Transcending The Heart Disease...

Summary, Conclusion And Recommendations
Concepts of health and illness stand at the core of social values of human society because they give expression to many of our fundamental assumptions about the meaning of life and death. Thus the physiology of the body when affected makes it impossible to extricate physical bodily experiences from their socio-cultural contexts. The ways in which we think, behave and live habituates our bodies as well. When afflicted with disease and illness, these socio-cultural beliefs and practices form the background in which the individual responds to this new situation in which he is placed.

Individual perception, interpretation based on past experience, learned patterns of coping and local explanatory models, as well as the personal virtuosity of metaphor are all brought to bear on the experience of illness. Thus, illness experience becomes a site for the enfolding of the social world onto the body – but in a way that interacts complexly with, rather than effacing, the contingency of individual lives.

Unlike the common cold, a broken bone, or a minor injury, a chronic condition created by a disease, affects nearly every aspect of a person’s life for a substantial period of time. Diseases such as diabetes and heart ailments are life long afflictions, which force a person to make lifestyle changes. AMI, more commonly known as Heart Attack is one such disease due to which, the quality of life of an individual is greatly affected. The heart is mainly made up of muscle (the myocardium) and pumps blood around the body. The heart muscle needs a good blood supply to work well. Blood to the heart is supplied by three main blood vessels called the coronary arteries. These coronary arteries branch into many smaller arteries, which take blood and oxygen to the whole heart.

In an acute myocardial infarction (AMI or heart attack), a coronary artery or one of its branches is suddenly blocked. The part of the heart muscle supplied by this artery thus, loses its blood and oxygen supply. The part of the heart that does not receive oxygen begins to die, and some of the heart
muscle may be permanently damaged unless the blockage is quickly undone. This blockage usually occurs due to a blood clot (thrombosis), which forms inside a coronary artery or one of its branches. The clot blocks the blood flow to a section of the heart. Blood clot does not usually form in normal arteries. It usually forms if the artery has fatty lumps or plaques (atheromatus) on the inside.

Atherosclerosis is a gradual process in which plaques (collections) of cholesterol are deposited in the walls of arteries. Cholesterol plaques cause hardening of the arterial walls and narrowing of the inner channel (lumen) of the artery. In many people, atherosclerosis can remain silent (causing no symptoms or health problems) for years or decades. Atherosclerosis can begin as early as the teenage years, but symptoms or health problems usually do not arise until later in adulthood when the arterial narrowing becomes severe. Smoking cigarettes, high blood pressure, elevated cholesterol, and diabetes can accelerate atherosclerosis and lead to the earlier onset of symptoms and complications, particularly in those people who have a family history of early atherosclerosis. Occasionally the surface of a cholesterol plaque in a coronary artery may rupture, and a blood clot forms on the surface of the plaque. The clot blocks the flow of blood through the artery and results in a heart attack (AMI).

Acute MI may have unique manifestation in individual patients. The degree of symptoms ranges from none at all to sudden cardiac death. An asymptomatic MI is not necessarily less severe than a symptomatic event; but patients who experience asymptomatic MI's are more likely to be diabetic. Despite the diversity of presenting symptoms of MI, there are some characteristic symptoms. The onset of symptoms in myocardial infarction (MI) is usually gradual, over several minutes, and rarely instantaneous. Although chest pain or pressure is the most common symptom of a heart attack, heart attack victims may experience a diversity of symptoms that include: Pain, fullness, and/or squeezing sensation of the chest, Jaw pain, Shortness of
breath, Nausea, vomiting, and/or general epigastric (upper middle abdomen) discomfort, Sweating, Heartburn and/or indigestion, Arm pain (more commonly the left arm, but may be either arm), Upper back pain, General malaise (vague feeling of illness)

An acute myocardial infarction is usually a sudden, unexpected event, which is life threatening and causes great distress and fear of immediate death. A crisis of such a nature requires major psychological and social readjustment. Immediately after an AMI, most of the individuals tend to pass through several stages of fear, anger, denial, anxiety, depression and resentment. Not all individuals respond in similar ways and variations are generally there in coping with the threat to life. This pattern of behaviour is considered as 'normal' and is unconsciously adapted by majority of individuals for successful adjustment and recovery following a life-threatening event. But some individuals go through a rather long period of morbidity. They tend to have prolonged levels of anxiety, depression or denial, which may prevent them from adopting the recommended lifestyle changes.

Medical treatment of chronic conditions is directed at both the alleviation of symptoms and, if possible, the prolongation of life. As cure is often not possible, the goals of therapy are also to limit the complications of the disease process-both medical and symptomatic so that life may be comfortable, functional and satisfying. This is an important concept, since prolongation of life may lead to an inadequate quality of life, in which case the lengthened life may not be an acceptable endpoint of therapy for the patient or for their closest relatives, friends and supporters.

The present exploratory, intensive study was undertaken which looked at various dimensions of Quality of Life which are a part of an individual’s life prior to and after an AMI. Rehabilitation status was thereby assessed on the basis of these dimensions. The present study which was primarily an exploratory one was undertaken with the following objectives:
1. Assess the socio-demographic profile of the respondents suffering from an acute myocardial infarction.

2. Understand the doctor’s diagnosis ascertaining the cause of heart attack and also the cause of myocardial infarction as perceived by the respondent.

3. Determine into the respondents’ level of awareness regarding heart disease and their attitude and expectations thereof.

4. Discern the process of rehabilitation -- quality of life adjustments made by the respondents after an acute myocardial infarction.

5. Look into the return to work pattern of the respondents after an acute myocardial infarction.

6. Establish the incidence and factors predicting psychosexual behaviour patterns of the respondents after AMI.

7. Another important objective of this study was to indicate which variables are most powerful in determining quality of life, vocational and psychosexual adjustment after a myocardial infarction.

Literature reviews helped the researcher gain knowledge into the quality of life and rehabilitation status of patients in other populations and also find out which determinants were more powerful in determining non-rehabilitation in other countries. A total of 100 respondents with a diagnosis of an acute myocardial infarction and their spouses were enrolled for the study.

The data was collected in three stages,

- In hospital, within 5 – 15 days of the myocardial infarction [T1],
- Three months after discharge from the hospital [T2] and
- One year after discharge from the hospital [T3].

