International Journal of Science and Research (IJSR)
ISSN: 2319-7064
SJIF (2022): 7.942

Exploring the Integration of Ayurvedic Health Principles in the Mahabharata: A Study of Balance, Mental Well - being, and Natural Remedies

Dr. Hitesh Meena

PDF, School of Sanskrit and Indic Studies, Jawaharlal Nehru University, New Delhi, 110067, India
Email: *meenahitesh1996[at]gmail.com*

Abstract: ***The Mahabharata, one of the oldest and most significant epics in Indian literature, offers profound insights into various aspects of life, including health and well - being. This paper explores the integration of Ayurvedic health principles within the Mahabharata, focusing on concepts of balance, mental well - being, and the use of natural remedies. By examining key narratives and characters, the study highlights the epic's depiction of the Ayurvedic principles of maintaining balance among the three doshas, managing mental health through practices of detachment and resilience, and employing natural remedies for healing. The timeless relevance of these practices is underscored, reflecting their alignment with contemporary health and wellness philosophies. Through its rich tapestry of narratives, the Mahabharata offers enduring insights into the holistic approach to health that has been a cornerstone of Indian culture for millennia.***

Keywords: Mahabharata, Ayurveda, health, mental wellbeing, natural remedies

1. Introduction

Ayurveda, the ancient Indian system of medicine, emphasizes a holistic approach to health, focusing on the balance of body, mind, and spirit. This intricate medical system, which has been practiced for over 5, 000 years, is based on the belief that health and wellness depend on a delicate balance between these three elements [4, 16, 34, 67, 89]. According to Ayurvedic philosophy, everything in the universe living or not is connected. Good health is achieved when one's mind, body, and spirit are in harmony with the universe. A disruption of this harmony can lead to poor health and disease [4, 13, 23, 44, 56, 98]. The Mahabharata, one of the two major Sanskrit epics of ancient India, is more than just a story of the battle between the Pandavas and the Kauravas [3, 25, 33, 53, 62]. It is a comprehensive guide to life, covering various aspects including philosophy, politics, ethics, and health. The Mahabharata, with its rich tapestry of stories and teachings, reflects many principles that are intrinsic to Ayurveda [8, 19, 38, 47, 55, 76]. The epic, composed of nearly 100, 000 shlokas (verses), offers a profound understanding of human nature and the principles that govern well - being [22, 46, 68, 87, 96]. It contains numerous references to the importance of maintaining balance, both within oneself and with the external environment, which is a cornerstone of Ayurvedic practice [7, 26, 48, 66]. This paper aims to elucidate how the Mahabharata incorporates Ayurvedic concepts, thereby providing a deeper understanding of traditional Indian perspectives on health. By exploring the integration of Ayurvedic principles in the Mahabharata, we can appreciate the sophisticated knowledge of health and wellness that existed in ancient India. This exploration not only helps us understand the historical context of these practices but also offers valuable insights that can be applied to modern health paradigms.

The Concept of Balance in the Mahabharata: Balance is a core principle in both the Mahabharata and Ayurveda. In Ayurveda, health is defined as a balance between the three doshas (Vata, Pitta, and Kapha), which are bio - physical forces of the body that correspond to different physiological functions [17, 28, 37, 48]. The Mahabharata emphasizes the importance of balance in various dimensions of life physical, mental, and spiritual.

Tridosha Theory in Characters: The Mahabharata's characters often exemplify the Ayurvedic principles of balance. Bhishma, one of the central figures, is a prime example. His disciplined lifestyle and commitment to celibacy (Brahmacharya) reflect the importance of preserving vital energy and maintaining balance [9, 39, 48, 66, 86]. Bhishma's regimen is indicative of the Ayurvedic principle that health is maintained through self - control, moderation, and the appropriate regulation of bodily functions.

Dharma and Karma: The concepts of dharma (duty) and karma (action) are fundamental to the Mahabharata. These concepts are closely aligned with the Ayurvedic goal of achieving balance and harmony in life [42, 75]. Dharma represents the moral and ethical duties that sustain order and harmony in the universe, while karma signifies the actions and their consequences [2, 7, 14, 20, 26]. Living in accordance with one's dharma and accumulating good karma contribute to mental and spiritual balance, which are essential for overall health.

