity.

# Exploring the Health Benefits of Fasting During the Blessed Month of Ramadan

## By Dr. Nadir Sidiqi Ph.D.

**Introduction:** Since March 11 last month estimated 2 billion Muslims around the world have participated and celebrated the holy month of Ramadan fasting. Therefore, the author attempts and hopes to plant the seeds of good knowledge deeds for dear readers in the April BNHC E-Magazine edition 2024, during the spring season and detoxify the mind and body from all types of toxins. Indeed, the Creator of all creations (Almighty God) was, is, and will be forever aware of all affairs of humans, and his environment, particularly health and disease. As such, fasting has been practiced for millennia, including in Islam, Christianity, Judaism, Buddhism, Jainism, and other groups around the world for religious, ethical, moral, and health benefits. During the blessed month of Ramadan for Muslims, with meaningful thoughts and performing many spiritual deeds in addition to five times daily prayers ( Taraweeh prayers, recitation of the Quran, reflection, kindness, and generosity) and also health benefits have been observed. Fasting is practiced by humans and even among animals to lower eukaryotes (organisms whose cells have a membrane, all animals, plants, fungi, and some unicellular organisms) according to numerous research articles on fasting that show its role in many adaptive cellular responses. For instance, reducing oxidative damage and inflammation increases energy metabolism and boosts cellular protection (1,2,3). Ramadan (Fasting month) is the 9<sup>th</sup> month of the Islamic Lunar Hijri calendar, based on a 12-month lunar year of approximately 354 days. Therefore, the lunar year is 11 days shorter than the solar year, and each lunar month moves 11 days earlier each year. The population of Muslims was predicated to 1.9 billion in 2019, accounting for almost 24 percent of the world population in various geographic regions of the globe such as 93% in the Middle East and North Africa (MENA), 83% in Central Asia, 42% in Southeast Asia, 31% in South Asia, 29-31% in Sub-Saharan Africa, 1.5% in Oceania, roughly 5% in Europe, and 1 % in the Americas as reported in the publication “Ramadan Fasting and Its Health Benefits: What’s New? 2022”.

BioNatural Healing College

Ramadan is one of the five pillars of Islam, commemorating the revelation of the Holy Quran to the final Prophet Muhammad (Peace be upon him). All healthy adult Muslims (who do not have any specific health problems) who have reached puberty age must fast for a month (29-30 days), exempting pregnant or nursing women, the sick, travelers, disabled, and elderly people. Muslims fast from pre-dawn to sunset, a fast of between 11-16 hours depending on time and location around the world. Must abstain completely from eating, drinking, smoking, and having sexual intercourse. Indeed, a time for spiritual introspection and closeness to Almighty Allah (God). As Allah Almighty Says: ***“O you who believe! Fasting is prescribed for you, as it was prescribed for those before you, that you may become righteous”*** Quran Surah (chapter) 2 verse 183. There are many benefits of fasting in Islam, however, the two main ones are spiritual and social interaction in nature. When Muslims fast during the day of this month, they are hungry and thirsty; during this time of hunger and thirst, they can better understand the suffering of hungry and poor people in communities worldwide. Especially those around the world who have no access to food and water. Also, with the sense of charity and donations by those Muslim individuals who are stable and financially able for charity to support poor people, one of the significant importance of the month of Ramadan. At the end of the fasting month (Ramadan), Muslims celebrate “Eid Ul-Fitr” and gather in mosques or open places for prayers and special Eid celebrations. However, our discussion will continue on this important topic concerning the health benefits of Ramadan for the rest of this publication.

**Ramadan Cultivating Tranquility of the Heart and Mind:** Ramadan is the blessed month during this fasting month one finds more connected to Almighty Allah asking for help to build and develop good deeds, self-control, and spiritual, moral, and social qualities for a healthy life. As Almighty Allah (God) Says:

الَّذِينَ ءَامَنُوا وَتَطْمَئِنُّ قُلُوبُهُمْ بِذِكْرِ اللَّهِ ۗ أَلَا بِذِكْرِ اللَّهِ تَطْمَئِنُّ الْقُلُوبُ ٢٨

***Those who believe and whose hearts find comfort in the remembrance of Allah. Surely in the remembrance of Allah do hearts and comfort.*** Quran Surah 13 verse 28. One of the blessed months of Ramadan benefits that there is a custom of gathering around the Iftar (meal breaking fast) along with their family and community members which fosters a feeling and healing of the needy in society.