Two of the respondents passed away after T1 and one respondent passed away after T2, thus the difference in the number of respondents at T2 and T3. The results and the percentages calculated thereof are based upon the number of respondents who were alive at the given time.
Purposive sampling technique, which is a form of non-probability sampling, was used for the present study. Interviewing technique was used to gather information from the respondents and their wives with the help of an interview schedule. Case history method was also used to obtain an intensive insight into the patterns of the respondents’ behavioural changes and rehabilitation status. The case histories were recorded over a period of time. This provided qualitative information to substantiate the quantified data. The SPSS, a specialized Statistical Package for the Social Sciences was used for analysis, which enabled the researcher to perform various statistical procedures like frequency distribution and cross tabulations. Univariate modeling and graphical analysis was done with utmost ease and convenience.

MAIN FINDINGS

The main findings of the study are as follows:

Medical Status

- Large majority of respondents in the present study had near normal LV function at one year after AMI and were in functional class II. Minority of the respondents had inducible ischemia as demonstrated by positive treadmill test and required revascularization. They did not have any symptoms to interfere in their normal day-to-day life. More than three-fourth of the respondents (82%) had suffered a mild heart attack (Killip Class I) making it easier for them to recover and go on to lead a healthy life. Thus, a significant majority of respondents enjoyed a reasonably good health as per the parameters set for the present study suggesting thereby, that they should have made complete recovery and achieved complete physical, social, psychological, sexual and vocational rehabilitation.
Socio- Demographic Profile

- In the present study, nearly half of the respondents (43%) were in the age group of 51 to 56 years. One fourth (26%) were in the age group of 46 to 50 years, 18% respondents were in the age group of 41 to 45 years. Only 4% respondents were in the age group of 36 to 40 years. 9% of the respondents were in the age group of 30 to 35 years.

- 7% of the respondents were illiterate, while more than three fourth (40%) of the respondents had studied up to high school, 7% of them had done an additional diploma. 13% of the respondents had studied up till class twelfth. 14% of them had done graduation only. Only 8% had done an additional diploma along with graduation. 11% of the respondents had attained some professional degree.

- Nearly one third of the respondents (31%) were manual physical workers. Little over one fourth (28%) of the respondents, were government servants. 12% of the respondents had a small business of their own or had a junior level private job. Only 3% respondents were professionals and 11% of them were on managerial posts. Another 6% of the respondents were in teaching profession. There were 9% respondents who had an industry of their own.

- There were a little above one fourth (26%) respondents who were earning between rupees 500/- to rupees 2000/- per month, 17% respondents were earning between rupees 2001/- to rupees 3500/- per month and another 17% respondents were earning between rupees 3501/- to rupees 5000/- per month respectively. 14% respondents were earning between rupees 5001/- to rupees 6500/- per month, 12% respondents were earning between rupees 6501/- to rupees 8000/- per month, and only 8% respondents were earning between rupees 8001/- to rupees 9500/- per month. 4% respondents were earning between rupees 9501/- to rupees 11,500/- per month, one respondent was earning between rupees 11,501/- to rupees 13,000/- per month and another respondent was earning between rupees 13,001/- to rupees 15,000/- per month.
• Nearly half (48%) of the respondents had spent their initial years in a village and nearly one third (30%) of the respondents had spent their initial life in a town. Only around one fourth (22%) of the respondents had lived in a city initially.

• Nearly three fourth of the respondents (73%) belonged to urban area. Only a little over one fourth (27%) of the respondents were from rural area at the time of having an AMI.

• A sizable number of respondents (86 %) were living in a nuclear family. There were only 14% respondents living in a joint family set up.

• Nearly one third of the respondents (30%) had four dependents; A little over one fourth (26%) of the respondents had three dependants; a little less than one fourth of the respondents (20%) had two dependants, 10 percent of the respondents had only one dependent; while fourteen respondents had 5 to 7 dependents.

Smoking and Dietary Habits

Emotional and behavioural disorders are more common than ever before among the youth today. Smoking is a behaviour that is learned by imitating others in the social milieu. Without question, the most important factor in the imitation of smoking by teenagers is sociological issues like peer pressure and the consistent strain of having to confront problems such as intense competition. Parental pressure adds to this and increases feelings of insecurity and anxiety to achieve their goals. The addiction to smoking is viewed as harmless and a safer option when compared to “hard” drugs.

Smoking produces relaxing, stimulating, or other pleasurable or rewarding effects in the user. Cigarettes become a crutch to support stress, a weapon to fight anger and frustration, and a means of enhancing pleasure. And for many, smoking becomes not merely a habit, but a very strong addiction to nicotine. The resulting dependence on nicotine – both psychological and physical – is responsible for the persistence of the cigarette habit even in smokers who know that it may be (or is) harming their health.
Smoking, high cholesterol, high blood pressure, and physical inactivity are all risk factors for coronary artery disease that can be modified and in some cases eliminated with lifestyle changes and medication. Diabetes and obesity can sometimes be prevented when lifestyle changes are made early.

The “Western” trend is now hitting Asia. Convenience food, which simply means food that can be obtained and eaten quickly and is reasonably inexpensive, is seen as more convenient. Exposure to global lifestyles is changing the dietary habits of Indians as well. Most of them are forgetting the benefits of vegetable-based foods and are going ga ga over non-vegetarian stuffs. As meat assumes an exaggerated importance nutritionally, it is time to promote the fact that one need not eat meat to attain physical power.

Alcohol cannot be called a food, for it enters the alimentary canal and is not changed or digested in any way. It is quickly absorbed in the bloodstream and then travels to every part of the body adversely affecting vital organs like brain, liver and the heart. Alcoholism is the term that refers to addiction to alcohol. It is a chronic disorder, in which a person is unable to refrain from frequent and excessive consumption of alcohol for physical and psychological reasons. Alcoholism results from intemperate drinking. A person generally takes to alcohol drinking as a means to enliven social life, to overcome anxiety or to induce sleep. He becomes an alcoholic if he gets dependent on alcohol physically or psychologically. He resorts to heavy drinking because of his maladaptive ways of dealing with life’s stresses. Alcoholism is the leading cause of liver damage and also causes cancer, obesity, ulcers and irregular heart beat. Alcoholism is one of the serious social problems as well. It often brings with it poverty and certain amount of crime. It results in material unhappiness and broken homes.