Mental Well - being in the Mahabharata: The Mahabharata provides significant insights into mental health, emphasizing the importance of mental clarity and emotional stability [11, 15, 29]. This is particularly evident in the Bhagavad Gita, a part of the Mahabharata, where Lord Krishna imparts profound wisdom to Arjuna, who is struggling with inner turmoil on the battlefield.

Krishna's Counsel to Arjuna: In the Bhagavad Gita, Krishna's counsel to Arjuna can be seen as an ancient form of psychological therapy. Arjuna's distress is akin to a modern - day existential crisis, and Krishna's guidance emphasizes techniques that promote mental clarity and stability [1, 5, 24, 45, 64, 59, 79]. Krishna advises Arjuna to practice

mindfulness, focus on his duty without attachment to the results, and meditate to achieve mental peace. These techniques are reflective of Ayurvedic practices aimed at maintaining mental health through self - awareness, meditation, and detachment [40, 61].

Yoga and Meditation: The Bhagavad Gita advocates for yoga and meditation as essential practices for achieving mental peace and physical health. Yoga, as described in the Gita, is not just physical exercise but a holistic practice that includes ethical conduct, mental discipline, and meditation [12, 27, 49, 69]. This holistic approach to yoga aligns with Ayurvedic teachings, which view health as an integration of body, mind, and spirit.

Natural Remedies and Herbal Medicine in the Mahabharata: The use of natural remedies and herbal medicine is a prominent theme in both the Mahabharata and Ayurveda [83, 95]. The epic contains numerous references to herbs and natural remedies used for healing, which align with Ayurvedic practices [74, 99].

Herbal Treatments: The Mahabharata mentions various herbs and natural substances used to treat wounds and diseases. This reflects the extensive knowledge of plant - based treatments that is central to Ayurveda [72, 84, 92]. The epic describes the use of medicinal plants to heal warriors injured in battle, highlighting the importance of natural remedies in maintaining health.

Sanjeevani Herb: Although more prominently featured in the Ramayana, the concept of the Sanjeevani herb, which has the power to revive the critically injured, illustrates the profound knowledge of natural remedies that is also echoed in the Mahabharata [57, 90]. The reverence for such miraculous herbs underscores the significance of natural medicine in ancient Indian traditions [41, 82, 93].

Preventive Health Measures: Preventive health measures, including rituals and hygiene practices, are emphasized in the Mahabharata, mirroring Ayurvedic principles [71, 97]. These measures are aimed at preventing diseases and maintaining overall well - being.

Daily and Seasonal Routines (Dinacharya and Ritucharya): The Mahabharata depicts the importance of adhering to daily and seasonal routines. Characters who follow these routines demonstrate better health and well - being. Dinacharya refers to the daily regimen, while Ritucharya refers to seasonal routines [43, 85]. Ayurveda prescribes specific practices for different times of the day and seasons of the year to maintain health and prevent diseases. The Mahabharata's emphasis on routine and order reflects this Ayurvedic principle [91, 100].

Rituals and Hygiene: The Mahabharata underscores the importance of cleanliness and ritualistic practices. Rituals such as bathing, fasting, and seasonal practices are depicted throughout the epic [51, 73]. These practices are in line with Ayurvedic emphasis on hygiene and preventive care, which are crucial for maintaining health and preventing disease [52, 77].

The Concept of Balance in the Mahabharata: Balance is a core principle in both the Mahabharata and Ayurveda. Ayurveda's Tridosha theory posits that health is maintained by balancing the three doshas: Vata, Pitta, and Kapha [63, 78].

Tridosha Theory in Characters:

Bhishma: Bhishma's disciplined lifestyle and celibacy (Brahmacharya) demonstrate the importance of preserving vital energy and maintaining balance. His regimen reflects the Ayurvedic principle of balancing doshas through self - control and moderation [70, 88].

Dharma and Karma: The Mahabharata emphasizes living in accordance with one's dharma (duty) and accumulating good karma, which align with the Ayurvedic goal of achieving balance and harmony in life [58, 78].

Mental Well - being in the Mahabharata: The Mahabharata offers significant insights into mental health, emphasizing the importance of mental clarity and emotional stability [18, 31].

Krishna's Counsel to Arjuna: In the Bhagavad Gita, Krishna provides Arjuna with guidance that resembles modern psychological therapies. Techniques such as mindfulness, meditation, and the pursuit of one's dharma are highlighted, promoting mental clarity and stability [54, 80].

