

## Quality Improvement in Healthcare - A Diagnostic Study

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### Abstract

This paper dwells upon certain recent developments which have the potential to significantly contribute to quality improvement in human healthcare. Also discussed are quality elevating tools like Yoga, Meditation, Prayer and Auto-healing. A case study in this context is included to highlight the impact of these tools in total health care.

**Key words and Phrases :** *Auto-healing, Ayurveda, Cancer treatment, Healthcare, Positivity, Yoga.*

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### Introduction

The quality of healthcare service is a much debated topic and its inadequacy in India is well accepted. This paper dwells upon quality improvement through revolutionary therapies, which have been reported recently. These signal very well and have significant potential for inducing improvement. The paper also discusses a few quality elevating tools through practice of Yoga and Meditation, positivity of thought and Auto-healing, which are well established in Indian heritage, which includes Ayurveda. A case study of a charitable cancer hospital in Gujarat is included as a practical illustration.

### Quality improvement in healthcare

To begin with, we mention some aspects which have implications for improving healthcare:

#### ***Inclusive ecosystem for mental health***

It is now time to assign resources to government's progressive mental health policy and initiate programs that promote social inclusion, participation and mobility.

The long term needs of persons with mental health issues may be better served by an inclusive ecosystem, like a new house which provides newer opportunities and greater personal meaning. This housing

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intervention and a related sense of ontological security may contribute significantly to the patient's rediscovery of identity and introduce a new credence to life. The process of social mixing demonstrated by occasional transactions at shops, joint celebration of festivals, visits to places of worship etc. can be very helpful in the healing process.

According to the World Health Organization's (WHO) Mental Health Atlas 2011, 38 percent of people living in mental hospitals are estimated to have stayed there for a year or more. Long term care for persons with persistent forms of illness, if restricted to extended stays in hospitals or traditional rehabilitation homes can be spiritless and lacking in vitality. Institution alienation is not and cannot be the answer. A feasible supplementary system is to have a mechanism to bridge the treatment gap by promoting access to clinical and social care. The needs of vulnerable groups and challenges around institutional and long term have been identified as key areas of focus. Much of the work here sits at the intersection of social welfare and healthcare.

### ***Revolutionary therapies***

Certain discoveries, inventions in the field of medicine have been path breaking and have fundamentally changed the way of treatment. They have also made treatments more bearable and effective, elevating the quality of service. Two classical examples are invention of penicillin by Alexander Fleming and treatment for mad dog bites by Louis Pasteur.

A recent example is that of Nobel Prize winning work by three scientists for the 'revolutionary treatment' they developed for devastating diseases that predominantly affect people in the developing countries. The discovery of the drug ivermectin, a derivative of avermectin, by William Campbell of Drew University in Madison and by Satoshi Omura of Kitasato University in Tokyo, nearly eradicated river blindness and radically reduced the incidence of lymphatic filariasis. The discovery of artemisinin by Tu Youyou of the China Academy of Chinese Medical Sciences in Beijing in the early 1970's was a decisive step in the battle against cases of malaria. Unlike the quest by the two Laureates for a remedy for round-worm infestation, Dr

Tu's hunt for a potent anti-malarial drug turned out to be as dramatic as the drug itself. She pored through ancient texts for leads. An extract from *Artemisia annua* (sweet wormwood) showed promise. Deftly combining traditional knowledge with modern science, she redesigned the extraction process and purified the extract to make it both potent and safe. In 1973, she modified artemisinin to generate a powerful drug. This miracle drug has prevented millions of malarial deaths. The tasks and challenges still remain as resistance to artemisinin is fast emerging with evidence from many developing countries including India.

### ***Curcumin, a wonder drug in waiting***

There is a good example of a miracle drug acknowledge as such globally for its potential which India and its scientists have deliberated on extensively but have failed to make an impact in the world of practicing modern medicine. The drug is curcumin, the active principle from the spice turmeric.

In Ayurveda, turmeric has wide uses. It is used to treat flatulence, dyspepsia, liver disorders (jaundice in particular), common cold, eye and ear infections, small-pox, chicken-pox and a variety of skin diseases and inflammation conditions.

Curcumin defies several concepts, has pleiotropic action and is safe both as a dietary component and as orally administered drug up to 8 grams/day. The overwhelming evidence is in terms of its beneficial effects. It can be a unique antidote to treat and prevent drug resistance.