Scientists have proved that there is a link between vegetarian lifestyle and risk reduction of diseases and conditions such as obesity, coronary heart disease, hypertension, diabetes etc. vegetarianism seems a simple and highly
satisfying option for escaping a few more of our modern dietary ills. High fat diets have been a clear enemy of current health problems. Unless one is adamant and determined to have every dish dripping in ghee, it is almost cent percent assured that a vegetarian diet would offer a fast and tasty pathway to consuming dietary fat at healthy levels.

Ironically, while Indians are shedding their vegetarian practices, the West is embracing it with increasing ardor. There are clear evidences that human body is not for flesh eating. Meat adds to the burden to the organs for eliminating waste and also overloads the body system with animal waste and poisons.

- Almost half of the respondents were non-smokers (49%). Out of the other half (51%) of the respondents who were smokers, 3% respondents smoked up to five cigarettes per day; 7% respondents smoked between six to ten cigarettes per day. 18% respondents smoked eleven to twenty cigarettes per day. There were initially one fourth (23%) of the respondents who smoked more than twenty cigarettes per day. At the time of third follow-up, two thirds of the respondents had stopped smoking. Those respondents, who continued to smoke even up to one year after the AMI, had reduced the number of cigarettes they used to smoke.

- Nearly half of the respondents (42%) did not consume alcohol. 16 respondents drank occasionally, 9 were social drinkers and there were 7 respondents who were regular mild alcohol drinkers. 12 of the respondents consumed alcohol regularly, but in moderation. There were 14 respondents who were heavy drinkers and used to drink heavily on daily basis. By T2, more than three fourth (77.6%) of the respondents had stopped drinking alcohol. But by T3, it was nearly two third (61.9%) of respondents who abstained from alcohol.

- A little above one fourth (28%) respondents were purely vegetarian, half (50%) of the respondents were predominantly vegetarian and used
to consume non-vegetarian food only occasionally. There were almost one fourth (22%) respondents who were predominantly non-vegetarian. Three months later, more than three fourth of the respondents had continued to be pure vegetarian. All these 78.6 % of respondents did not adhere to a pure vegetarian diet for up to one year. But still more than half of the respondents (58.8 %) continued to follow a pure vegetarian diet. The number of respondents, who were predominantly non-vegetarian before having an AMI, went down from 22 % to only one percent at one year.

- More than one third (41%) of the respondents reported using vanaspati ghee as a cooking medium in their homes. Another one third (32%) used pure ghee for cooking food and one fourth of the respondents (24%) used refined oil. Only 3% respondents used sarson oil for cooking. Three months later, almost all (94.9%) had started using refined oil for cooking food. These figures remained almost the same by one year.
- Two third of the respondents (68%) were regular in taking all three meals in a day; nearly one third (31%) of the respondents took two meals in a day and only one respondent was taking a single meal daily. Up till one year later, a majority, 88.7% of the respondents had become regular by eating three meals per day. Only 11.3% of the respondents continued to eat two meals per day.
- By one year, more than half of the respondents had completely changed the type of food they used to eat before having an AMI. Nearly one third of the respondents (29.9%) had slightly altered their food habits but 12.4% of the respondents had not changed the type of food they were eating before having an AMI.

There was a healthy change as far as the smoking, alcohol consumption and dietary habits were concerned.
The fact of attributing a specific cause for a disease has come to be a valuable tool in diagnosing and treating diseases. But many of the health problems today do not yield to a simple explanation in terms of specific or a single cause. Multiple-causation has become a more familiar concept in the theoretical framework of the diagnostician. When the impact of the social environment in the etiology of disease is considered, the assignment of a direct cause is often difficult. While understanding the causes (risk factor) of AMI, it is difficult to ascertain only one particular cause. Generally, it is a host of causes, interplaying at varying levels that lead to heart disease. Heart attack may also occur in the absence of any risk factor. According to medical science, most common modifiable risk factors for coronary artery disease have been identified as (i) Smoking; (ii) Hypertension; (iii) Hyperlipidemia (high blood cholesterol); (iv) Diabetes; (v) Obesity and (vi) Physical Inactivity. Added to these are - Behaviour patterns, Stress, Anxiety, Depression and Life events. For the present study, the doctor attending to the patient was asked to specify three probable causes for the patient’s myocardial infarction in order of priority.

- Among the medical reasons for AMI, smoking emerged as one of the major causes of AMI. In almost half (45%) of the respondents, smoking emerged as the primary cause. This was followed by diabetes in 15% of the respondents, Hypertension in 10% of the respondents, obesity in 10% of the respondents, family history in 4% of the cases, and hyperlipidemia in only 1 case. These or a combination of these factors may have contributed to the development of heart disease. However in fifteen percent of the cases none of the medical causes could be discerned.

Not just the biological, but social, cultural and psychosocial factors also play a vital role in the development of heart disease. Behaviour, stress,
anxiety, depression and life events have all been found to play a part. They may be partly responsible for causing the disease, they may aggravate its symptoms, they may accelerate its progression and they may worsen its prognosis. In addition, the result of excessive stress, anxiety and depression are unpleasant for the patient and retard his recovery. What people believe about their illness may effect how they cope with it. In the present study, respondents were asked to specify his perception about the cause of AMI.

- The patient’s perception of the cause of AMI reveals that destiny, which emerged as the primary cause was specified by one fourth of the respondents (24%). This was followed by family stress (19%), work related stress (16%), smoking (12%) Physical overwork (8%), economic stress (8%), obesity (6%), Family History (4 %) and personal stress was specified by only 3 % of the respondents. Despite more than half of the respondents being smokers, smoking as a cause for AMI was specified by 12% of the respondents only.

The patient perception is however at variance with the medical and scientific reasons.

**Awareness, Attitude, Denial and Expectations**

Patients’ attitude towards illness, his perception about illness and the cause of illness, perception of his own health and presence of psychiatric symptoms are said to be important variables that affect optimum rehabilitation of the patient after an acute myocardial infarction. Motivation to adhere to doctor’s advice and prescribed medication is strongly influenced by the individuals’ understanding of the disease.