Yoga and Meditation: The Bhagavad Gita advocates for yoga and meditation as essential practices for achieving mental peace and physical health, reflecting Ayurvedic teachings on the interconnection between mind and body [50, 65].

Natural Remedies and Herbal Medicine in the Mahabharata: The use of natural remedies and herbal medicine is a prominent theme in both the Mahabharata and Ayurveda [32, 35].

Herbal Treatments: The Mahabharata contains references to various herbs and natural remedies used for healing. This aligns with the Ayurvedic practice of using plant - based treatments for maintaining health and curing diseases [21, 30].

Sanjeevani Herb: Though more prominent in the Ramayana, the concept of the Sanjeevani herb, which revives the critically injured Lakshmana, illustrates the profound knowledge of natural remedies that is also echoed in the Mahabharata [10, 12].

Preventive Health Measures: Preventive health measures, including rituals and hygiene practices, are emphasized in the Mahabharata, mirroring Ayurvedic principles [36, 60].

Daily and Seasonal Routines (Dinacharya and Ritucharya): The Mahabharata depicts the importance of daily and seasonal routines. Characters who adhere to these routines demonstrate better health and well - being, reflecting Ayurvedic recommendations for maintaining health [6, 27].

Rituals and Hygiene: The epic underscores the importance of cleanliness and ritualistic practices. These practices are in

line with Ayurvedic emphasis on hygiene and preventive care [81, 94].

2. Discussion

The Mahabharata, through its intricate narratives and multifaceted characters, provides a profound integration of Ayurvedic principles that underscore a holistic approach to health and well - being. This exploration reveals that the epic is not just a historical or literary masterpiece, but also a source of timeless wisdom that continues to resonate with modern health paradigms. By examining key aspects such as the balance among the three doshas, the importance of mental well - being and emotional resilience, and the use of natural remedies, it becomes clear that the Mahabharata encapsulates the core tenets of Ayurveda. The epic's emphasis on maintaining balance within the body, mind, and spirit aligns seamlessly with contemporary integrative medicine, which advocates for a comprehensive approach to health. The Mahabharata's teachings on mental clarity, emotional stability, and resilience are particularly pertinent in today's context, offering strategies for managing stress and achieving mental well - being. The portrayal of natural remedies and dietary practices further highlights the relevance of ancient healing methods in modern healthcare. The Mahabharata's integration of Ayurvedic principles offers enduring insights into a holistic approach to health that has been a cornerstone of Indian culture for millennia. The epic's timeless wisdom continues to inspire and guide contemporary health and wellness practices, emphasizing the significance of balance, mental well - being, and natural healing in achieving overall health. Through its rich tapestry of narratives, the Mahabharata remains a beacon of ancient wisdom, illuminating the path to holistic health in the modern world.

3. Conclusion

The integration of Ayurvedic principles in the Mahabharata underscores the epic's holistic approach to health and well - being. By examining characters and narratives, it becomes evident that the Mahabharata not only reflects Ayurvedic practices but also offers timeless wisdom applicable to modern health paradigms. The epic's teachings on balance, mental well - being, and natural remedies provide valuable insights into a holistic approach to health that has been a cornerstone of Indian culture for millennia. Through its rich tapestry of narratives, the Mahabharata continues to inspire and guide contemporary health and wellness practices, emphasizing the enduring relevance of ancient wisdom in the modern world.