### ***Polar micro-organisms hold clue to cancer treatment***

Micro-organisms that thrive in the harsh environment of the Polar Regions may open up new avenues for cancer treatment opines cryobiologist Shiv Mohan Singh, a member of India's first expedition to the Arctic in 2007. Useful substances such as antioxidant compounds, cold tolerant enzymes may be applied in healthcare, agriculture and industry. One such substance called thelebolum has been extracted from an Antarctic fungus, which has potential anti-cancer properties since it could stall tumor cell growth and induce cell death in cancer cell lines.

Similarly, bacteria from Arctic glaciers have been found to produce anti-freeze proteins as their own survival mechanism. The proteins could be applied in the cryo preservation of blood and organs, in the food industry or to prevent the formation of plugs in oil and gas pipelines.

There is a lot of scope from bio-prospecting in the Polar Regions and we have to tap the region's potential since incidence of cancer has increased and spectrum of cancer-prone organs is changing each year.

### ***Chemistry Nobel for mapping how cells repair damaged DNA***

Tomas Lindahi (Sweden), Paul Modrich (USA) and Aziz Sancar (Turkish born) won the Nobel Prize in Chemistry (2015) for having mapped and explained how the cell repairs its DNA and safeguards its genetic information. Their work respectively consists of discoveries on base excision repair (the cellular mechanism that repairs damaged DNA during the cell cycle), showing how cells correct errors that occur when DNA is replicated during cell division and mapping the mechanism cells use to repair ultraviolet damage to DNA. These systematic works have made a decisive contribution to the understanding of how the living cell functions, as well as provided knowledge about the molecular causes of several hereditary diseases and about mechanisms behind both cancer development and aging.

The chemistry prize interrupts the drift towards the exotic end of the research spectrum. It honors the work which zeroes in on one of life's central mysteries: How the delicate threads of DNA inside every living cell manage to maintain its integrity despite waves of random mutations and environmental assaults.

Damage to genetic material poses a threat to all organisms. To counteract this threat, cells have evolved a series of intricate DNA repair pathways that correct DNA lesions affecting structure of DNA.

### ***Why elephants rarely get cancer?***

Elephants have 38 additional copies of a gene that encodes p53, a compound that suppresses tumor formation. Humans, on the other hand, have only two, according to the study reported in the Journal of the American Medical Association (JAMA). This means that as elephants evolved, their bodies made many

extra copies of a gene that prevents tumors from forming. Elephants have been considered an enigma for years because they have far more cells than humans, which would presumably place them at high risk of cancer over their lifespan which can last up to 70 years. And yet the analysis of a large database of elephant deaths shows that less than 5 percent of elephants die of cancer, compared to up to 25 percent of humans. Thus making more p53 is nature's way of keeping the elephant species alive.

Elephants also have a more aggressive internal mechanism for killing damaged cells that are at risk for becoming cancerous, almost double as compared to healthy human cells.

### ***Quality elevating tools in healthcare***

In the next two sections, we dwell upon established tools which immensely help in upgrading the healthcare quality, centered on positivity of thinking. Another pleasing aspect is that, these tools have very little cost impact and no ill side effects at all.

### ***Physiotherapy***

This is effective in managing e.g. multiple sclerosis (MS) - related problems like poor balance, decreased functional capacity or increased level of fatigue. Physiotherapy improves muscle strength and mobility-related issues in people with significant disability. Exercise also improves mood and general well-being. Working the body, in other words, might coax the brain and self-repair. Thus the brain and mind can affect the healing of body ailments (via e.g. meditation, as already mentioned) and the bodily activities (e.g. physiotherapy) can coax the brain. However the former link is stronger than the latter one.

### ***Open up with laughter***

British researchers divided 112 students into three groups and asked each group to watch a short video together (without talking). One was a comedy routine, another was about golf and a third showed nature scenes. Students then wrote a message about themselves to someone else. People who laughed more shared markedly more intimate information than those who did not. Laughter affects the release of endorphin, which increases someone's likelihood of revealing more intimate information, researchers conclude.

The role of laughter in inducing positive thinking is well documented, which in-turn considered as the first step in auto-healing. Laughter should be developed as a way of life. It is in fact sometimes referred to as the best medicine. Laughter is the correct alternative to morose, pessimistic frame of mind. Laughter occupies the positive axis. Cost-wise too its impact is little. Laughter is considered a form of yoga.