The way a person is brought up, through the situations they encounter and the views they are exposed to are key factors in the development of attitudes and beliefs. There is some evidence that attributions concerning the cause of a disease or its prevention may antecede health-preventive behaviours. Since attributions are thought to enable individuals to feel in
control of their environment, attributions made to the self may be more adapting rather than external attributions. Beliefs and attributions may also influence a person’s health or recovery from illness by their direct influence upon the physiological system. When self blame is associated with perceived control over recurrence or recovery, it may lead to a more positive adaptation. Health Locus of Control assesses whether the individuals believe that their health is under the control of others, for example, the doctors, under their own control or largely due to chance factors. In the present study, respondents’ awareness and knowledge about functioning of the heart and the occurrence of AMI and Angina was measured along with their attitude toward heart attack, Locus of Control, Denial and Expectations about life after a heart attack.

- At T1, three fourth (75%) of the respondents had poor knowledge while only 1 respondent had good knowledge about the disease at all three times. At T2, two third (65.3%) and at T3 a little over half (58.8%) of the respondents had poor knowledge. The number of respondents who had moderate knowledge about heart disease rose slightly from one fourth (24%) at T1 to be one third (33.7%) at T2 and (40.2%) at T3.
- At T1 half of the respondents (50%) had a negative attitude and were not optimistic about their way of life. This trend worsened as almost two thirds of the respondents (60.2%) by T2 and (61.9%) T3 had developed more pessimistic and gloomy attitude towards life.
- At T1, a majority (89%) of the respondents had external locus of control, whereas only 11 percent of the respondents had internal locus of control. Findings at T2 and T3 revealed facts that are worthy of note. More number of respondents started blaming “others” for their heart attack thereby meaning to be having an external locus of control. At T2, there were a significant majority (93.9%) of the respondents who had external locus of control. This number rose to 95.9 percent by T3.
- Immediately after the heart attack, almost half the respondents (45%) denied having a heart attack and tried to put a brave front. At T2 level
of acceptance was three fourth (74.6%) and by T3, this acceptance level in respondents increased further and was slightly more than three fourth (77.3%) thereby indicating that by one year, only around one fourth (22.7%) of the respondents denied their illness.

- Less than half (45%) of the respondents at T1 had an overall positive outlook towards life despite having had an AMI. This number reduced to be slightly more than one third (38.8%) at T2, but at T3 it again rose to be 44.3%. Those respondents who had negative expectations were a little over one fourth (27%) at T1, one fourth (24.5%) at T2 and (18.6%) at T3. The number of respondents who had moderately positive expectations at T1, was a little over one fourth (28%), and a little over one third at T2 (36.7%) and (37.1%) at T3 respectively.

The aforementioned details reveal that the respondents in the present study had considerably low level of awareness and knowledge of the disease. Added to this is their own sense of denial, locating locus of control to external factors and their reservations about a healthy life, making the road to rehabilitation an arduous task.

**Quality Of Life**

Reaction to illness is in part an individual psychological phenomenon based on adjustment to the anxiety induced by fear of death or fear of reduced function. Eventually, it’s the individual who has to face these anxieties on his own, for although others can help him, the core of his psychological world is himself. Reaction to illness at the same time is a social phenomenon, affecting the pattern of interrelationships between the ill person and others close to him, particularly his family. The demands and expectations that go with social roles are disrupted by illness, not only for the person who is ill, but also for those with whom he has reciprocal relationships. Individual and social reactions to illness do not exist apart from each other, even though they are separated for analytical purposes.
The notion of social development has been detached from the evolutionary hypothesis and has focused on the questions of the satisfaction of human needs and improvement in the quality of life. Some tentative formulations of the indicators of social development and human progress in the field of health and human survival as well as of the quality of life are beginning to emerge. The term quality of life is increasingly being used in different fields of health with different meanings. Although there is no consensus on the exact definition of QOL, it can be said that QOL is the measure of the gap between the individual’s expectations and his achievements. It is almost impossible to provide an exclusive definition because the QOL as perceived by the individual is complex, subjective and is influenced by a multitude of factors. Because the QOL concept is difficult to define, it is also difficult to measure it in a scientific way.

Quality of Life is an area of study that has attracted an ever-increasing amount of interest over the past two decades, particularly in the areas of health, rehabilitation, disabilities studies, and counselling services.

In quality of life research one often distinguishes between the subjective and objective quality of life. Subjective quality of life is about feeling good and being satisfied with things in general. Objective quality of life is about fulfilling the societal and cultural demands for material wealth, social status and physical well being. QOL may be defined as a subjective well-being. QOL reflects the difference, the gap, between the hopes and expectations of a person and their present experience. Human adaptation is such that life expectations are usually adjusted so as to lie within the realm of what the individual perceives to be possible. This enables people who have difficult life circumstances to maintain a reasonable QOL. The approach to the measurement of the quality of life derives from the position that there are a number of domains of living. Each domain contributes to one’s overall assessment of the quality of life. The domains include family and friends, work, neighborhood, community, health, education, and spiritual domain.
Quality of life is accepted as being important in cardiovascular disease, but there has been widespread skepticism about whether it can be measured in any meaningful manner. Many of the attempts to assess quality of life have relied on conceptually and psychometrically inadequate measures, measures that fail to cover the full impact of heart disease and its treatment on the lives of patients and their families. However, in terms of HRQOL (Health Related QOL), it has been felt that measures in cardiac patients should include symptomatic, social and psychological well-being which includes work, leisure, sleep, sexual activity and social participation.

**Social Quality Of Life**

The satisfaction derived from activities, relationships, moods or other states of being is a general component of quality of life that is essential for understanding how people behave, make choices, communicate with others, follow treatment regimens or accept the inevitable. The person who has the need is the only one who experiences the actual feeling that a need is satisfied. In addition to satisfaction with the physical, psychological and social well-being and social role performance, there are spiritual and material needs too, which need to be satisfied.

- Before the onset of disease, 15% of the respondents were socially highly interactive. Those who were moderately interactive at T1 were more than three fourth (79%), 70.4% at T2 and by T3, only two thirds (63.9%) of the respondents were socially moderately active. There were only 6% respondents who were not at all social in nature at T1. This number rose to be more than one fourth (29.6%) at T2 and at T3 there were one third of the respondents (36.1%) who had decreased their social interactions.
- Initially, a majority of respondents (81%) engaged less in leisure activities. Almost all respondents (95.9 percent) engaged less in leisure time activities at T3.
At the time of infarct, a majority of the respondents (83%) felt financially burdened. By T3, more than three fourth (76.3 percent) respondents still felt the brunt of additional financial expenditure because of medication and altered lifestyle. Only around one fourth of the respondents did not face financial problems, as their affordability was probably better as compared to others. The overall social QOL of almost all the respondents has thus, been hampered by the onset of the disease.