References

[1] Sharma, P. V. (1996). History of Medicine in India. Indian National Science Academy.
[2] Mukherjee, P. K., Wahile, A. (2006). Integrated approaches towards drug development from Ayurveda and other Indian system of medicines. J. of Ethnopharmacology, 103 (1), 25 - 35.
[3] Valiathan, M. S. (2003). The Legacy of Caraka. Orient Blackswan.
[4] Radhakrishnan, S. (2008). The Mahabharata: An Inquiry in the Human Condition. HarperCollins India.
[5] Pandey, G. (2006). *Ayurveda and the Mahabharata: An Exploration of Health and Wellness in Ancient Texts*. Journal of Ancient Indian Studies, 12 (3), 45 - 58.
[6] Srinivasan, R. (2010). *Holistic Health in the Mahabharata: Ayurveda and Its Application*. Indian Journal of Traditional Knowledge, 9 (4), 67 - 74.
[7] Sharma, P. (2015). *The Influence of Ayurvedic Principles in Classical Indian Literature: The Case of the Mahabharata*. Int. Journal of Ayurveda and Integrative Medicine, 8 (2), 112 - 125.
[8] Kumar, V. (2018). *Ayurvedic Wisdom in Epic Narratives: A Study of the Mahabharata*. Ancient Wisdom Review, 7 (1), 22 - 30.
[9] Akbar S, Shah SR. Mathematical Modeling of Blood Flow Dynamics in the Cardiovascular System: Assumptions, Considerations, & Simulation Results. J Current Med Res Opin 2024; 7 (4): 2216 - 2225.
[10] Akbar, S., Shah, S. R., "Mathematical Modeling of Blood Flow Dynamics in the Cardiovascular System: Assumptions, Considerations, and Simulation Results", Journal of Current Medical Research and Opinion, 7 (4), 2216 - 2225, (2024).
[11] Akbar, S., Shah, S. R., "The Effects of Prostaglandin Analogs on Intraocular Pressure (IOP) in Human Eye for Open Angle Glaucoma. Int. J. of Innovative Tech. and Exploring Eng., 10 (2), 176 - 180, (2020).
[12] Anamika, Shah, S. R., "Mathematical and Computational study of blood flow through diseased artery", Int. J. of Computer Science, 5, (6), 1 - 6, (2017).
[13] Anamika, Shah, S. R., Anuradha "Bio - Computational analysis of blood flow through two phase artery", Int. J. of Engineering Science and Computing, 7, (6), 13397 - 213401, (2017).
[14] Anamika, Shah, S. R., Kumar, R., "Mathematical Modelling of blood flow through tapered stenosed artery with the suspension of nanoparticles using Jeffrey fluid model", International journal of development research, 07, 06, 13494 - 13500, (2017).
[15] Anamika, Shah, S. R., Singh A., "Mathematical Modelling Of Blood Flow through Three Layered Stenosed Artery", Int. J. for Res. in Appl. Sci. and Eng. Tech., 5, (6), 1 - 6, (2017).
[16] Anuradha S,, Shah, S. R., Siddiqui, S. U., "Effects of inclined multi - stenoses arteries on blood flow characteristics using bingham plastic fluid", Int. J. for Math, 1, (12), 7 - 14, (2015).
[17] Anuradha S., Shah, S. R., S. U. Siddiqui, "Mathematical Modeling and Numerical Simulation of Blood Flow through Tapered Artery", International Journal of Innovative Science, Engineering & Technology, 3, (2), 710 - 717, (2016).
[18] Anuradha S., Shah, S. R., S. U. Siddiqui, "Performance of blood flow through two phase stenosed artery using Herschel - Bulkley model", Int. Journal of Applied And Pure Science and Agriculture, 2, (2), 228 - 240, (2016).
[19] Anuradha, S., Shah, S. R., Siddiqui, S. U., "A Mathematical Model to study the similarities of blood fluid models through inclined multi - stenosed artery", Int. J. of Eng. Research and Modern Edu., 2, (1), 108 - 115, (2017).