### ***Fighting negativity by practicing Yoga***

Yoga helps us to develop a positive attitude towards everything we come across in our life. A positive attitude is very necessary to succeed in life. Success in our own sphere without comparison is necessary for a person to be happy. A right attitude will eliminate mental cobwebs and to help a person develop this positive attitude. Mudras direct and redirect positive cosmic energy. Any asana practiced earnestly and seen in the right perspective has multiple benefits on the mind and body.

Out of all the forms of science to keep a person healthy, yoga is time tested and has been proven to help the overall development for a healthy soul. Yoga takes us closer to nature.

All diseases being psychosomatic, it is natural to expect the disease solution to originate from the mind, for example through auto suggestion. This requires subtle skills, but its effectiveness is great and adverse effects are nil. The only investment involved here being some time by the patients. Recognizing the great healthcare potential and positive impact with minimum cost component, the United Nations celebrates June 21 as *International Yoga day*. The Indian government led by Narendra Modi worked as a catalytic agent in this context. As a result the value of Yoga is now appreciated more and more in all parts of the world. These techniques have to be taught by a trained competent yoga teacher and not by half competent persons. The teacher should have his/her own excellence, commitment and aura to enhance the effectiveness of the contact. On a slightly different platform, the positive impact of melodious music, particularly stotrams like *Vishnusahasranam* or *Lalitasahasranam* or *Hanuman chalisa* have been well studied for their positive healing power. The idol of the concerned god (*Vishnu*\ *Lalitambika* or *Hanuman*)

can be used as symbol or *Aalambana* so that one can concentrate or focus better. These are all the more suitable when the patient is bedridden and unable to do yogic exercises. In fact, it may be mentioned that, even the plants respond to melodious music, let alone the humans (classical experiments by Jagadish Chandra Bose). Some standard hospitals have in-built sound systems for all patient wards to play melodious light music\bhajans and sounds as an in-built mechanism. These enhance the ambiance of the hospital environment and contribute to the healing process.

Dr. APJ Kalam opined that there was nothing mysterious about prayer. Rather it made possible a communion of the spirit between people. 'When you pray' he said' You transcend your body and become a part of the cosmos which knows no division of wealth, age, caste or creed. Prayer is a binding force'. [From his autobiography, *Wings of fire*].

The place of worship and prayer has positive vibrations. A saying in this context is that a family which prays together stays together.

A US study on kids has found that a slow voice has a soothing effect while a loud, fast voice can simulate anger or fear. An extension of this phenomenon is the soothing and healing power of music.

### ***Managing depression-Naturally***

The signs of depression are usually easy to recognize: disinclination towards work or leisure, withdrawal from social interactions and insomnia (sleep walking). Depression affects our health adversely, worsens diseases such as arthritis and diabetes. It also increases the risk of heart attacks and cancer. The incidence of accidents, addition and suicide is much higher among the sufferers making it critical that depression is treated urgently.

The simple technique Marbling (the name comes from the way meat is layered with fat) is an effective option in combination, with or without drugs or therapies. How does Marbling work? Most depressed people are focused on their low feelings and forget that they have ever felt upbeat in their lives. Most therapists focus on the signs and symptoms of depression, but this often deepens their despair. In the simple technique

of Marbling, talking about the depressed times helps the affected persons feel understood, while mapping out times when he was better this indirectly reminds him that he was not always depressed. It brings back positive feelings and the realization that he could begin to feel happier again. This opens the door to memories of better times, rekindling hope and eventually the possibility of not being depressed at all. By charting out the detailed difference of behaviors between good times and low periods, the person gets a clear picture of the behaviors that reinforce depression as well as other behaviors that could help them to come out of the lows.

While Marbling does not cure depression, it is a tool to rekindle hope and motivation [Book: Out of the blue by Bill O'ttanlon outlines several techniques including Marbling].

### ***Battling the enemy within***

Millions of people around the world do not fight external enemies but they fight the one within: the mind. The mind is a very powerful element; it can take one to heights or destroy one completely. Many people just give up hope and succumb to the mind's adversities; others fight and come out as winners. We must take our mental health very seriously and seek professional healthcare when necessary, by removing the stigma that going to a mental healthcare provider is shameful, they are there to help us.

### ***Living deliberately through cancer***

A patient in advanced stage of cancer narrates her own experience, wherein she prayed, locked out negativity and drama and drew her family, all big hearted and pragmatic people near and found this very helpful in living with cancer, making it less burdensome and more tolerable. She was still grappling with the ailment, but with her changed attitude and approach three age-old truths became even more apparent.

