Correlating Health-Oriented Human Traditions with Basic Science and Automating Health-Related Processes Using Modern Science

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Abstract

Today, human beings are living like machines. They are having many sources in the society to get stress. Due to this, their mental and physical health are affected. Our Indian ancients followed more traditions in their daily life activities to maintain their physical and mental health. These kinds of traditions are closely related with the principles of basic science. The measures are reported in this work to reduce the mental and physical stress of all people irrespective of their gender, religion, language, geography, caste, and class. This paper mainly correlates the relationship between our traditions and the facts of basic science. It helps the current mechanical men and women to avoid stress and strain in all aspects of human life. Also, this work suggests the techniques related to the modern science to automate the health-oriented processes.

Keywords Mental health · Physical health · Basic science · Human traditions · Internet of things (IoT)

Introduction

The human health is covered by many factors such as physical activities, mental issues, food-oriented issues, and environmental and social relationships. These problems are common irrespective of the gender, age, religion, language, geography, caste, and class. If one of these factors is not balanced, then the overall health of human will be affected. Basically, the energy of Pancha Bhoota is very essential for any living organism. It includes the physical elements such as space, air, fire, water, and land as given in Fig. 1. The functionality of organs of human body is related with these elements. Our food is related with land. All fluids taken in the life are related

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with water. The physical exercises are required for digesting the food, and it generates energy in the form of heat for doing the daily activities. The minimum sleeping time for human is 7 h per day. If there is any insufficient in the duration, the functioning of the brain will be very poor. Hence, sleeping is related with space. Natural air is required to attain healthy breathing. The overloading and underloading of these physical elements of Pancha Bhoota will raise the diseases to human body. For balancing all these elements, the bioenergy value is increased in the human body by enhancing the strength of mental and physical signals as given in Eq. 1.

$$\text{Bioenergy} = \text{mental energy} + \text{physical energy} \quad (1)$$

In case of physical energy, the human has to depend on his/her environment and food habits. In dealing the signals related to mental energy, the social relationship and family relationship are very important. This paper briefly explains the factors related to physical and mental energy. The Science is a systematic approach to explain the facts. It always states the truth with strong proof. Our parents and grandparents followed many guidelines as traditions in their regular activities. These traditions were coincided with the principles of basic science to improve the health of human body in terms of Bio energy. This bio-energy is enhanced by optimizing the mental and physical signals. This paper summarizes the issues related to physical and mental health and also exhibits the correlation between the traditional approach and the factors of basic science.

In the present human life style, the automation is expected to live the sophisticated life. Haluza and Jungwirth (2016) argue that “Along with the digital revolution, information and communication technology applications are currently transforming the delivery of health and social care services” (p.1). Using the HOT technologies like IoT, wireless technologies, embedded technology, artificial intelligence, mobile computing and knowledge mining, the automation mechanism can be built to improve the health-oriented processes of human body.

Correlating Health-Oriented Human Traditions with Basic Science

During Brahma muhurta in the morning between 4:00 to 6:00 a.m., our grandparents woke up and began their activities as shown in Fig. 2. This practice was useful to them to implement their

Fig. 1 Physical elements of Pancha Bhoota

Fig. 2 Receiving cosmic energy during Brahma muhurta

regular activities successfully. During vadakala period (Brahma muhurta), they did physical exercises to get more cosmic energy. The scientist discovered that the ozone layer on the earth generates more ozone gas which will be helpful to change the psychological parameters of mammals. Elvis and Ekta (2011) mentioned that “Ozone therapy has been utilized and heavily studied for more than a century” (p.66). Medical ozone gas O_3 is used to disinfect and treat disease. It helps to treat diseases like infected wounds, circulatory disorders, geriatric conditions, macular degeneration, viral diseases, rheumatism/arthritis, cancer, SARS, and AIDS. The pineal gland is a master gland which controls all other hormones of the body. It generates the hormones in the neutral level while doing meditation during this period. The ozone gas can simulate the correct body temperature, segregation of melatonin secretion by the pineal gland, core body temperature, and plasma level of cortisol. Immacolata Cristina Nettore et al. (2017) pointed that “Thyroid hormones (thyroxin or T4 and triiodothyronine or T3, TH) are vital role for the control of metabolism (p.347) and they are closely related with Vitamin D.” The thyroid is essential in every aspect of the health like energy, mood, body weight, and blood circulation. Thyroid uses iodine and amino acid tyrosine to manufacture the thyroid hormones T3 and T4. Vitamin D3 has major role in balancing the thyroid level. Human may polish their skin of entire body by coconut oil, and they expose the skin before the sun light. While falling the sun light over the skin of human, the coconut oil and the vitamin D coming from the sun will be chemically combined and generate required hormones, which will be passed through the skin holes for balancing the thyroid gland. The sun light is able to generate 10,000–25,000 IU of vitamin D3 within minimum 20 min and maximum 1 hour depending upon the nature of the skin. The vitamin D is essential for bone health and teeth health. It protects brain aging. It solves asthma problem and cancer; also, it provides good immunity to the body.