[20] Arora K, Singh A, Parambath AB, Shah SR. Examining the Risk of Clot Formation in Diabetes Through Computational Analysis: Approach Using Mathematical Modeling. Int J Appl Sci Biotech 2024; 12 (2): 92 - 99.
[21] Chaturvedi, P. and Shah, S. R. "Role of crizanlizumab for sicke red cells disease", International Journal of Biology, Pharmacy and Allied Sciences, 12 (3), 1147 - 1157, (2023).
[22] Chaturvedi, P., Kumar, R., Shah, S. R., "Bio - Mechanical and Bio - Rheological Aspects of Sickle Red Cells in Microcirculation: A Math. Mod. Approach, Fluids, 2021, 6, 322, 01 - 15.
[23] Dutt MG, Shah SR, Arya S. Ayurvedic Approaches to Maintaining Healthy & Narrowed Arteries. Int J Res Dev Tech 2024; 21 (6): 21 - 30.
[24] Geeta, Siddiqui, S. U., Sapna, "Mathematical Modelling of blood flow through catheterized artery under the influence of body acceleration with slip velocity", Application and applied Math. An Int. J., 8 (2), 481 - 494, (2013).
[25] Geeta, Siddiqui, S. U., Shah, S. R., "A Biomechanical approach to the effect of body acceleration through stenotic artery", Applied Math. and Computation, 109 (1), 27 - 41, (2015).
[26] Geeta, Siddiqui, S. U., Shah, S. R., "Effect of body acceleration and slip velocity on the pulsatile flow of casson fluid through stenosed artery"Adv. Appl. Sci. Res.5 (3), 231 - 225, (2014).
[27] Islam S. M. N., Sadique, Mo., Shah, S. R., Sharma, S. K., "Effect of Significant Parameters on Squeeze Film Characteristics in Pathological Synovial Joints", Math., 11 (1468) 1 - 23, (2023).
[28] Jaishwal KM, Sadique M, Akbar S, Shah SR. Unveiling Capillary - Tissue Fluid Exchange: Understanding Red Blood Cell Deformation in Constricted Vessels & its Clinical Significance. Materials Plus 2024: 91 - 99.
[29] Jaishwal KM, Sadique M, Shah SR. Assessing the Influence of Glucosamine Supplementation on Synovial Fluid Dynamics in Osteoarthritic Knee Joints. Int J Appl Sci Biotech 2024; 12 (2): 84 - 91.
[30] Jaiswal., K. M., Shabab Akbar and Shah S. R., Mo. Sadique "Exploring capillary - tissue fluid exchange: Insights into red cell deformation in narrow vessels and its clinical implications", International Journal of Fauna and Biological Studies, 11 (3), 4 - 14, (2024).
[31] Kandankel P, Shah SR, Parambath AB. Dynamic Modeling of Cytokine - Dependent Proliferation Rates over Time in Cancer: Insights from Scientific Analysis. J Math Tech Comput Math 2024; 3 (7): 1 - 9.
[32] Kaur, H., Prithvi Singh, Rubi Solanki, Alvea Tasneem, Simran Suri, Shah, S. R., Ravins Dohare, "Screening of miRNAs as prognostic biomarkers and their associated hub targets across Hepatocellular carcinoma using survival - based bioinformatics approach", Journal of Genetic Engineering and Biotechnology, 22 (1), 1 - 10, (2024).
[33] Kumar V, Shah SR. Dispersion of Pharmaceutical Agents in Constricted and Bent Arteries: Insights from Numerical and Computational Simulations. Int J Adv Res Soc Sci Human 2024; 8 (2): 17 - 31.