First, stillness and faith can gives extra-ordinary strength, commotion drains it. Through prayer, she found a suspended kind of calm in which one can find a surprising strength.

Second, one may find one self trying to comfort panicked people around. But those who rally and come to mop

your brow when you look like a ghost, try to make you laugh, distract you with silly stories, cook for or even fly for 20 hours just to hug you are the real companions of the highest order. Your family is everything.

Third, we should not have to retreat to the woods life. It would be impossible and frankly exhausting to live each day as if it were your last. But there is something about writing a will that has small children as beneficiaries that makes the world stop.

### ***Positive emotions prod heart-healthy behaviors***

People with heart diseases may benefit from maintaining positive emotions, according to a new Penn state study.

It finds that positive emotions are associated with a range of long-term health habits, which are important for reducing risk of future heart problems and death.

In this study, researchers assessed psychological well-being of 1000 patients with coronary heart disease at baseline and again at a five-year follow up by asking the participants to rate the extent that they had felt 10 specified positive emotions including: 'interested, proud, enthusiastic and inspired, physical activity, sleep quality, medication adherence and alcohol and cigarette use were also measured at baseline and again five years later.

Higher levels of positive emotions were associated with less smoking, greater physical activity, better sleep quality and more adherences to medications. People with greater positive well-being may be more motivated and persistent in engaging in healthy behaviors. They might have more confidence in their abilities to maintain routines and may better adjust their health goals while proactively coping with stress and setbacks.

### ***Auto-healing (Quantum healing)***

We next touch upon a few issues related to healthcare that are noted in current published literature.

Having indicated the role of Yoga and meditation in positive healing, one must mention about auto healing which takes the process to a higher realm of metaphysics, which borders on science but goes much beyond. Yoga and meditation are like giving the patient an internally energizing drink in a silver cup. On the

other hand auto healing is elixir of life in a gold cup. This can render other approaches partly superfluous. Yoga, meditation and auto healing give a super lift to the quality platform; the first two are simpler to practice by the patient. Auto healing demands concerted effort. For many it may appear as an ideal but attainable with singled minded focus and it is worth it. The quality is pure and uncontaminated. Also there are no undesirable side effects.

The following material is mainly adapted from an open page article in The Hindu of September 15, 2015 by Professor BM Hegde.

In the realm of auto healing, everything that happens has a reason but our reasoning might not be able to unravel many such happenings. In quantum physics it is known as 'haps'. Quantum physics, which turned conventional solid state physics upside down, has an important principle which states that "thoughts determine reality". In the classical age-old Upanishads this is known as *Yat Bhaavam Tat Bhavathi*, the Sanskrit version of the above principle. The observer's awareness determines the behavior of energy at the quantum level. Recently the experiments by Dean Radin have confirmed this principle.

The mind cannot be confined to the brain. The mind is the canvas on which our thoughts are projected (*Vikshepa*) and is a part of our consciousness. Our body is the holographic projection of our consciousness. Therefore we should have complete control over our bodies if we try and have genuine intention to heal. Electrons under the same conditions would act like particles and at other times switch to act like waves (formless energy depending on what observer expected was going to happen). Whatever the observed believed would occur is what the quantum field did. Quantum physicists have such difficulties in dealing with, explaining and defining the quantum world. Are we not the masters of creation as we decide what manifests out of the field of all-possibility and into form?

Just as an atom has the blue print of a molecule to rebuild it, the human mind has a blue print of the human body. When the body needs to be rebuilt differently the mind could do that each time we oscillate between energy (formlessness) and particle (it happens innumerable

times in a second). We should have total control over what we want with our attention to manifest out of the energy field the next moment. It depends on our belief and feelings to an extent. Even an atheist could do that when he is in trouble as he will hang on to the last straw while drowning.

Quantum healing is what when your own volition can make it happen during the oscillation between matter and energy to rebuild the damaged part. This needs the level of consciousness when one is very tranquil. This is where meditation and such activities have therapeutic value. Studies have shown mindful meditation can even lengthen the telomeres which otherwise shorten with age. They are shown to even change gene penetration by altering the environment needed for it. Epigenetic brings evolution closer to human consciousness. Auto healing, akin to quantum healing, brings one back to normalcy. This alone can be called cure.