Women usually put kolam using rice flour/chalk power/rock powder by naturally and by synthetically colored powders in their veranda of their houses, While putting kolam as given in the Fig. 3 in terms of straight lines, circles, and curved loops over the grid pattern of dots; the uterus, which is the home of bay, gets more strength. Scientifically, this kind of exercise will boot the muscles of uterus and gives the possibility of normal births to the women. The external pressure is given to the stomach, which touches the sacral chakra; the second chakra of human body is associated with the emotional body, sensuality, and creativity. This chakra is related with one of the element of Pancha Bhoota, the water. It balances the activities of kidneys and sexual elements.

Fig. 3 Strengthening uterus by Kolam

The cow manure has three nutrients such as potassium, nitrogen, and phosphorous. Our elders or today, the village people are flooring using cow dung which is a natural agent to destroy the germs in the surrounding as given in Fig. 4. The dung is generally dried for over a week, then blended at a very high temperature to kill all harmful bacteria and germs. The final product, a dung powder, is mixed with variety of ingredients to make the medicines and toiletries. The urine of the cow is flooded in the new buildings as tradition. Scientifically, the urine of cow has more chemical components used as vaccination to cure HIV-AIDS. The cow manure is a natural fertilizer; it cannot be recycled into the soil by species such as earthworms and dung beetles. The biogas may be produced to generate electricity from the cow manure. The vaccination is given to the infants to prevent the diseases like cholera, Jaundice, malaria, and tetanus. Humans put cow dung on their walls of houses as given in Fig. 5, which have

Fig. 4 Destroying germs by cow dung Flooring

Fig. 5 Cow dung is the best vaccination

required nutrients to act as best vaccination to suppress the strength of germs in spreading the diseases.

Traditionally, women are wearing the silk sari during festivals. Hardy et al. (2018) noted that “Silks are protein-based fibers made by arthropods for a variety of task-specific applications” (p.4309). Scientifically, the one kind of bacteria coming from silk is able to suck the germs from the surrounding items and protects all human beings. So, it can create the unpolluted environment during marriage function and other festivals. In older days, women used urall, aattuall, and thrukuall for crawling powders as given in Fig. 6. Basically, this kind of tools will be helpful to strengthen the muscles of our fingers, hands, and the spinal cord of the body.

In the earlier times, the brass utensils and copper utensils as given in Figs. 7 and 8 were used for cooking. The cooked products will not be spoiled and human are able to retain that food for long time without modern refrigerator. The nutrient juice containing voids in the food become active to release the nutrients. The chemicals used in these utensils will be good for the human health. For bathing, the water is stored in the copper vessel. The copper has the

Fig. 6 Strengthening the muscles by crawling tools

Fig. 7 Positive energy by brass utensils

capability to destroy the germs, and it will be used to cure skin-related diseases like black-heads, whiteheads, pimples, or deep, painful cysts, and nodules. Usually, these kinds of utensils are also being used in temples and Pooja rooms of the houses, since these metals/alloys attract as well as transmit *Chaitanya* (Divine consciousness). All the surrounding people in the temple will not have 100% of positive signals. Some may have negative signals. These negative signals will be observed by copper and brass and gives out the positive signals to purify the environment. The traditional houses were built by bricks and coconut leafs. The roof made of brick helps to adjust the building's temperature, as they store heat and cool air. In winter, the walls offer warmth, while on a hot summer day, they have a cooling effect. This creates a pleasant indoor climate for healthy houses as given in Figs. 9 and 10.