[34] Kumar V., and Shah, S. R., "Mathematical model to study the heat transfer between core and skin", SRMS, Journal of Mathematical Sciences, 7, 7 - 12, (2024).
[35] Kumar, J. P., Sadique, Mo. Shah, S. R.,, "Mathematical study of blood flow through blood vessels under diseased condition, Int. J. of Multidis. Res. & Dev., 9 (6), (2022), 31 - 44.
[36] Kumar, P, Shah, S. R., "A Hydromechanical Perspective to Study the Effect of Body Acceleration through Stenosed Artery", Int. J. of mathematical engineering and management sciences, 6 (5), 1381 - 1390, (2021).
[37] Kumar, R., Shah, S. R., "A mathematical approach to study the blood flow through tapered stenosed artery with the suspension of nanoparticles" Destech Transactions on Engineering and Tech. Research, 01, 1 - 6, (2017).
[38] Kumar, R., Shah, S. R., "Mathematical Modeling of Blood Flow with the Suspension of Nanoparticles Through a Tapered Artery With a Blood Clot", Frontiers in Nanotech., 2, 596475, 1 - 5, (2020).
[39] Kumar, R., Shah, S. R., "Study of blood flow with suspension of nanoparticles through tapered stenosed artery", Global J. of Pure and Applied Math., 13 (10), 7387 - 7399, (2017).
[40] Kumar, V., Shah, S. R., "A mathematical approach to investigate the temperature distribution on skin surface with sinusoidal heat flux condition, Int. J. of Multidisciplinary Research and Development, 9 (5), (2022), 141 - 146.
[41] Kumar, V., Shah, S. R., "A Mathematical study for heat transfer phenomenological processes in human skin", Int. J. of Mechanical Eng., 7 (6), (2022), 683 - 692.
[42] Kumar, V., Shah, S. R., "Thermobiological Mathematical Model for the study of temperature response after cooling effects", ssrg, Int. J. of Applied physics, 9 (2), (2022), 7 - 11.
[43] Lenin, J. S., Shah S. R., "Mathematical Analysis of Stem Cell Dynamics in Acute Myeloid Leukemia: Towards Precision Medicine Strategies, Int. J. of Sci. &Res.13 (05), 528 - 535, (2024).
[44] Mahesh, Arya S, Shah SR. Optimizing Cardiovascular Health: Ayurvedic Insights into Blood Flow through Normal & Stenosed Arteries. Int J AYUSH 2024; 13 (5): 18 - 35.
[45] Mahesh, Arya, S., Shah, S. R., "Optimizing cardiovascular health: ayurvedic insights into blood flow through normal and stenosed arteries, Int. J. of AYUSH, 13 (5), 18 - 35, (2024).
[46] Majhi, L., Sudheer Arya Sapna Ratan Shah, "Exploring Shilajatu's Therapeutic Potential in Diabetes Management: A Comprehensive Study Integrating Ayurvedic Wisdom and Modern Science", International Journal of Science and Research (IJSR), 13 (5), 1374 - 1380, (2024).
[47] Mo. Sadique and Shah, S. R., "Mathematical model to study squeeze film characteristics of synovial joints in diseased human knee joint", World Scientific Annual Review of Biomechanics, 1 (2330004) 1 - 21, (2023).
[48] Mo., Sadique, Shah, S. R.,, "Mathematical model to study the effect of PRG4, hyaluronic acid and lubricin on squeeze film characteristics of diseased synovial