Towards the middle of last century, Bhagawan Ramana Maharshi strongly propounded that 'we are not our body'. He amply demonstrated this by undergoing Cancer surgery without a dose of anesthesia!

We might have to elevate our consciousness (mind) to that level, where we get an insight to heal ourselves. Recently, in her book *Molecules of emotion*, Candace Pert, who showed for the first time that opiate receptors are outside the brain too, predicted that the time is not too far when we get a headache, we will have to sit in a quiet corner to meditate to elevate our consciousness to get total relief from headache instead of consuming the so called pain killer pills.

In fact, what we know can be held in the palm of one's hand, while what we do not know comes to the size of the universe. Western reductionist science admits that only 5 percent of this world's energy and matter are known to humanity. The remaining 95 percent is still occult.

Quality life implies that the person is living and not just alive. Quality healthcare, when necessary, is a strong contributory factor. This includes healthcare for all ages, at a reasonable cost burden- maternal, paediatric, general and geriatric. Ensuring this is the responsibility of the hospitals and health-providers, both public and

private with strong Government regulations which are strictly applied.

On the personal front, removal of negativity of thoughts is the first step. This should be followed by positive thinking, whose power can never be overestimated. Somebody put this nicely when he said whatever is your blood group, you have to be positive (B +)! The healthcare personnel can and should provide direction to the patients in this regard.

### **Related miscellaneous issues**

#### ***Painless end eludes too many***

With October 10 being observed as World Hospice and Palliative Care Day with the theme 'Hidden Lives, Hidden Patients', experts assert that the goal of palliative care is to prevent and relieve suffering and improve the quality of life for those facing complex illnesses.

A whole range of holistic tools are used to manage the patient's physical symptoms, emotional distress, social and spiritual needs and also helping the families cope with the stress of illness. But not many are fortunate enough to get the care. For example, in Karnataka State hardly 5 percent of patients gets palliative care. A majority of those deprived include persons living with HIV, homosexuals, trans-genders and even prisoners.

#### ***Passing into the dusk gently***

Living in dementia is a traumatic experience for both patients and care givers. The families have to cope up with the reality of watching a loved one slip away slowly into a world of forgetting. This cannot be cured but it can be slowed. Getting help early is crucial to make life easier for patients and families. The crucial linked that is often missed is that although dementia occurs mainly in older people it is not a normal part of ageing. Some amount of forgetting can be dismissed, but when it begins to affect everyday living it becomes a problem.

Help needed varies with the stage of illness. It could include skill building, psychotherapy, group interventions, psycho-education and counseling for the patient, training awareness building and support groups for the care giver.

Love, it has been said, is about shared memories. And life is a chain of remembered actions. With fading memories, these links break. Dementia patients forget the words with which to identify objects and tasks forget the faces, forget why and how to bathe or button up a shirt. Families can only help by going easy, staying aware of how the disease is eating away the brain a specific help normalize the situation.

#### ***Diet supplements harmful***

A large new study in the United States federal government has found that injuries caused by dieting supplements lead to more than 20,000 emergency room visits a year, many involving young adults with cardiovascular problems after taking supplements marketed for weight loss and energy enhancement. The study is the first to document the extent of severe injuries and hospitalizations tied to dietary supplements, a rapidly growing industry.

#### ***Patient as a customer***

In the rapetics, the trend of looking upon patient as a customer has set in. Most people turn to private hospitals, for relief and healthcare wherever affordable. Men of medicine earn more from referrals and diagnostic tests than consultations. The malpractices currently espoused by private medical centers include, for example, performing unnecessary procedures and surgeries, referral cuts, commissions, acting on the wishes of drug companies.

In contrast to overemphasis of health practitioners on medications and diagnostics, the Indian system of medicine enshrined in Ayurveda and other scriptures treats the mind-body-sprit balance as key to staying fit. Considering human body in taking care of health the Bhagavadgita linked it to religion. The UN has recognized that Yoga provides a holistic approach to health and well-being and declared June 21 as International day of Yoga.

#### ***A case study***

The RMD (Rasiklal Manickchand Dhariwal) Ayurvedic Hospital located at Waghaldhara at a distance of about 18 kms from Valsad, Gujarat State, provides holistic treatment for cancer, based on Ayurvedic principles.

The main focus is on use of Panchagavya, which is a processed mixture of 5 products derived from the cow. These are dung, urine, milk, curd and ghee, which are mixed in specific proportions to make up panchagavya, through a systematic process.