**Why is Ramadan Psychological Important?** To Muslims, Ramadan fasting is more than completely abstaining from food and drink. Also, fasting is refraining from any immoral bad behavior and interaction with indecent speech, debating, fighting, and having lustful thoughts. It means this is the purification of the mind, body, and soul harmonizing an individual's inner and outer spheres (Ahmad et al., Psycho-Social Behaviour and Health Benefits of Islamic Fasting During the Month of Ramadan 2012). **Fasting in Animal Life: Insights and Implication:**

The Creator of all creations created and designed perfectly with His wisdom and knowledge. However, animals in nature rarely experience continuous food intake, animals eat and digest following their rhythmic circadian pattern (1). If food becomes limited, feeding is stopped or reduced. For instance, phocid seal pups are nursed almost ceaselessly for days, but within a few months, they are abandoned on the ice or onshore without food when their mothers return to sea<sup>2</sup>. Indeed, fasting cycles occur in many organisms, which can explain behavioral, morphological, metabolic, and physiological adaptations needed to reduce metabolic expenditure and preserve homeostasis<sup>3</sup> (a relatively stable physiological condition in the body). It's important to consider animal models with their various fasting habits that have been observed depending on the species, the environment, and the physiological needs as reported by researchers (1). This observation of animals' fasting patterns brings our attention to human physiology in the context of fasting. As such, fasting animals' habits can be mainly divided into four categories: (1) **Hibernation:** a seasonal state of dormancy to face harsh environmental conditions, for example, low temperatures and food scarcity. (2) **Estivation:** a seasonal state of dormancy to face harsh environmental conditions, for example, high temperatures and water scarcity. (3) **Migration:** changing environment to search the food sources. (4) **Natural:** that is lack of food by chance. (4). These 4 habits of aforementioned fasting animals are for the benefit of health and offspring conservation of animal's life.

**Fasting and Human Health: Insights from Research Data:** As mentioned earlier, fasting has been practiced for many centuries for various purposes including religious, ethical, and health. The fasting protocol consists of three modalities: Ramadan (whole-day fasting), time-restricted feeding, and alternate-day fasting (intermittent fasting). Researchers suggest that fasting has physiological effects: Lower blood sugar, lower cholesterol, and lower systolic blood pressure. Fasting during Ramadan would be an excellent treatment option for mild to moderate, stable non-insulin diabetes, obesity, and essential hypertension. Moreover, a recent study on inactive volunteers found that religious rituals such as fasting during the holy month of Ramadan can lower stress, anxiety, and depression in certain people.

**Fasting (Ramadan) and Health Benefits for Obesity and Diabetes:** Type 2 diabetes is one of the major health issues associated with obesity. Furthermore, Type 2 diabetic patients have complex mechanisms, particularly in the development of insulin resistance in obese patients. For instance, systemic chronic inflammation and ectopic lipid accumulation(6,7). However, leptin, a hormone secreted by adipocytes, is known to play a functional role in body weight management by signaling to the hypothalamus and other brain regions to reduce food intake and increase energy expenditure (7). The current lifestyle requires a new dynamic shift for losing weight as many studies have shown. Ramadan fasting is connected with the FTO gene, a metabolic gene related to energy metabolism body fat deposition, and expression downregulation in obese people. However, in brief, Ramadan fasting may have a preventive effect against body weight gain and associated negative metabolic-related derangement in obese people(8). Obese people are three to four times more likely to develop diabetes Type 2 and cardiovascular disease than non-obese people. Obese patients who are suffering from diabetes have found fasting a promising alternative and non-medicinal treatment option for Type 2 Diabetes Mellitus (T2DM), a metabolic disorder characterized by hyperglycemia primarily due to insulin resistance (9).

**Ramadan Fasting Effect Health Benefits on the Cardiovascular System:** WHO, estimates each year 17.9 million people die due to cardiovascular diseases (CVDs) (10). CVDs are alert health issues that require wise management to mitigate the risk factors associated with increased mortality rates, such as smoking, obesity, lack of physical activity, disorder of lipid metabolism, hypertension, diabetes, and poor diet, additionally, the genetic factors (11,12). Lifestyle modification and behavior changes particularly diet play a crucially important role in the prevention of cardiovascular diseases. A study has shown the effect of Ramadan fasting on lipid profile and cardiovascular risk factors in patients with stable coronary heart disease. This study has compared before and after Ramadan values, levels of apoprotein A, low-density lipoprotein-cholesterol, triglycerides, and cholesterol significantly ameliorated after Ramadan fasting. Additionally, the blood glucose fasting, and C reactive protein (CRP) levels have considerably reduced (13). Another study has shown that people who practice fasting during Ramadan improve HDL, LDL, triglycerides, and very low-density lipoprotein levels with a reduction of Framingham risk score (a tool to predict your risk of heart disease based on your age), an average of 13.8 to 10.8 (14), however, there are numerous research and articles available share two studies.