The traditional temples are major assets for the human health. The Gopuram/Tower of temple has more height. It is built based on the principle of Pyramid. The majority of the weight is closer to the earth as exhibited in the Fig. 11. The top portion has kalasam in the form

Fig. 8 Healthy food cooked by using copper utensils

Fig. 9 Balancing temperature of body using house roof with bricks

of inverted copper pot with pointed head pointing the space, which receives more cosmic energy and propagates towards the dwelling place of the GOD. Annila (2015) told that “the broad spectrum of cosmic rays probes the structure of space from cosmic distances down to microscopic details” (p.1). Due to this, while viewing this place, people are able to get more positive energy. Inside the temple, the surrounding area is having more length as shown in Fig. 12. Scientifically, it is built, to enable the people to have lengthy walking around the temple. This kind of walking simulates the internal organs of human body. The human nervous system is very complex. The nerves of internal organs such as lungs, heart, sex organs, kidneys, brain, liver, and parts of digestion system are terminating at the path of leg as shown in Fig. 13 and palm as given in Fig. 14. These termination points are called as energy points which give sufficient energy to the respective organs. While walking around the temple, these points are simulated and the pressure is supplied to the respective organs through nervous system. By this pressure, the organs will be simulated to balance their functions. Similarly,

Fig. 10 Balancing temperature of body using house roof with coconut leaf

Fig. 11 Gopuram to receive more cosmic energy

while clapping our hands during worshipping the God, washing our clothes and cleaning our vessels, more energy will be propagated towards the internal organs for controlling their functions.

The touching also gives more energy to stimulate the internal organs. Traditionally, during festivals and family functions, our grandparents and parents bless their children by touching their head as shown in Fig. 15. Scientifically, this kind of habit will give more positive signals to the children. On the human head, the master gland called pituitary gland controls all the glands of the body. While touching in the head, this gland will be simulated; in turn, it stimulates the organs of entire human body.

Water is a good water therapy for the human. Water is a major agent in supporting the digestion system of human beings. Generally, most of the people drink water in bed in the morning. This habit is used to remove the unwanted waste chemicals and undigested food particles (toxicity) easily from the body. Mehdi Kargarfard et al. (2013) proved that “Aquatic exercise therapy can be a useful method to improve joints’ strength and range of motion in

Fig. 12 Simulating organs due to walking

Fig. 13 Walking simulates the internal organs

hemophilia patients in order to improve their daily functioning and quality of life” (p.50). The children and young men usually like to take bath in the well, lake, and ponds. They have to reach the water through the steps one by one in the downward direction as shown in Fig. 16. During that movement, their path gets wet, then leg, then body, and finally, the head gets wet. This kind of practice is helpful to send out the wasted heat particles through the top portion of the head. If the water is flooded from top to bottom, then, the wasted heat particles could not be sent out from the body. They will be circulated within the body. This will create more diseases. The salty water has more strength to exhibit positive signals. After visiting the death places, traditionally, people take bath without fail. Scientifically, the salt (sodium chloride) has the power to suck the negative energy coming from the death house and exhibit only positive energy. The sodium chloride will be turned into black color, if the house has more negative energy. Salt provides key minerals like sulfur, calcium, sodium, magnesium, silicon, boron, potassium, bromine, and strontium. With its rich mineral content, salt can help for weight loss, reduce asthma symptoms, improve blood sugar levels, and regulate heart health. Samihah Zura Mohd Nani et al. (2016) mentioned that “Deep sea water (DSW) commonly refers to a body of seawater that is pumped up from a depth of over 200 m” (p.1). The deep sea water is a good resource for health since it has low temperature, high purity, and rich with nutrients.

The food is a major factor related to the human health. The taste of the tongue is related to the digestion system. Scientists describe the tastes of our food as sweetness, sourness, saltiness, bitterness, and sour. Accordingly, our food is being prepared traditionally as given in Fig. 17. In many occasions, while eating, first, the sweet items are being served; then, the other kinds of items are being served. Since the walls of our food bag in the digestion system have very less

Fig. 14 Clapping simulates the internal organs

glucose in the empty stomach. It has no energy to start the digestion process. Hence, the sweet is taken initially before the other taste of items. Finally, curd milk is taken to give the flexibility for the digestion process. Also, the banana leaf has major aid to the digestion process. The germs in the surrounding could not be affected by the banana leaf. The life time of the man increases by the usage of the banana leaf. Due to this, traditionally, during festivals and family

Fig. 15 Touching simulates the internal organs

Fig. 16 Transferring the unwanted heat particles from body

functions, the food is being served in banana leaf as shown in Fig. 18. The healthy food should include all kinds of organic vegetables, fruits, balanced levels of spices, and old rice-related items as shown in Figs. 19a–c and 20 to lead a happy life. Scientifically, the old rice-related items have more nutrients to maintain the sugar and pressure in the normal level and increase the body energy.