The hospital has a 60-bed capacity. The patient and an attendant are provided free food and accommodation in addition to medicine for the patient during a eleven days treatment period. The attendant is often one of the children or spouse of the patient (who else can be better!). The daily routine during this period of stay in the hospital consists of a systematic schedule. It starts at 5.00 Am and extends up to 9.00 Pm. The important activities are synchronized using the system of bell ringing. This includes three sessions, each of about one hour: (a) *Yoga and Pranayaam* (b) *Informative lecture and discussion* (c) *Bhajans and prayer*.

In the discussion classes, the participants are clearly demonstrated about *Panchagavya*, its 5 bovine components and method of preparation together with

its cancer dissuading properties. Also details of *Patya* and *Apathya* (Usable and non-usable) food components are given threadbare. The desirable and food include barley, green gram and unpolished rice. So also the gourds (sweet and ash), snake gourd, pumpkin, bitter gourd is among desirable vegetables, while pomegranate and papaya are highly recommended fruits. Use of tulsi water is suggested throughout. Dry fruits like grapes, fig, almond, apricot, dates and pista are edible, while cashew is not recommended. Cinnamon, coriander leaf/grain, turmeric, ginger and cloves too are very helpful. Use of citrus fruits is to be avoided.

In the Yoga and pranayama sessions, emphasis is given to *kriya pranayaama*. Techniques are taught by which breathing can be streamlined and controlled, as well as oxygen (*pranavayu*) intake is optimized. These techniques are practiced daily morning for about an hour.

The doctors come on two check-up rounds daily, once in the morning (9 am) and again at night (9 pm). For emergencies they can be reached any time. Medicines are dispersed by the nurses from time to time. The rooms for patients are for two of them along with the two attendants, with attached bathrooms facility. There are two separate dining halls for patients and the attendants, the latter enjoying a more liberal menu.

There is very good ambiance in the setup. The occupants have complete mutual trust (even though they are mutual strangers), so much so that no room is ever locked.

The evening Bhajans which last for about an hour are conducted by the hospital staff. The participants too can sing devotional songs. Also the participants who have completed their treatment course are given an opportunity to speak briefly.

There is a strict regimen of food and Ayurvedic medicines. The hospital has modern facilities and kind hearted, compassionate doctors and support staff. The setting is celubrious and has a lot of greenery spread over 10 acres of land. There are more than 350 cows in the *Goshala*, which provide the components for the *Panchagavya*.



The candidate stayed here as an attendant for 11 days, period for a lung cancer patient (Oct 20-30, 2015). As cancer is an alluring killer disease, it was chosen for the case study. The patients are admitted throughout the days of the week (except on Sundays) in this hospital. Data were collected from 35 patients. A standardized questionnaire was employed, which had about 74 questions covering demographics and other treatment details and perceptions of service quality (copy enclosed). Each questionnaire needed an average of about 25 minutes for filling up. Also the candidate interacted with more than 100 persons on the various issues involved in the quality and effectiveness of cancer treatment. It is noted that the respondents are spread over several states of India: Gujarat, Rajasthan, Uttar Pradesh, Bihar, Maharashtra and Karnataka. There is a mix of men and women, a wide spectrum with respect to age (12 yrs to 82 yrs) and household income (low, middle and high). Cancer makes no discrimination over these factors.

The hospital has a homely environment and commendable hospitality. By and large, all the patients expressed their extreme satisfaction with the arrangements in the hospital and the system of cancer treatment used here. The effectiveness of treatment may be inferred from the fact that several cases of advanced stage of cancer, whom doctors had predicted only a few days of balance life, went on to live for several months and that too in a healthy manner. The treatment is holistic, though it calls for concerted effort for a considerable period of treatment, which extends after leaving the hospital. On the positive side, the undesirable side effects of allopathic treatment are totally absent. The common adverse effects of treatments like chemo or radiation therapy include taste and appetite loss, vomiting and extreme fatigue. The Ayurvedic treatment is bereft of any of these effects which cause serious discomfort and loss of enthusiasm in life.

The smoothness and acceptability of the treatment system are amply indicated by three pointers:

- a) The patient who gets admitted here only very rarely leaves in the middle of the 11 day period, truncating the stay. On the other hand, several patients extend their period of stay.

- b) The senior patients (the ones admitted a few days earlier) are noted to speak good about the systems to the newly admitted persons, conveying highly positively to them.
- c) The information about the hospital spreads through the *word of mouth*, satisfied patients reaching out to new ones. The hospital does not canvass or use any marketing strategy.