***Do not forget your daily 30 minutes of exercise along with a healthy Diet.***

# The main benefits of fasting on human cardiovascular system

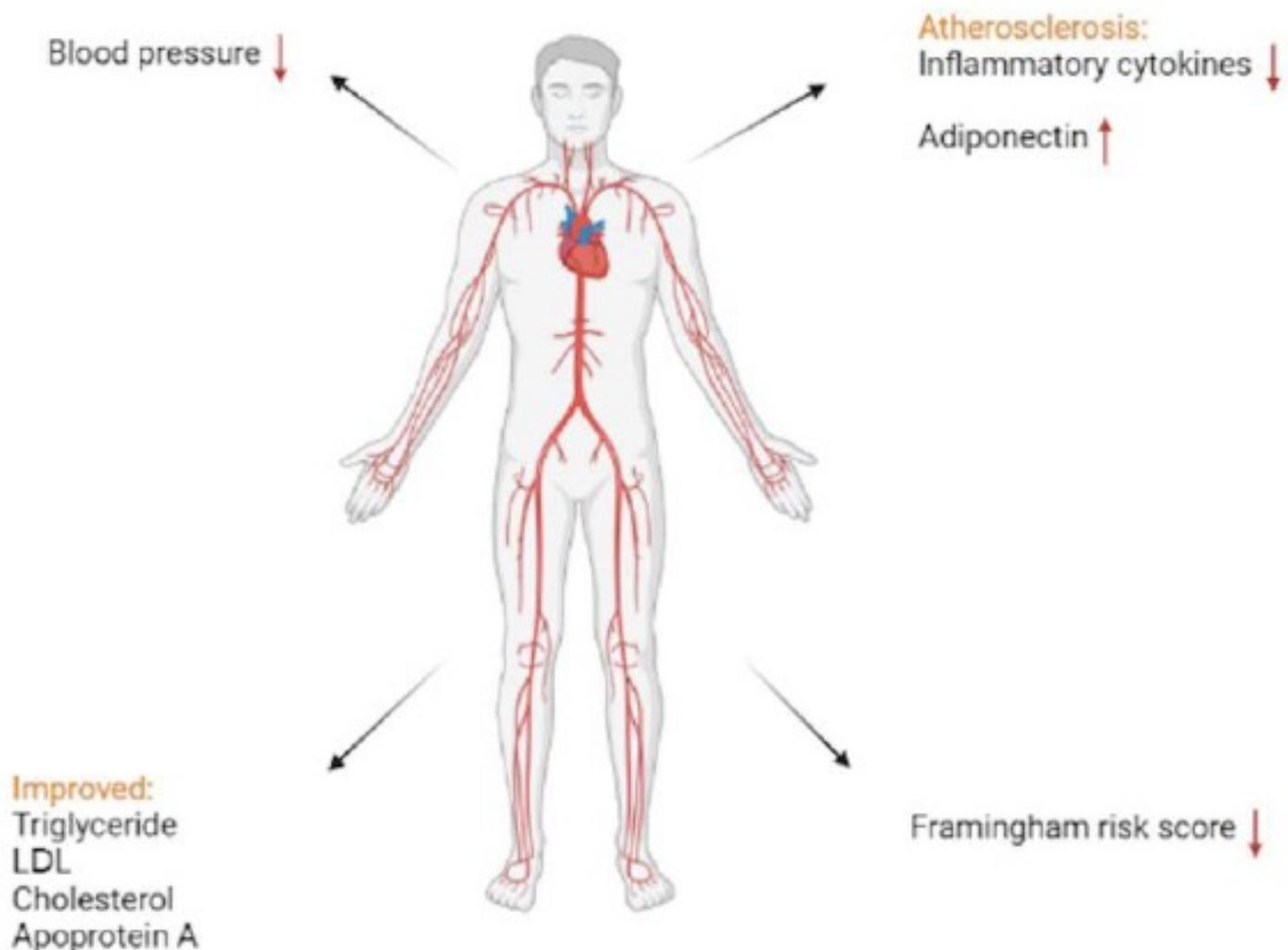


Fig 1. Source: [https://www.researchgate.net/profile/Christian-Legros/publication/376029412\\_Unlocking\\_the\\_Benefits\\_of\\_Fasting\\_A\\_Review\\_of\\_Its\\_Impact\\_on\\_Various\\_Biological\\_Systems\\_and\\_Human\\_Health/links/65ea0c93aaf8d548dcaf5dfc/Unlocking-the-Benefits-of-Fasting-A-Review-of-Its-Impact-on-Various-Biological-Systems-and-Human-Health.pdf](https://www.researchgate.net/profile/Christian-Legros/publication/376029412_Unlocking_the_Benefits_of_Fasting_A_Review_of_Its_Impact_on_Various_Biological_Systems_and_Human_Health/links/65ea0c93aaf8d548dcaf5dfc/Unlocking-the-Benefits-of-Fasting-A-Review-of-Its-Impact-on-Various-Biological-Systems-and-Human-Health.pdf)

## **Ramadan Fasting Effect Health Benefits on the Immune System:**

Studies have shown fasting helps the immune system function better by lowering inflammation and reducing oxidative stress (15). For instance, fasting from dawn to sunset (Ramadan fasting) has been demonstrated to improve immune system function by reducing chronic inflammation and oxidative stress, enhancing metabolic profile, and remodeling the gut flora (16).

Another study indicates that Ramadan fasting enhances macrophage counts while decreasing bacterial levels in the body. Furthermore, this study found that RFP can boost interferon-gamma (IFN- $\gamma$ ), which activates antimicrobial systems in the body (17). The below Fig 2 will give thoughtful insights into Ramadan fasting and the immune system relationship.