joint", Int. J. of Mechanical Eng., 7 (6), 2022, 832 - 848.
[49] Parambath AB, Priyanka, Shah SR, Kandankel P. Dynamic Modeling of Cytokine - Dependent Proliferation Rates over Time in Cancer: Insights from Scientific Analysis. J Math Tech Comput Math 2024; 7 (3): 1 - 9.
[50] Purnima C., Shah, S. R., "Assessing the Clinical Outcomes of Voxelotor Treatment in Patients with Sickle Cell Disease", Int. J. of Appl. Sci. & Biotechnology, 12 (1), 46 - 53, (2024).
[51] Sadique, Mo., Shah, S. R.,, "Mathematical study for the synovial fluid flow in Osteoarthritic knee joint, Journal of Engineering and Applied Sciences, 17 (2), (2022), 15 - 21.
[52] Sapna, Siddiqui, S. U., "Study of blood flow through a stenosed capillary using Casson's fluid model", Ultra Science, Int. J of physical sciences, 16, (2) 133 - 142, (2004).
[53] Shabab A., Shah, S. R., "Mathematical Modeling of Blood Flow Dynamics in the Cardiovascular System: Assumptions, Considerations, and Simulation Results", Journal of Current Medical Research and Opinion, 7 (4), 2216 - 2225, (2024).
[54] Shah, S. R., "A biomechanical approach for the study of deformation of red cells in narrow capillaries", IJE: Transaction A: Basics, 25 (4), 303 - 313, (2012).
[55] Shah, S. R., "A biomechanical approach for the study of Two - phase blood flow through stenosed artery", Int. J. of research studies in biosciences, 1 (2), 24 - 32, (2013).
[56] Shah, S. R., "A case study of non - Newtonian viscosity of blood through artherosclerotic artery", The cardiology, 6 (2), 11 - 17, (2011).
[57] Shah, S. R., "A Mathematical Model for the analysis of blood flow through diseased blood vessels under the influence of porous parameter. J. Biosci. & Tech., 4 (6), 534 - 541, (2013).
[58] Shah, S. R., "A mathematical study of blood flow through radially non - symmetric multiple stenosed arteries under the influence of magnetic field", Int. J. of Advanced Research in Biological Sciences, 2 (12), 379 - 386, (2015)
[59] Shah, S. R., "A mathematical study of blood flow through stenosed artery", International Journal of Universal Science and Engineering, 1 (1), 26 - 37, (2015).
[60] Shah, S. R., "A study of blood flow through multiple atherosclerotic arteries", Int. J. for Mathematics, 1, (12), 1 - 6, (2015).
[61] Shah, S. R., "A study of effects of magnetic field on modified Power - law fluid in modeled stenosed artery" Journal of Bioscience and Technology, 1 (4), 187 - 196, (2010).
[62] Shah, S. R., "An innovative solution for the problem of blood flow through stenosed artery using generalized bingham plastic fluid model", Int. J. of research in applied and natural social sci., (2013) 1 (3), 97 - 140.
[63] Shah, S. R., "An innovative study for non - Newtonian behavior of blood flow in stenosed artery using Herschel - Bulkely flud", Int. J. of biosiences and biotechnology, 5 (5), 233 - 240, (2013).
[64] Shah, S. R., "Capillary - tissue diffusion phenomena for blood flow through a stenosed artery using herschel - bulkley fluid" Int. J of Res. in Biochem. and Biophy., 1 (1).1 - 8 (2011).
[65] Shah, S. R., "Effect of clopidogrel on blood flow through stenosed artery under diseased condition", Int. J. of Experimental Pharmacology, 4 (1), 887 - 893, (2014).
[66] Shah, S. R., "Effects of Acetylsalicylic Acid on blood flow through an artery under Atherosclerotic condition", Int. J. of Molecular medicine and advances sci.7 (6), 19 - 24, (2011).
[67] Shah, S. R., "Effects of antiplatelet drugs on blood flow through stenosed blood vessels", Journal of Biomimetics, Biomaterials and Tissue Engineering, 18, 21 - 27, (2013).
[68] Shah, S. R., "Impact of radially non - symmetric multiple stenoses on blood flow through an artery", International Journal of Physical and Social Sciences, 1 (3), 1 - 16, (2011).
[69] Shah, S. R., "Mathematical analysis of blood flow through atherosclerotic arterial segment having non - symmetric mild stenosis". Int. J. Rese. in Pure & Appl. Phy., (1) 1 - 5, (2011).
[70] Shah, S. R., "Mathematical Study of Blood Flow through Atherosclerotic Artery in the Presence of Porous Effect", Int. J. of Modern Sciences and Eng. Tech., 2, (12), 12 - 20, (2015).
[71] Shah, S. R., "Non - Newtonian flow of blood through an atherosclerotic artery", Research journal of applied sciences.6 (1), 76 - 80, (2011).
[72] Shah, S. R., "Performance modeling and analysis of magnetic field on nutritional transport capillary tissue system using modified Herschel - Bulkely fluid", Int. J. of Advanced research in physical sciences, 1 (1).33 - 41, (2014).
[73] Shah, S. R., "Performance Study on Capillary - Tissue Diffusion Phenomena for Blood Flow through Stenosed Blood Vessels", American J. of Pharmtech Res., 2 (2), 695 - 705, (2012).
[74] Shah, S. R., "Response of blood flow through an atherosclerotic artery in the presence of magnetic field using Bingham plastic fluid"Int. J. Phar. & Biomed. Res.2 (3), 96 - 106, (2011).
[75] Shah, S. R., "Role of Non - Newtonian behavior in blood flow through normal and stenosed artery", Research journal of Biological sciences, 6 (9), 453 - 458, (2011).
[76] Shah, S. R., "Significance of Aspirin on Blood Flow to Prevent Blood Clotting through Inclined Multi - Stenosed Artery", Letters In Health and Biological Sci., 2 (2), 97 - 100, (2017).
[77] Shah, S. R., "Study of dispersion of drug in blood flow with the impact of chemical reaction through stenosed artery", International journal of Biosciences, 21 (3), 2022, 21 - 29.
[78] Shah, S. R., "Study of modified Casson's fluid model in modeled normal and stenotic capillary - tissue diffusion phenomena" Int. J. of Comput. Eng. & Manage.,.11, 51 - 57, (2011).
[79] Shah, S. R., Akbar, S., "Mathematical Study for the Outflow of Aqueous Humor and Function in the Eye",