**Psychological Quality of Life**

Daily life offers ample empirical evidence of an intimate relationship between the psyche and the heart. Intense emotions such as anxiety, anger, and elation are accompanied by predictable increases in heart rate and blood pressure. A number of psychosocial, cultural and environmental factors increase the risk of heart disease, either independently or in combination.

There has been an increasing belief that the experience of stress has undesirable consequences for health. The experience of stress can alter the person’s emotional state, the way they think and behave, and can also produce changes in their physiological function. Many of these changes simply represent a modest dysfunction and possibly some associated discomfort. Many are easily reversible, although still damaging to the quality of life at that time. However, for some, and under some circumstances, it may translate into poor physical health.

Depression is important in itself because of the suffering it imposes. In addition, depression exacerbrates, prolongs and amplifies cardiac symptoms. There is a relationship between depression and myocardial infarction as higher levels of depression are associated with higher morbidity and mortality due to cardiac events, which are mainly caused by arrhythmias. In addition, depression engenders disability and role impairment, adversely impairs compliance with medical therapy, and is detrimental to cardiac rehabilitation.
Before having a heart attack, only two percent of the respondents had some form of psychological problems. Eight percent of them had moderate psychological problems and a majority of them (9%) of the respondents did not have any form of psychological problems. By T2, less than one-fourth respondents (14.3%) were psychologically more affected by the heart attack. Almost half (45.9%) of the respondents were affected in moderate levels and a little over one third (39.8%) were not psychologically affected in any manner at all. At T3, there was not much change in the percentage of respondents who had more psychological problems (16.5%). Those respondents who had moderate number of psychological problems were a little over one third (36.1%) and almost half of the respondents (47.4%) did not have any overall psychological problem.

Before having an AMI, 2% of the respondents liked to remain isolated, 9% of them had moderate feelings of loneliness at T1 and majority of them (89%) did not have any such problem. At T2, more than one fourth (26.5%) respondents had started feeling moderately lonely and two third of the respondents (65.3%) did not feel lonely. At T3, 23.7% of the respondents felt moderately lonely and there was a marginal increase in those who did not feel lonely.

Three fourth of the respondents (75%) were not anxious at T1. 12% of them were a bit more anxious in nature and 13% of them were slightly anxious. At T2, more than one third respondents (40.8%) were more anxious, another one third (34.7%) were moderately anxious and only one fourth (24.5%) of the respondents were not anxious after their AMI. At T3, the number of respondents who were more anxious went up a little to be 44.3% and those respondents who were moderately anxious were 32%. The percent of respondents, who were not anxious at all, remained the same as at T2. This indicates that with the passage of time, there is an increase in the number of respondents who become more anxious.
• Almost all the respondents (92%) were not depressed at T1. Only 8% of them were depressed. With the sudden onset and the chronic nature of illness, the number of respondents who were more depressed rose up to 14.3% at T2, and those who were moderately depressed rose up to more than one fourth (29.6%). The number of respondents who did not show any signs of depression was a little more than half (56.1%). At T3, the percentage of respondents in all the categories remained almost the same.

• Three fourth (75%) of the respondents were not irritable by nature before the onset of disease at T1. (17%) used to get irritated by small matters in moderation. Only 8% of the respondents were more aggressive in nature and would get irritated even on small matters. At T2 and T3, nearly half (43.9%) and 47.4% of the respondents became aggressive respectively, and would get irritated a lot for no real reason. More than one-third (41.8% at T2) and one third (32% at T3) respondents got irritated on small matters, but in moderation. Only 14.3% respondents remained calm despite their AMI. Nearly one fourth (20.6%) of the respondents were not irritable at T3.

• In the present study, three fourth of the respondents were alert and could take quick decisions when required before having an AMI. 18% of them were moderately alert and only 3% of the respondents would take longer in decision making and would generally remain lost in thoughts. By T2, almost half of the respondents (43.9%) were more alert as compared to more than one third (36.7%) respondents who were moderately alert. The number of respondents who were less alert was 19.4%. At T3, half the respondents were either moderately alert or less alert (25.8%) and (23.7%) respectively. Half of the respondents (50.5%) were more alert as compared to others.

• None of the respondents were disoriented before their AMI. By T2 and T3, more than half the respondents did not have problems of concentration (53.1%) and (55.7%) respectively. One third of the respondents had moderate levels of concentration problems at both the
levels (32.7 %) and (30.9 %) respectively. Less than one fourth or the respondents continued to be disoriented and had concentration problems right up to T3 (14.3 % at T2) and (13.4 % at T3) respectively.

- Majority of the respondents (85 %) enjoyed good sleep before having an AMI. Only 6 % had some sleep related problems. With the onset of disease, sleep pattern of one fourth of the respondents got disturbed and one fourth (25.5%) of them had sleep dysfunction at T2. This dysfunction continued well up to T3 (21.6%). The percentage of respondents, who were unable to sleep well or had very disturbed sleep, was 12.2% at T2 and 13.4% at T3 respectively.

- In the present study, only 4% of the respondents were more stressed out for some reason or the other before having a heart attack. 8% of the respondents had moderate levels of stress and more than three fourth (88%) of the respondents had no stressors at all. At T2, except for a little over one third of the respondents (38.8 %), all others had some amount of stress. About one third (37.8%) of the respondents had moderate levels of stress and just a little below one fourth (23.5%) of the respondents had high levels of stress. At T3, one fourth of the respondents were still under a lot of mental stress as compared to a little over on third of respondents (37.1%) who had moderate levels of stress. Another over one third of respondents (38.1%) respondents did not feel any pressures because of their AMI.