### The main benefits of fasting on immune system

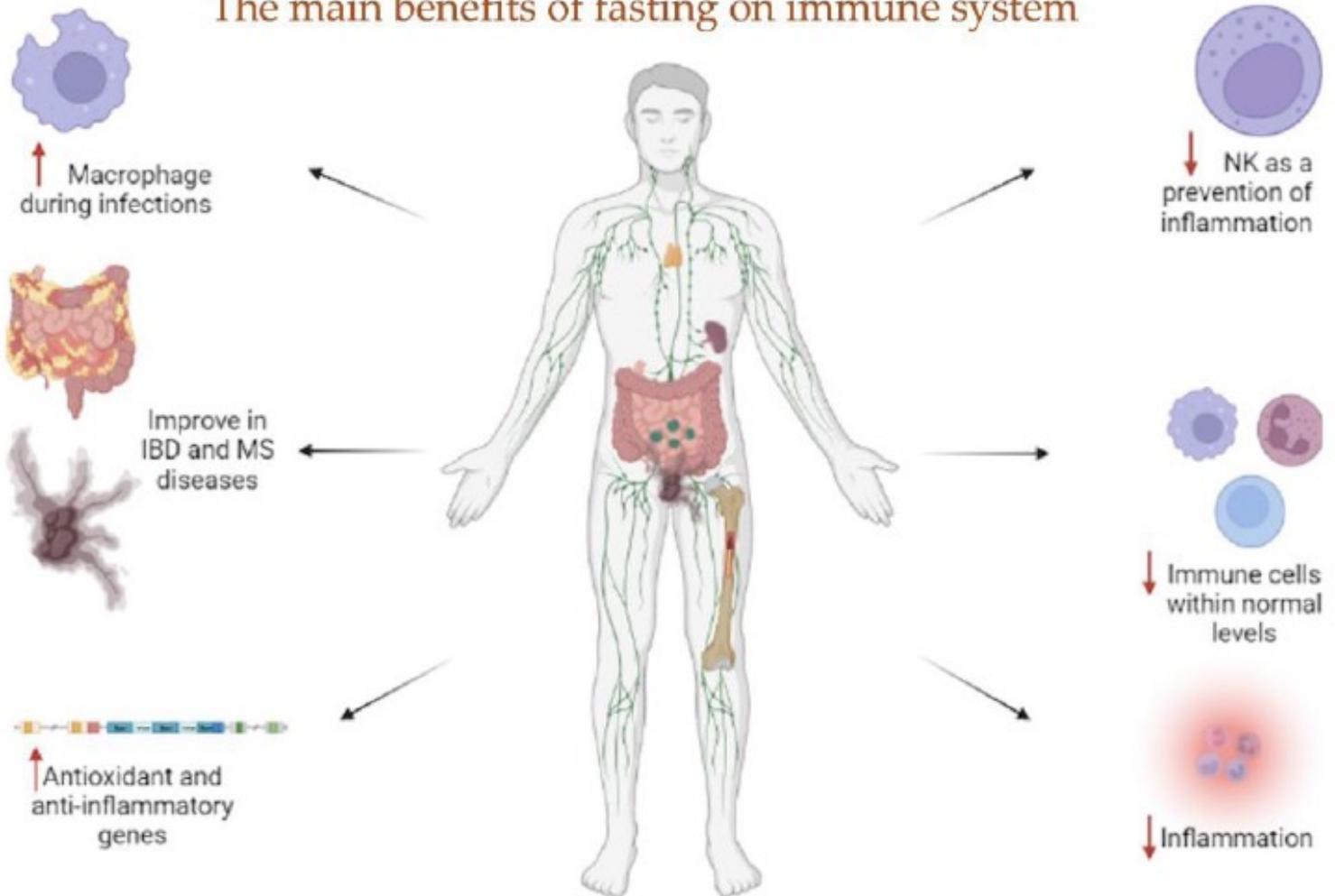


Fig 2. Source: <https://www.researchgate.net/profile/Christian-Legros/publication/376029412 Unlocking the Benefits of Fasting A Review of Its Impact on Various Biological Systems and Human Health/links/65ea0c93aaf8d548dc af5dfc/Unlocking-the-Benefits-of-Fasting-A-Review-of-Its-Impact-on-Various-Biological-Systems-and-Human-Health.pdf>

**Ramadan Fasting Effect Health Benefits on Cancer:** In 2020, 19.3 million people were affected by cancer, causing the death of around 10 million people worldwide, which characterized by uncontrolled cell proliferation and has become the most devastating disease, causing increased morbidity and mortality worldwide (18). A study was conducted on 14 healthy subjects (13 males: and 1 female) who fasted 30 days consecutively for more than 14 hours per day. The results showed that fasting from dawn to sunset is correlated to an anticancer proteomic signature (19). What makes fasting an important issue, especially in cancer patients, is the safety provided by fasting even when patients are undergoing chemotherapy or any other therapy and this is the common point in the clinical studies. As such, a recent clinical trial proved that fasting during the holy month of Ramadan in colorectal cancer patients receiving chemotherapy is safe (20). To share from the article the term “Autophagy” originates from Ancient Greek, where the word “auto” means “self” and “phagin” means “to eat” Therefore, “autophagy” can be translated literally as “self-eating” or “self-devouring”. (21,22). The function of autophagy in cancer is complex, and its role may vary depending on numerous biological factors, such as tumor type, progression phase, genetic landscape, activation of oncogenes, and inactivation of tumor suppressor genes (23,24). Therefore, autophagy can be associated with either preventing the development of cancer or allowing cancer cell proliferation, adaptation, survival, and metastasis (25,26). However, during Ramadan fasting malnutrition occurs, and autophagy is activated to clear protein aggregates and other cellular garbage particles for recycling, resulting in health benefits.