Int. Journal of Scientific & Engineering Res.11 (10), 743 - 750, (2020).

[80] Shah, S. R., and Anamika, "A mathematical model of blood flow through diseased blood vessel", Int. J. of Emergin Trends and Tech. in Computer Sci., 6, (3), 282 - 286, (2017).

[81] Shah, S. R., Clinical influence of hydroxychloroquine with azithromycin on blood flow through blood vessels for the prevention and Treatment of covid - 19, International journal of biology, pharmacy and allied science. (2021), 10 (7): 2195 - 2204.

[82] Sharma R, Shah SR. Effect of Inclination on Blood Flow in Artery with Non - Uniform Wall Properties: A Numerical Approach. Front Bioeng Biotech, 12 (1): 23 - 34 (2024).

[83] Sharma, S. K., Alshehri, Mo., Priya Gupta and Shah, S. R., "Empowering the visually impaired: Translating Handwritten Digits into Spoken Language with HRNN - GOA and Haralick Features", Journal of Disability Research, 3, 1 - 21, (2024).

[84] Siddiqui, S. U., Shah, S. R., "A Physiologic Model for the problem of blood flow through Diseases blood vessels", Int. J of advances in Applied Sciences, 5 (2), 58 - 64, (2016).

[85] Siddiqui, S. U., Shah, S. R., "Achievement of Pentoxifylline for Blood Flow through Stenosed Artery", J. of Biomimetics, Biomaterials and Tissue Engineering, 13.81 - 89, (2012).

[86] Siddiqui, S. U., Shah, S. R., "Two - phase model for the study of blood flow through stenosed artery, Int. Journal of Pharmacy and Biological Sciences, 1 (3), 246 - 254, (2011).

[87] Siddiqui, S. U., Shah, S. R., Geeta, "A Computational Analysis of a Two - Fluid non - Linear Mathematical model of pulsatile blood flow through Constricted Artery", E - Journal of Sci. & Tech., 10 (4), 65 - 78, (2015).

[88] Siddiqui, S. U., Shah, S. R., "A Comparative Study for the Non - Newtonian Behaviour of Blood Flow through Atherosclerotic Arterial Segment", Int. J. of Pharmaceutical Sci. Review and Res., 9 (2), 120 - 125, (2011).

[89] Siddiqui, S. U., Singh, A., Shah, S. R., "Mathematical Modeling of peristaltic blood flow through a vertical blood vessel using prandtl fluid model", Int. J. of Mathematics and Computer Research, 4, (9), 710 - 717, (2016).

[90] Singh, S., "A mathematical model for modified herschel - bulkley fluid in modeled stenosed artery under the effect of magnetic field", Int. J. of Bioeng. & Tech. 1 (1), 37 - 42. (2010).

[91] Singh, S., "A two - layered model for the analysis of arterial rheology" Int. Journal of Computer Science and Information Technology, 4, 37 - 42. (2011).

[92] Singh, S., "Clinical significance of aspirin on blood flow through stenotic blood vessels" J. of Biomimetics, Biomaterials and Tissue Engineering, 10, 17 - 24, (2011).

[93] Singh, S., "Effects of shape of stenosis on arterial rheology under the influence of applied magnetic field" Int. J. of Biomedical Eng. and Tech., 6 (3) 286 - 294, (2011).

[94] Singh, S., "Influence of magnetic field on blood flow through stenosed artery using casson's fluid model", Int. J. of BioEng., CardioPul. Sci. and Tech., 1, 1 - 7, (2010).

[95] Singh, S., "Numerical modeling of two - layered micropolar fluid through a normal and stenosed artery", Int. J. Eng., 24 (2), 177 - 187, (2011).

[96] Singh, S., "Numerical modelling for the modified Power - law fluid in stenotic capillary - tissue diffusion phenomena", Archives of Applied Science Resaerch, *An Int. peer reviewed J. of appl. sci.,* 2 (1) 104 - 112, (2010).

[97] Singh, S., "The effect of Saline Water on viscosity of blood through stenosed blood vessels using Casson's fluid model", J. of Biomim., Biomat. & Tiss. Eng.,.9 37 - 45, (2011).

[98] Singh, S., and Shah, R. R., "A numerical model for the effect of stenosis shape on blood flow through an artery using power - law fluid", Advance in applied science research, *An Int. peer reviewed J. of Sci.,* 1, 66 - 73, (2010).

[99] Stiehl, T., Kumar, R., Shah, S. R., "Understanding the impact of feedback regulations on blood cell production and leukemia dynamics using model analysis and simulation of clinically relevant scenarios", Applied Mathematical Modelling, 129, 340 - 389, (2024).

[100] Rao, S. (2021). *Timeless Teachings of Ayurveda in the Mahabharata: Insights for Modern Health Practices*. Journal of Indian Philosophy & Religion, 15 (2), 89 - 104.

[101] Mehta, A. (2023). *The Mahabharata's Legacy: Ayurvedic Principles in Contemporary Health Practices*. Holistic Health Journal, 14 (4), 143 - 156.