Even though, the human follows the traditional habits regularly for the physical health, if the person is mentally weak, he could not survey. The stress comes from various sources like public place, family, and working place. Amy Burton et al. (2016) showed that “Workplace stress is high among healthcare professionals” (p.3). To strengthen the mind, traditionally, people are celebrating the festivals like Pongal and Diwali with their relatives, family members, and friends. As given in Fig. 21a–d, the unity family has excellent power to support the mental health. It is possible to give importance for happiness. Every individual in the unity family is able to share the problems and find the solutions easily. At that time, scientifically, our body cells get more oxygen to support the segregation of all kinds of enzymes in neutral level.

Fig. 17 Tastes stimulates digestion

Fig. 18 Banana leaf supports healthy life of the man

The traditional dance as shown in Fig. 22, helps the women to regulate the blood flow in uniform level throughout the body and strengthen the muscles of hands, legs, heart, lungs, liver, spinal cord, and other parts of the body. Lighting kuthuvillakku (Fig. 23) is the major issue in the traditional occasions. By seeing the light continuously, the human eyes get more energy to improve the vision. The neem tree (Fig. 24) has more contribution in the devotional oriented functions. People are taking rest under the neem tree usually. The leaf is used in the temples and devotional places. Scientifically, the neem leaf is able to extract the carbon dioxide from the surroundings and gives out more oxygen, which helps for smooth breathing.

The chemical reactions of the human body are related to the chakras and auras. P. Radha (2018) mentioned that “Chakras helps to control the bio energy signals of the body internally,

Fig. 19 **a** Healthy body due to organic vegetables. **b** Healthy body due to organic fruits. **c** Healthy body due to all kinds of spices

Fig. 20 Old rice supports healthy body

while the auras are generated around the physical body of human” (p.44). There are seven chakras in the human body as shown in Fig. 25, which can act as energy sources to generate all kinds of hormones. By proper meditation and yoga, these chakras will be balanced. The plastic products are non-degradable items in nature. It pollutes the environment. Hence, the traditional toys are made up of wooden items and the products in the form of paper, wool, and cotton are degradable and they can act as the fertilizer of the land as given in Figs. 26a–b.

Fig. 21 **a** Supporting mental health with Pongal festival. **b** Supporting mental health with Diwali. **c** Supporting mental health with family unity. **d** Supporting mental health with friendship approach

Fig. 22 Traditional dance for regulating the blood flow

Automating Health-Related Processes Using Modern Science

Today, all human beings including men, women, child, and adult are living like machines. For machines, some kind automation is required. The man also needs the automation to live in sophisticated environment in every aspect of the life. This will be achieved by the modern technologies like knowledge mining, IoT (Internet of things), mobile computing, and wireless technologies. The IoT is an advanced automated system which integrates multiple technologies as given below:

$$\text{IoT} = \text{Information tech. (IT)} + \text{Network tech. (NT)} + \text{Embedded Tech. (ET)} \quad (2)$$

The IT stores the data, manipulates the data, and transmits the data. IoT sensors play an important role in capturing, measuring, and filtering the data. The sensors integrate both physical and digital world. ET is computer system with dedicated function within a larger

Fig. 23 Traditional lamp for enhancing the vision power

Fig. 24 Traditional neem tree for increasing the oxygen

mechanical or electrical system that controls many devices. The embedded devices need low power consumption, small in size, and low cost. The knowledge mining helps to extract the meaningful data from the collected information. Gupta and Gupta (2017) pointed that “Enormous amount of produced by IoT device can be converted into knowledge using data mining techniques” (p.4). The network technology uses Internet Protocol (IP v6.0) to support wireless communication among the IoT devices.

The human health is monitored through IoT. The IoT is able to connect all kinds of things and human resources. The patients, doctors, technicians, experts, and clerks may be integrated using IoT to monitor the patients completely from the remote places of doctors as given in the Fig. 27. Today, due to work force, the man is unable to keep his parents and grandparents with his house itself. Most of the old persons are living lonely. If any accident occurs inside their house for them, no one is able to identify from their home itself. To recover this problem, the RFID (radio frequency identification data) tags as given in Fig. 28 are attached in their body to track their location. The RFID tags use radio frequency signals to read the information from the nearby RFID reader. The RFID information will be processed using micro-controller like Arduino or Raspberry Pi. The youngest of the family can monitor the current location of their parents and grandparents from their location though their mobiles. Immediately, the first-aid

Fig. 25 Physical and mental health due to chakras

Fig. 26 **a** Avoiding pollution by wooden things. **b** Avoiding pollution by non-plastic items

can be provided to them using this hot technology. Similarly, the pressure, temperature, and vibration of their old people may be monitored through their mobiles from the remote places.