**Ramadan Fasting Effect Health Benefits on the Digestive System:** The digestive organs (digestive tract, enzymes, and hormones) can rest for 14 h during fasting; whereas when not fasting, the vital organs of digestion will work continuously to digest food for approximately 18 h, when fasting the organs in our bodies take a break from hard work grind food. Because the stomach is empty while fasting, food is more easily absorbed and nasty germs are unable to live, allowing us to avoid a variety of ailments. As a result, fasting can have an impact on the health of the stomach’s digestive system. During fasting, changes in eating patterns produce various. changes in the body, particularly in the digestive tract. Fasting allows the digestive system to relax, which can help reduce the risk of digestive disorders or even cure them. The stomach is also not filled with food for several hours while fasting. Stomach acid production will decrease at this time to avoid acid erosion of the stomach wall. As a result, fasting may have an impact on the health of the gastric digestive system (27).

**Ramadan Fasting Effect Health Benefits on the Nervous System:** As mentioned earlier Ramadan fasting for healthy adult Muslims is a source of spiritual deeds and a nervous tonetic to boost the nervous system. To shed some light on this complex system. The nervous system is a complex network of specialized cells and tissues that coordinates and regulates the functions of the human body. It is crucial to the functioning of systems like homeostasis, motor control, sensory perception, and brain function (28). The nervous system consists of two main components: the central nervous system (CNS), which includes the brain and spinal cord, and the peripheral nervous system (PNS), composed of nerves and ganglia outside the CNS. The CNS serves as the control center, including and processing data from the PNS to produce the necessary responses. The CNS can communicate with different organs, muscles, and tissues thanks to the PNS, which links the CNS to the rest of the body (29). Researchers have shown that Microglia undergo metabolic reprogramming as a result of fasting. Fasting-induced metabolic alterations in microglia boost their inflammatory reactions to microbial activation. The improvement of microglial immunity caused by fasting may aid in the healing of neuroinflammation (30). In another study, fasting increases neural resilience while reducing microglia, activation, and the release of pro-inflammatory cytokines (31). The increase in fatty acid oxidation and glycolysis is a part of metabolic reprogramming. Microglia expresses more antimicrobial and pro-inflammatory genes while fasting. The metabolic alterations brought on by fasting enhance microglia's phagocytic activity. Moreover, fasting improves the microglial response to the bacterial stimulant lipopolysaccharide (LPS) (30). Additionally, fasting encourages the development of ketone bodies, an alternative energy source, and strengthens the brain's defenses against oxidative stress and inflammation (32).