### Physical Quality of Life

A large number of patients recover physically from acute myocardial infraction. But, after an AMI, individuals may tend to be more cautious about physical exertion and are inclined to reduce it to a great extent. The individual is generally more anxious regarding his future health and may spend more time resting. Early return to physical activity, though, could lead to less pessimistic expectations of future physical ability and a rapid resumption of previous physical activities.
Almost all (99%) except one respondent had no physical problems before the onset of disease. At T2, they reported having problems in coping with their daily routine movements such as mobility and self care activities. Nearly half of the respondents (42.5%) reported to be having these problems in moderation. Whereas, 11.2% reported that they were finding it very difficult to move about by themselves and also feel restricted in driving and self care activities. Almost half (45.9%) of the respondents did not feel the need to depend upon someone else and were able to look after themselves. At T3, more than three fourth (83.5%) of the respondents had recovered physically from the impact of the AMI, and did not have any physical problems. But 15.5% of the respondents still felt physically incapacitated to some extent. Only one respondent reported to be still having problems coping with his day-to-day physical activities. Overall, a majority of the respondents had recovered by T3 and were enjoying a good physical quality of life.

Return to Work

Usually an adverse reaction to infarction is associated with poorer levels of compliance with treatment. However, the individual’s own subjective evaluation of his or her health is a greater determinant of his rehabilitation outcome and eventual return to work. Studies on patients after MI have revealed that the number returning to work, their rate of return, and their efficiency, when they do go back depends to a large extent on a variety of inter-related medical, demographic, psychological and social factors. Negative thought processes on the individual’s return to work emanate from his or her expectations. Negative expectations of return to work have been observed to be closely related to the patient’s initial reactions to the illness.

The individual’s return to work may be determined by a number of factors like age; number of previous infarctions and their severity; other chronic diseases; functional capacity and symptoms related to the demands of the individual’s job profile; the individual’s own perceptions of his or her
health status; socio-economic situation of the individual and his or her family; psychological factors; attitudes of the treating physicians; and also the attitudes of the employers and fellow workers.

A well-planned rehabilitating programme ensures for the individual an improved ability to deal with stress. While exercise programs may improve levels of fitness for work and enhance self-efficacy and psychological functioning, they may not be enough to prove effective in increasing return to work. Education and psychosocial support may have some additional effect, but can be ineffective unless return to work is a formal aim of cardiac rehabilitation.

For patients who had been previously employed [before the occurrence of the MI], their resumption of work signifies the end of the sick role period. Their return to work is consequently of major social, economical and personal significance.

- More than half (53.1%) of the respondents had returned to their previous vocation by three months. Just a little less than half (46.9%) were yet to go back to work at the time of the second follow-up. Nearly one fourth of the respondents (23.5%) were working at near normal levels at T2. More than one fourth (29.6%) of the respondents were working to a lesser extent as compared to before their AMI. Though almost half of the respondents (46.9%) were working much less as compared to their pre AMI status. By one year, a majority of the respondents (87.6%) had gone back to work. Only 12.4 percent of the respondents were not working even after one year. At T3, more than half of the respondents (56.7%) were working as much as before having an MI. Nearly one third of them (30.9%) still had some reservations and were working less as compared to before. There were 12.4% of the respondents who were working much less as compared to their pre AMI levels.
Sexual Assessment

Concern regarding subsequent sexual activity is highly prevalent in post AMI patients. Most individuals after an uncomplicated AMI can be expected to resume sexual activity in the absence of any symptoms. On the contrary, a relatively high percentage of individuals suffer a reduction in frequency and quality of sexual activity. Reasons for failure to resume 'normal' sexual activity post AMI appeared to be due to psychological factors which include anxiety, depression, fears of re infarction, fatigue. Concerns and fears develop after AMI and affect the patient and his spouse. It is not possible to study sexual activity merely as a physical activity as autonomic, psychological and emotional factors tend to accentuate the physiological reactions in a variable manner.

- As per the results of the study, at T2, only 9.2% of the respondents were back to almost the same level of sexual relationship they had before an AMI. Nearly half of the respondents (45.9%) had less than optimal relations and another almost half (44.9%) had even lesser frequency and satisfaction. At T3, only one fourth of the respondents (25.8%) were back to their pre morbid level of sexual activity and had near optimal relations. More than half of the respondents (62.9%) had less than optimal relations. Some of the respondents (11.3%) still had problems adjusting and their sexual life was affected to a large extent.

- Only 5% of respondents at T2 were back to the same level of sexual frequency as before the heart attack. 50% of the respondents had moderate change in the level of frequency of having sex after the heart attack. A little less than half (44.9%) of the respondents reported that there was a lot of change in their frequency of having sex. At T3, a little more than one third (40.2%) of the respondents reported that they were back to their previous level of sexual activity. Half of the respondents (51.5%) reported moderate reduction in the frequency of having sex. 8.2% of respondents reported that there was a lot of reduction in their frequency of having sex.
Only 19.4% of the respondents were satisfied with their sexual life at T2. A little over one third of the respondents (35.7%) were moderately satisfied with their sexual life after the heart attack. And almost half of the respondents (44.9%) were not satisfied at all with their sexual life after the heart attack. At T3, nearly two third of the respondents (60.8%) were satisfied with their sexual lives. A little over one third of the respondents (30.9%) were moderately satisfied. There were another 8.2% of the respondents who were not satisfied at all with this aspect of their lives.

More than three fourth of the respondents (81.8%) had fears about resuming sexual relations and had lots of apprehensions about it. Almost all of them reported to be scared of getting breathless, having chest pain or even having another attack. Only 18.2% of respondents did not have any fear about resumption of sexual activity. Individuals need to be counseled about resumption of sexual activities as they have a lot of unfound fears which are baseless.

A significant majority (82.6%) of the respondents were not given any advice regarding resumption of sexual activities after the AMI. Only 17.4% of the respondents received some kind of advice.

Quality Of Life of Spouse

The physical sequel of an AMI is restricted to the individual only but the psychological impact usually extends well beyond the individual. Often the individual’s partner manifests greater distress and their emotional responses may have a major influence on the eventual outcome.

Due to the suddenness of their partner’s illness, spouses face considerable distress during the immediate aftermath of an acute myocardial infarction. Spouses commonly experience feelings of anxiety, depression, recurrence, permanent incapacity and death particularly during the early days after the patients’ AMI. For some spouses, these feelings may continue through the convalescent period. They fear upsetting the patient if they make
any demands, and also fear that another heart attack may occur. By one-year, majority of the spouses feel that they have adjusted well to their new situation, but a minority of them are still, severely emotionally disturbed. After the AMI, a reversal of roles often takes place, with wives taking on more household chores and house maintenance. They also tend to play the primary support person for sometime in the relationship.