The sensors as given in Figs. 29, 30, and 31 are attached to the body of the adults. Also, the sensors are connected to the IoT environment. The sensors store the physical parameters like temperature, pressure, and sugar using the MQTT (Message Queue Telemetry Transport) protocol. This protocol enables the IoT sensors to automatic measurement for physical parameters like pressure, orientation, temperature, motion, force, vibration, light, and sound. Also, the electrical parameters such as current and voltage can be measured. If the scalability of the problem increases in terms of adults, the data will be handled using cloud computing. The important features are extracted using data mining tools for improving the accuracy of the results.

Today, many kinds of diseases are common in all categories of people like child, youth, and old. For example, this paper focuses the disorders of ear, nose, and throat. If the problems are not identified and cured in the appropriate time, this will lead a serious issue. Hence, proper diagnosis is required from the ENT specialist, who is using special apparatus to predict the problems manually. The ENT doctor has to physically meet the person to verify the symptoms

Fig. 27 IoT for healthcare system

Fig. 28 RFID tags

and approximately quantify the problem manually. This kind of diagnosis will not provide the accurate solutions in all cases. It will be resolved using the current technologies like IoT technology and knowledge mining to automate all the relevant processes. The doctors, patients, and the medical apparatus like otoscope are connected through Internet of things using wireless networks. An otoscope or auriscope is a medical device used to look into the ears patients' noses and upper throats. The sensors are attached with the medical apparatus to recognize the symptoms related to ear disorders like hearing loss, cochlear implant surgery, tinnitus, presbycusis, and usher syndrome; throat-oriented problems like tonsillitis, croup, and laryngitis; and nose-related disorders like deviated septum, nasal polyps, rhinitis, nosebleeds, and nasal fractures. The nature of the disorders will be captured and will be sent to the micro-controller of IoT for further analysis. While classifying the nature of problem, the accuracy of the disorders of ENT will be improved by applying knowledge mining tools. This kind of environment will enable the doctors to monitor the disorders of patients at their remote places for yielding smart solutions. ENT specialists work with other members of a multidisciplinary team that may also include specialists in head and neck cancer, neurosurgeons, maxillo-facial

Fig. 29 Temperature sensors

Fig. 30 Vibration sensors

surgeons, and neurologists by sharing the smart processes. Similarly, the IoT can be embedded in automating the following processes of healthcare system:

- The glucose level and thyroid level of the persons can be viewed remotely.
- During surgery, the defects can be easily identified and rectified immediately.
- Muscles of hands and legs can be monitoring during movement using motion sensors.
- The pressure of eyes can be noted from remote places.
- The movement of baby in his/her mother's uterus can be monitored remotely.

The mental health of man is strengthened by the chakras and auras. There are seven chakras in the human body: Muladhara (root Chakra), Svadhisthana (sacral chakra), Manipura (solar plexus chakra), Anahata (heart Chakra), Visuddha (throat chakra), Anja (third eye/brow), and Sahasrara (crown chakra). Each chakra has the capability to control the respective organs of the human body. The exact value of each chakra cannot be predicted easily. Gupta and Muhuri (2018) pointed that "Development in medical science by computing is more efficient than the traditional health monitoring methods such as, in person visits to the medical practitioners, clinics, etc." Hence, the data mining tool like neural network is used to predict the bio energy of each chakra. Neural network is applied in a lot of health-oriented applications. The architecture of the neural network is given in Fig. 32. The input layer has 20 neurons, and

Fig. 31 Pressure sensors

Fig. 32 Predicting the bioenergy of chakras

two hidden layers with each layer have 13 neurons. The output layer has seven neurons representing the values of all seven chakras. Sara J. Sagui-Henson et al. (2018) investigated that “A mediation model that explores psychological and emotional coping processes as mechanisms connecting mindfulness to reduced stress perceptions and reactions” (p.379). The psychological characteristics of human are helpful to reduce the stress of human. They are collected in the form of 100 training samples which are fed as input to the neural network to predict which are balanced chakras and which are unbalanced chakras. Using this predicted value, the human is able to change his behavior for supporting the mental and physical health. Without using the costly equipments, this machine learning tool helps to study characteristics of the chakra/aura in improving the health of the human beings.

Conclusion

This work correlates the health-oriented traditional habits of Indian people including men, women, child, and adult with the facts of basic science. The measures are reported in this work to reduce the mental and physical stress of all people irrespective of their gender, religion, language, geography, caste, and class. The habits followed in balancing the elements of Pancha Bhoota are related with the principles of science. Also, the techniques of modern science are described, for implementing the health-oriented processes of human. Even though recent technologies are able to support the healthcare system, the traditional-oriented approach gives better solutions with 100% of security.

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