# The main benefits of fasting on human nervous system

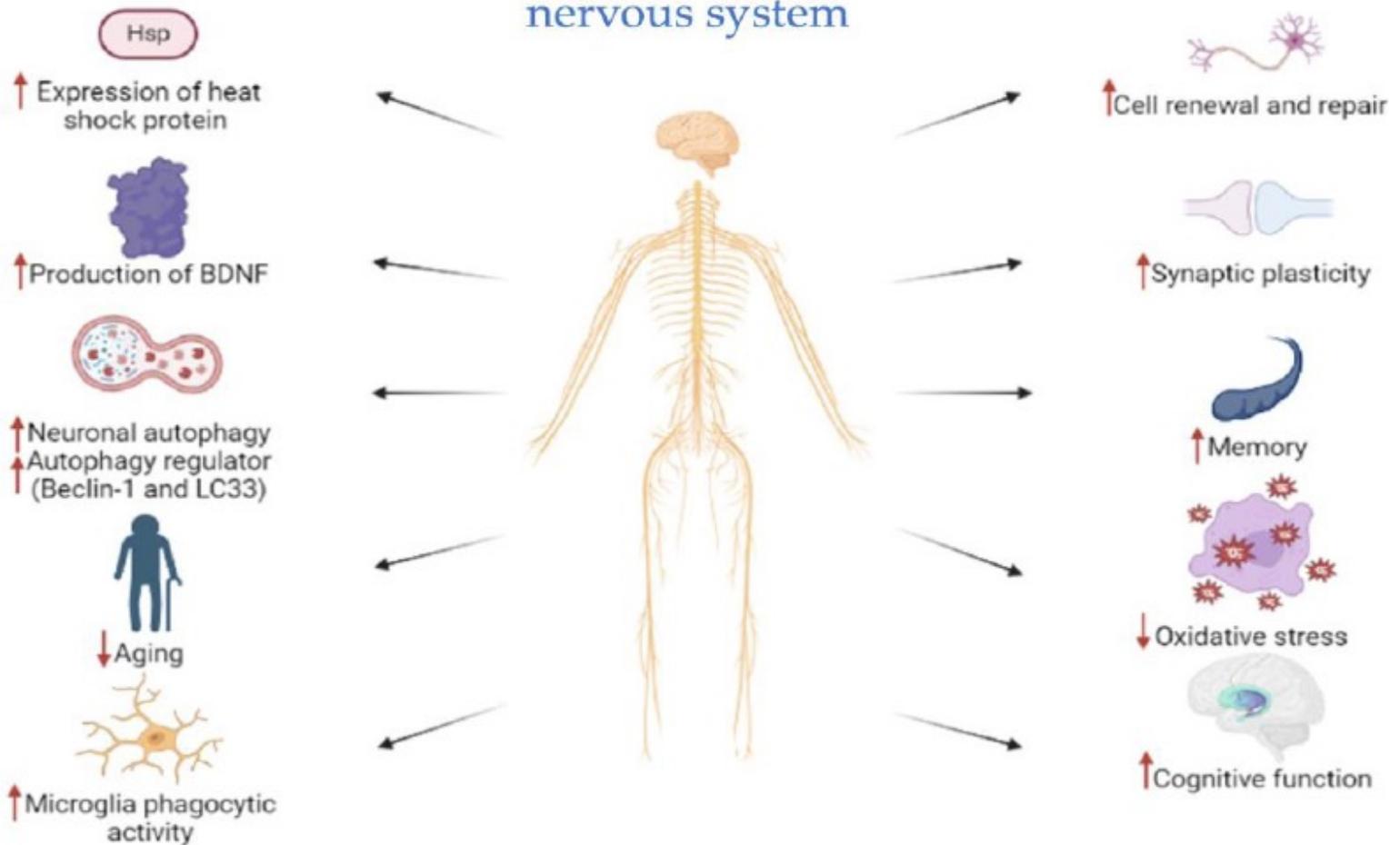


Fig 3. Source: <https://www.researchgate.net/profile/Christian-Legros/publication/376029412 Unlocking the Benefits of Fasting A Review of Its Impact on Various Biological Systems and Human Health/links/65ea0c93aaf8d548dcdf5dfc/Unlocking-the-Benefits-of-Fasting-A-Review-of-Its-Impact-on-Variou-Biological-Systems-and-Human-Health.pdf>

**Conclusion:** The Creator of creations (Almighty God), understands perfectly with His wisdom and perfect knowledge that fasting has been prescribed for millennia fasting therapeutic health benefits part of the religious, ethical, moral, and health benefits of fasting upon healthy adults except for sick, pregnant women, lactating women, and travelers. Ramadan is a blessed month to plant the seed of good deeds, and good health to all biological processes. Consume a healthy diet, and plenty of drinks (water) during Iftar and Suhoor in moderation. It's always wise to consult the primary physician regarding Ramadan fasting in certain conditions whether to keep the fast or not. Further research is needed concerning fasting and other biological organs, nutrients, and other diet issues.