The main objective of spouses, faced with a life threatening cardiac illness, is to reorganize and stabilize the situation as the patient goes through the acute, transitional and recovery phases. Ability to cope effectively takes time.

- A little less than one fourth (23%) of the spouses of the respondents were illiterate while a little more than half (56%) of them had done schooling up to class twelfth. Twenty one percent of the spouses had acquired a higher degree.
- A majority (85%) of the spouses were not gainfully employed and contributed to household work, while 5 percent were professionals. Another 5 percent were employed in government service and yet another 5 percent were engaged in manual/skill related jobs.
- Almost three fourth (70%) of the spouses reported to have had undergone a lot of stress. More than one fourth (26%) spouses reported that they have had stressful moments but to a lesser degree. At T2, one fourth of the wives (25.5%) were still under a lot of pressure as compared to almost half (46.9 percent) of those who had moderate levels of stress. About one fourth of them reported to have recovered from the initial shock. At T3, more than half (61.9% ) wives had recovered from the initial trauma and reported that they felt better. More than one fourth (27.8%) of spouses were still going through tough times, though to a lesser extent as compared to 10.3% spouses who had major coping problems.
Rehabilitation

AMI continues to be a significant health care issue because of its prevalence. Death is not the only outcome of concern in heart disease. Many adults suffer AMI leaving them somewhat disabled over a longer period of time. Although they are still alive, the quality of their lives diminishes. As treatment options improve the survival rate, an increasing number of individuals have to learn how to adjust to this major life event and prevent its recurrence. The recovery process may be difficult to go through as many individuals experience emotional distress, fear of dying, family turmoil, fail to return to optimal work level, are also unable to return to their previous level of sexual activity when physiologically capable of doing so, and are also not psychologically capable of making the necessary dietary and lifestyle changes. They recoil from many previously enjoyed tasks and start leading sheltered lives.

Acute management strategies after AMI continue to be aimed at limiting the size of the infarct whereas, holistic approaches to the patient and family adjustment ought to target seeking prompt treatment when symptoms arise; psychological adjustment and stress education. Patient and family education and counseling for self-care and risk reduction are equally important. The most common approach to health status assessment is to measure morbidity in terms of role performance. Subjective well-being after a heart attack is just as much the result of effective stress management as it is the result of adaptive tasks linked to the creation of a life-space affording the promise of happiness and life satisfaction by considerable reduction of psychosocial morbidity to a reasonable level (Waltz M, 1986).

Psychosocial rehabilitation is a process that offers an opportunity for individuals suffering from a chronic disease, to reach their optimal level of independent functioning in the community. It involves both—individual competencies and also adapting to environmental and lifestyle changes.
Whereas for individuals, the goals of therapy are alleviation of symptoms, improvement in functional capabilities, limitation of the progression of disease, and a lessening of the psychological consequences of illness, there is also the significant secondary aspect of the increased emphasis on preventive care, where individuals may be ambulatory and asymptomatic until treatment brings about changes in symptoms and lifestyle.

Many patients after an AMI, do not receive information concerning appropriate action to be taken in case of any emergency. They are also not given enough information regarding lifestyle changes, appropriate care to be given, expected physical and psychological course of the illness, and also on sexual activity. In particular, wives desire to know more about diet—how to prepare more appropriate meals with less oil—about the level and nature of physical activity that is enough for their husbands. Many wives do not get adequate opportunity to discuss their fears and feelings. It is these individuals who need to be counseled back from their disabled state in to a healthier state of mind.

As well as facilitating recovery, cardiac rehabilitation programmes function as launching pads for secondary prevention of cardiovascular diseases. Education, counseling and behavioural interventions to promote lifestyle change and modify risk factors have become an increasingly important part of cardiac rehabilitation.

The respondents’ response and the process of rehabilitation have to be viewed in a cultural specific context. In our socio-cultural patterns of beliefs, attitudes and practices, disease is viewed as disabiling. It is a burden to the one who is afflicted by the disease and also a burden on the whole family. This ‘burden’ is not just in terms of emotional financial bearing, but it is a burden in social terms as well.
AMI, which is a life threatening ailment caused by disease of the coronary arteries, is one such disease that is viewed as disabling not only by the individual suffering from it, but by his family and the society as well. Though, once diagnosed and treated, followed by recuperation, an individual can lead a normal healthy life and actively participate in the group and society.

The present study was able to evaluate the quality of life of the respondents and their rehabilitation status thereof. Further research is required for policy making and interventions.

**Recommendations**

Formal, scientifically designed rehabilitation programmes need to be formulated for assisting the individual and his family to evolve methods and strategies to rebuild a healthy life. This programme can be administered at three levels

(a) *In-hospital health education and counselling*

*This can be carried out at*

(i) *At The Group Level. A group of patients and their caregivers can be brought together and provided with information regarding health care. This can be followed by an interactive session where everyone can clarify their doubts and ask questions.*

This will work both at the manifest and latent levels. At the manifest level the group will be provided with more information. At the latent level, it will bring a sense of belongingness to a group of similarly situated individuals and their families. This will enable each one to cope with their situation in a better manner.
(ii) At the individual level – this will enable the person to have a face-to-face interaction with the doctor and social worker. This process will lend a sense of confidence to the individual.

(b) Counselling at home – specially trained personnel to make at least one visit a week for six weeks. This process of visiting the home of the patient will help both the patient and his family in redefining meanings and behaviour patterns.

(c) Long-term follow-up counselling – this will ensure reassessment of medical and other advice being followed by the individual and his family.

These mechanisms are subtly therapeutic since they give a person a feeling of being cared for and that he is capable of leading a healthy life.