In sum, the holistic Ayurveda system inhibits cancer (uncontrolled growth) in humans by ensuring adequate supply of oxygen to the body through pranayama, panchagavya (except for blood cancer cases) and other herbal medicines, judicious choice of food items (pathya) and creating positive energy (positive thought). A desire to die is turned into a strong desire to live; this is a lot of change, with 180 degree change of direction. A south bound train is now steadily bound northwards.

The findings of the case study are displayed as tables. This is followed by a relevant discussion.

| Distribution by Age |                    |
|---------------------|--------------------|
| Age (years)         | Number of Patients |
| Less than 20        | 1                  |
| 20-29               | 3                  |
| 30-39               | 4                  |
| 40-49               | 5                  |
| 50-59               | 11                 |
| 60-69               | 6                  |
| 70-79               | 3                  |
| 80-89               | 2                  |
| 90-100              | 0                  |
| <b>Total</b>        | <b>35</b>          |

| Distribution by Sex |                    |
|---------------------|--------------------|
| Gender              | Number of Patients |
| Male                | 21                 |
| Female              | 14                 |
| <b>Total</b>        | <b>35</b>          |

| <b>Distribution by Income Group</b> |                           |
|-------------------------------------|---------------------------|
| <b>Income</b>                       | <b>Number of Patients</b> |
| Below 5 lakhs                       | 17                        |
| 5-10 lakhs                          | 16                        |
| 10-15 lakhs                         | 2                         |
| 15-20 lakhs                         | 0                         |
| 20+ lakhs                           | 0                         |
| <b>Total</b>                        | <b>35</b>                 |

| <b>Distribution by Type of Cancer</b> |                           |
|---------------------------------------|---------------------------|
| <b>Type of Cancer</b>                 | <b>Number of Patients</b> |
| Bladder Cancer                        | 3                         |
| Bone Cancer                           | 2                         |
| Brain Tumors                          | 3                         |
| Breast Cancer                         | 5                         |
| Cervical Cancer                       | 2                         |
| Esophagus Cancer                      | 2                         |
| Gallbladder Cancer                    | 2                         |
| Kidney Cancer                         | 2                         |
| Leukemia                              | 2                         |
| Liver Cancer                          | 1                         |
| Lung Cancer                           | 3                         |
| Malignant Mesothelioma                | 1                         |
| Oral Cavity Cancer                    | 3                         |
| Salivary Gland Cancer                 | 1                         |
| Small Intestine Cancer                | 1                         |
| Stomach Cancer                        | 2                         |
| <b>Total</b>                          | <b>35</b>                 |

| <b>Distribution by State of Normal Residence</b> |                           |
|--|---------------------------|
| <b>State</b>                                     | <b>Number of Patients</b> |
| Andhra Pradesh                                   | 1                         |
| Bihar  | 1                         |
| Gujarat  | 18                        |
| Karnataka  | 3                         |
| Maharashtra                                      | 7                         |
| Punjab   | 1                         |
| Rajasthan  | 1                         |
| Uttar Pradesh                                    | 2                         |
| Tamil Nadu                                       | 1                         |
| <b>Total</b>                                     | <b>35</b>                 |

The patients\attendants were asked to express their perceptions about cancer treatment for 63 items (questionnaire appended) in a Likert scale of 1 to 5. A quick summary given below shows a satisfactory average of above 2.5, with a small range (0.78). This reflects a highly satisfactory opinion scenario of the patients about this unique institution in Gujarat.

**Overall perception score average** **2.80**

**Range = (Highest – Lowest) Average** **0.78**

**Coefficient of range = Range/ (max + min)** **0.13**

### Enumeration

All ailments (except external injuries) are said to be psychosomatic with strong mind-body connection. Thus logically a faster curing process should get originated in the mind. This applies to healing of external injuries too. This fact brings to the centre stage the concept of positive thinking and its stronger manifestation in auto-healing. The tools of Yoga, Pranayama, Prayer and Meditation are logical, systematic and scientific tools in this set up, directly streamlining the thinking process. Prayer leads to a communion of the spirit between people-we transcend our body and become a part of the cosmos. Prayer is a binding force.

The case study reported here provides a practical illustration. A few recent advances in medicine are outlined with a potential bearing on improvement of healthcare quality.

### References

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