## References.

1. Visioli, F.; Mucignat-Caretta, C.; Anile, F.; Panaite, S.; Traditional and Medical Applications of Fasting. *Nutrients* **2022**, *14*,433. <https://doi.org/10.3390/nu14030433>
2. Fanti, M.; Mishra, A.; Longo, V.D.; Brandhorst, S. Time-Restricted Eating, Intermittent Fasting, and Fasting-Mimicking Diets in Weight Loss. *Curr. Obes. Rep.* **2021**, *10*, 70–80. [[CrossRef](#)].
3. Longo, V.D.; Mattson, M.P. Fasting: Molecular mechanisms and clinical applications. *Cell Metab.* **2014**, *19*, 181–192. [[CrossRef](#)] [[PubMed](#)].
4. Secor, S.M.; Carey, H.V. Integrative Physiology of Fasting. *Compr. Physiol.* **2016**, *6*, 773–825. [[CrossRef](#)].
5. Mackieh, R., Al-Bakkar, N., Kfoury, M., Okdeh, N., Pietra, H., Roufayel, R., Legros, C., Fajloun, Z., Sabatier, J., Unlocking the Benefits of Fasting: A Review of Its Impact on Various Biological Systems and Human Health. *Current Medicinal Chemistry*, **2023** XXXX, Vol. XX, No. XX.
6. Trouwborst, I.; Bowser, S.M.; Goossens, G.H.; Blaak, E.E. Ectopic fat accumulation in distinct insulin resistant pheno-types; targets for personalized nutritional interventions. *Front. Nutr.*, **2018**, *5*, 77. <http://dx.doi.org/10.3389/fnut.2018.00077> PMID:30234122
7. Minokoshi, Y.; Toda, C.; Okamoto, S. Regulatory role of leptin in glucose and lipid metabolism in skeletal muscle. *Indian J. Endocrinol. Metab.*, **2012**, *16*(9)(Suppl. 3), 562. <http://dx.doi.org/10.4103/2230-8210.105573> PMID: 23565491.
8. Mi, M.; Ljb, M.; Wm, A.R.; Dn, A. Ramadan diurnal intermittent fasting is associated with attenuated FTO gene expression in subjects with overweight and obesity: A prospective cohort study. *Front. Nutr.*, **2022**, *8*
9. Albosta, M.; Bakke, J. Intermittent fasting: Is there a role in the treatment of diabetes? A review of the literature and guide for primary care physicians. *Clin. Diabetes Endocrinol.*, **2021**, *7*(1), 3. <http://dx.doi.org/10.1186/s40842-020-00116-1> PMID: 33531076
10. Cardiovascular diseases. Available from <https://www.who.int/health-topics/cardiovascular-diseases>
11. Tanuseputro, P.; Manuel, D.G.; Leung, M.; Nguyen, K.; Jo-hansen, H. Canadian Cardiovascular outcomes research team. Risk factors for cardiovascular disease in Canada.
12. Can. J. Cardiol., **2003**, *19*(11), 1249-59. Onat, A. Risk factors and cardiovascular disease in Turkey. *Atherosclerosis*, **2001**, *156*(1), 1-10. [http://dx.doi.org/10.1016/S0021-9150\(01\)00500-7](http://dx.doi.org/10.1016/S0021-9150(01)00500-7) PMID: 11368991
13. Ben Ahmed, H.; Allouche, E.; Bouzid, K.; Zrelli, S.; Hmai-di, W.; Molahedh, Y.; Ouechtati, W.; Bezdah, L. Impact of Ramadan fasting on lipid profile and cardiovascular risk factors in patients with stable coronary artery disease. *Ann. Cardiol. Angeiol.*, **2022**, *71*(1), 36-40. <http://dx.doi.org/10.1016/j.ancard.2020.11.001> PMID: 33642044
14. Nematy, M.; Alinezhad-Namaghi, M.; Rashed, M.M.; Mozhdehifard, M.; Sajjadi, S.S.; Akhlaghi, S.; Sabery, M.; Mohajeri, S.A.R.; Shalaey, N.; Moohebaty, M.; Norouzy, A. Effects of Ramadan fasting on cardiovascular risk factors: A prospective observational study. *Nutr. J.*, **2012**, *11*(1), 69. <http://dx.doi.org/10.1186/1475-2891-11-69> PMID: 22963582
15. He, Z.; Xu, H.; Li, C.; Yang, H.; Mao, Y. Intermittent fasting and immunomodulatory effects: A systematic review. *Front. Nutr.*, **2023**, *10*, 1048230. <http://dx.doi.org/10.3389/fnut.2023.1048230> PMID: 36925956
16. Bhatti, S.I.; Mindikoglu, A.L. The impact of dawn to sunset fasting on immune system and its clinical significance in COVID-19 pandemic. *Metabolism Open*, **2022**, *13*, 100162. <http://dx.doi.org/10.1016/j.metop.2021.100162> PMID: 34977523
17. Nobari, H.; Saedmocheshi, S.; Murawska-Ciałowicz, E.; Clemente, F.M.; Suzuki, K.; Silva, A.F. Exploring the effects of energy constraints on performance, body composition, endocrinological/hematological biomarkers, and immune system among athletes: An overview of the fasting state. *Nutrients*, **2022**, *14*(15), 3197. <http://dx.doi.org/10.3390/nu14153197> PMID: 35956373

18. Sung, H.; Ferlay, J.; Siegel, R.L.; Laversanne, M.; Soerjoo- mataram, I.; Jemal, A.; Bray, F. Global Cancer Statistics 2020: GLOBOCAN Estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA Cancer J. Clin.*, **2021**, *71*(3), 209-249.

19. Mindikoglu, A.L.; Abdulsada, M.M.; Jain, A.; Choi, J.M.; Jalal, P.K.; Devaraj, S.; Mezzari, M.P.; Petrosino, J.F.; Opekun, A.R.; Jung, S.Y. Intermittent fasting from dawn to sunset for 30 consecutive days is associated with anti- cancer proteomic signature and upregulates key regulatory proteins of glucose and lipid metabolism, circadian clock, DNA repair, cytoskeleton remodeling, immune system and cognitive function in healthy subject. *Proteomics*, **2020**, *217*, 103645. <http://dx.doi.org/10.1016/j.jprot.2020.103645> PMID: 31927066

20. Alshammari, K.; Alhaidal, H.A.; Alharbi, R.; Alrubaiaan, A.; Abdel-Razaq, W.; Alyousif, G.; Alkaiyat, M. The impact of fasting the holy month of ramadan on colorectal cancer patients and two tumor biomarkers: A tertiary-care hospital experience. *Cureus*, **2023**, *15*(1), e33920. <http://dx.doi.org/10.7759/cureus.33920> PMID: 36819321

21. Shah, J., Rahman, M., Abdikazarovic, S., Sikandar, P., Verjan, A., Impact of fasting on human health during Ramadan **2023**, [https://www.researchgate.net/profile/Junaid-Shah-7/publication/374476552\\_Impact\\_of\\_fasting\\_on\\_human\\_health\\_during\\_Ramadan/links/651f9b61b0df2f20a213d0d0/Impact-of-fasting-on-human-health-during-Ramadan.pdf](https://www.researchgate.net/profile/Junaid-Shah-7/publication/374476552_Impact_of_fasting_on_human_health_during_Ramadan/links/651f9b61b0df2f20a213d0d0/Impact-of-fasting-on-human-health-during-Ramadan.pdf)

22. Klionsky, D., “Autophagy revisited: A conversation with Christian de Duve” *Autophagy* vol.4, no.6.pp. 740-743, 2008, doi 104161/auto 6398.