Counselling may include:

- An outreach programme to provide cardiac care to individuals at the doorstep.
- Awareness generation amongst the patients, and the concerned family/community and medical practitioners.
- Public education for the general masses; to educate people about the various aspects of cardiac diseases, their prevention and cure.
- The programme should envisage reaching to the remotest corner of the country and meeting the needs.
- Awareness and understanding of disease: Provide information about the normal functioning of the heart, myocardial infarction, treatment and management of myocardial infarction and the natural recovery process.
- To discuss anger, fears and anxiety in both patients and their spouses and develop skills for reducing these.
• To inform patients and spouses about stress and its effect upon the body.
• To instruct patients and spouse in relaxation methods and teach stress management techniques.
• To enable modification of type A behaviour.
• Convincing the individual and his family that he can lead a healthy life.
• Positive outlook to future expectations.

Counselling about life style changes

• Food
• Timely Medication
• Social interaction / Recreation
• Altering / changing unhealthy habits like smoking, drinking, irregular eating patterns
• Regulated life style
• Vocational Rehabilitation
• Sexual rehabilitation
• Psychological Rehabilitation
• Physical – regular walks and recommended exercise

Team comprising of a Doctor / councilor / Dietitian / Physiotherapist

Smoking, high cholesterol, high blood pressure, and physical inactivity are all risk factors for coronary artery disease that can be modified and in some cases eliminated with lifestyle changes and medication. Diabetes and obesity can sometimes be prevented when lifestyle changes are made early in life.

By identifying detrimental factors in the environment, the social worker/physician can help the patient find areas where change is possible or to cope with unchangeable aspects. This may prevent continuing stress, depression and adverse health consequences.
From this point of view, patient education and rehabilitation intervention should be implemented in medical care from the very beginning of an illness. Doing so could prevent convalescent phase psychological distress, invalidism and recurrence of coronary events. However, the acute physical and emotional stress may restrict the myocardial infarction patient’s ability to take in and retain information immediately after AMI.

The aim and goals of psychosocial rehabilitation should vary according to the individual’s needs, the setting where rehabilitation is being provided and the cultural and socio demographic conditions of the individuals to whom it is being provided. Intervention must be designed in such a manner that it is specific, systematic and educative. The patients’ perception of their own health may be more important than actual clinical severity of AMI and may bear little relationship to actual severity in determining morale and return to work. Simple ignorance may thus prevent return to work. The main objectives thus, of rehabilitating an individual should be to bring about improvement of individual’s own competence and creation of a long-term system of social support. It should include assistance in developing the social skills, interests and leisure activities that provide a sense of participation and personal worth. It should also teach living skills, such as personal hygiene, cooking, eating a healthy diet and also adapting to the altered lifestyle. Psychosocial rehabilitation would thus, enable many individuals to acquire or regain the practical skills needed to live and socialize in community, and teach them how to cope with their disease. They can thus, be rehabilitated back in to their social setting.
Goals of Cardiac Rehabilitation

<table>
<thead>
<tr>
<th>Goals Achievable by Individual</th>
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<tr>
<td><strong>Medical Goals</strong></td>
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<tr>
<td>1. Prevention of Sudden Death</td>
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<tr>
<td>2. Decrease in Cardiac Morbidity, Infarction, Graft Closure</td>
</tr>
<tr>
<td>3. Relief of Symptoms: Angina, Breathlessness</td>
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<tr>
<td>4. Increase in Work Capacity</td>
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<tr>
<td><strong>Social Goals</strong></td>
</tr>
<tr>
<td>1. Return to work</td>
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<tr>
<td>2. Being Self-sufficient in Activities of Daily Living</td>
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<tr>
<td>3. Socializing with Friends</td>
</tr>
<tr>
<td>4. Maintaining Leisure-Time activities</td>
</tr>
<tr>
<td>5. Relief of Anxiety and Depression in Spouses or Care-givers</td>
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<tr>
<td><strong>Psychological Goals</strong></td>
</tr>
<tr>
<td>1. Restoration of Self Confidence</td>
</tr>
<tr>
<td>2. Relief of Anxiety and Depression</td>
</tr>
<tr>
<td>3. Improved Adaptation to Stress</td>
</tr>
<tr>
<td>4. Restoration of Enjoyable Sexual Activity</td>
</tr>
<tr>
<td><strong>Health Service Goals</strong></td>
</tr>
<tr>
<td>1. Reduction in Direct medical costs</td>
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<tr>
<td>2. Early Discharge and early Rehabilitation</td>
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<tr>
<td>3. Fewer Drugs</td>
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<td>4. Fewer Re-admissions</td>
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Ability to achieve these goals would translate into:

- Lesser physiological complications or recurrence of disease
- Increased energy, physical fitness and well being
- Increased optimism; increased enthusiasm and creativity
- Increased interaction with family and friends
- Decreased depression, anxiety; improved adaptation to stress; improved self image;
- Better relaxation and sleep
- Reduction in perceived illness behaviour
- Decreased work absenteeism
- Improved sexual activity translating into contentment in marital life
Indicator of successful rehabilitation thus, is the absence of maladjustment

The social reality, which the individual constantly constructs and reconstructs, brings about changes in his meanings over time. This process of bringing about change and formulating new meanings in a health crisis situation often becomes difficult. With the onset of AMI the individual finds himself in a predicament because

- His internalized social reality is questioned
- The corollary that follows is that it may be required that he discard these meanings by which he has lived till now
- He therefore needs to redefine and reformulate new meanings in order to live a healthy life
- His family also simultaneously needs to change their meanings
- Subsequently, there may be changes in roles played by the individual and his family members.

In everyday life an individual usually feels that he is “healthy” and “normal”. Though his behavior patterns and habits may be unhealthy and unregulated, he pays little attention to them. It is only when illness and disease strike that one is forced to review one's own life patterns.

Thus, the process of acquiring new meanings, adapting and modifying attitudes, behavior patterns and ways of life, need to be negotiated. This dialectics of persistence and change in order to live a healthy life become vital.

The process of restoring health, the feeling of well-being enables the person to move beyond the phase of illness. Though heart disease will remain with him for the rest of his life, he is capable of leading a normal healthy life and also putting the AMI episode behind him.
It is therefore imperative for the doctor and medical social worker/counsellor to help the person understand that his pre-AMI state of health and behavior patterns may not have been healthy. Once he begins to confirm with the doctors advice on medicine, exercise and healthy dietary habits, he will be able to restructure his everyday life into a healthier one – and perhaps a more meaningful and constructive life.
My incessant heart sustains life
My constant pumping circulates blood
If disease has struck,
I will overcome and find …

... Ways of living a healthy life