23. Amaravadi, R., Kimmelman, A., White, E., Recent insights into the function of autophagy in cancer: *Genes & Development*, vol. 30, no, 17,pp. 1913-1930, 2016, doi: 10.1101/gad.287524.116.

24. A. V. Onorati, M. Dyczynski, R. Ojha, and R. K. Amaravadi, “Targeting autophagy in cancer,” *Cancer*, vol. 124, no. 16, pp. 3307–3318, 2018, doi: 10.1002/cncr.31335.

25. E. White, “Deconvoluting the context-dependent role for autophagy in cancer,” *Nature Reviews Cancer*, vol. 12, no. 6, pp. 401–410, 2012, doi: 10.1038/nrc3262.

26. M. N. Sharifi *et al.*, “Autophagy promotes focal adhesion disassembly and cell motility of metastatic tumor cells through the direct interaction of paxillin with LC3,” *Cell Rep.*, vol. 15, no. 8, pp. 1660–1672, May 2016, doi: 10.1016/j.celrep.2016.04.065.

27. Fauziah M, Purnawati D, Lusidan N, Hasanah I, Sudin S. The effect of fasting on health of digestion system. *Indones J Islam Public Health*. 2021;1(1):47-52.

28. Sousa, A.M.M.; Meyer, K.A.; Santpere, G.; Gulden, F.O.; Sestan, N. Evolution of the human nervous system function, structure, and development *Cell*, **2017**, *170*(2), 226-247. <http://dx.doi.org/10.1016/j.cell.2017.06.036> PMID: 28708995.

29. Rr, A. Principles of Neural Science Kandel Available from:[https://www.academia.edu/11639811/Principles\\_of\\_Neural\\_Science\\_Kandel\\_4th\\_Ed](https://www.academia.edu/11639811/Principles_of_Neural_Science_Kandel_4th_Ed) (Accessed on: 2023 Jul 6)

30. Vasconcelos, A.R.; Vasconcelos, A.R.; Vasconcelos, A.R.; Vasconcelos, A.R. Metabolic reprogramming of microglia in the regulation of the innate inflammatory response. *Front Immunol.*, **2020**, *11*, 493.

31. Vasconcelos, A.R.; Yshii, L.M.; Viel, T.A.; Buck, H.S.; Mattson, M.P.; Scavone, C.; Kawamoto, E.M. Intermittent fasting attenuates lipopolysaccharide-induced neuroinflammation and memory impairment. *J. Neuroinflammation.*, **2014**, *11*, 85.

32. Mattson, M.P.; Longo, V.D.; Harvie, M. Impact of intermittent fasting on health and disease processes. *Ageing Res. Rev.*, **2017**, *39*, 46-58.



# BioNatural Healing College

## ONLINE EDUCATION Under Highly Qualified Professors

Convenient to start at any time from your comfort zone  
Reasonable tuition fee with option plans *available*

**BNHC Offers 5 Diplomas  
Online 1. Herbal Science &  
Master Herbalist 2. Holistic  
Health Practitioner 3.  
Nutrition & Brain  
Function 4. BioNatural  
Health Practitioner 5.  
BioNatural Pest**

**FOR MORE INFORMATION PLEASE CONTACT US:  
PH: 909-242-6342 OR AT Email:  
[info@bionaturalhealingcollege.org](mailto:info@bionaturalhealingcollege.org)**



**BioNatural Healing  
College**

**BioNatural Healing College  
(BNHC) OFFERS  
CONTINUING  
EDUCATION  
IN-PERSON SEMINARS  
AS WELL AS ONLINE  
FOR CALIFORNIA  
DEPARTMENT OF  
PESTICIDE  
REGULATION**

**FOR MORE INFORMATION PLEASE CONTACT US:  
PH: 909-242-6342 OR AT Email:  
[info@bionaturalhealingcollege.org](mailto:info@bionaturalhealingcollege.org)**



**Mission:** BioNatural Healing College is a non-profit public benefit institution that has tax-exempt status under the Internal Revenue Service, Section 501(c)(3) of the United States of America. Our goal is to offer a high-quality education a diploma program as well as holistic health and nutrition conferences, seminars, workshop, and continuing education. The focus of these educational programs is to offer healing and holistic nutrition science through online distance learning. These dynamic online education programs will provide diverse adult learners throughout the world the experience of enhancing their quality of life, their health, and their happiness.

**Vision:** The faculty, staff and management team of BioNatural Healing College are passionately committed to providing the best teaching possible in this field. We seek to encourage, motivate and explain the importance of this field to prospective students so that they may make an informed decision regarding enrollment. We seek an ultimate goal of satisfaction for the student based on responsibility, commitment, respect, awareness and sustainable education for society.

**Accreditation and Recognition:** BioNatural Healing College is based in California. It is an institution that has the goal to deliver on- demand online distance learning around the globe. This education is of high quality and vocational in nature. BioNatural Healing College is a legal business entity that has been approved to operate by the State of California's Bureau for Private Postsecondary Education that set forth in the educational code. BioNatural Healing College is not accredited by the United States Department of Education. BioNatural Healing College is a member of the American Holistic Health Association (AHHA).

# Eid Mubarak! In Advance

