

The Experiences of Coronary Heart Disease Patients: Biopsychosocial Perspective

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Abstract—Biological, psychological and social experiences and perceptions of healthcare services in patients medically diagnosed of coronary heart disease were investigated using a sample of 10 participants whose responses to the in-depth interview questions were analyzed based on inter-and-intra-case analyses. The results obtained revealed that advancing age, single status, divorce and/or death of spouse and the issue of single parenting negatively impacted patients' biopsychosocial experiences. The patients' experiences of physical signs and symptoms, anxiety and depression, past serious medical conditions, use of self-prescribed medications, family history of poor mental/medical or physical health, nutritional problems and insufficient physical activities heightened their risk of coronary attack. Collectivist culture served as a big source of relieve to the patients. Patients' temperament, experience of different chronic life stresses/challenges, mood alteration, regular drinking, smoking/gambling, and family/social impairments compounded their health situation. Patients were satisfied with the biomedical services rendered by the healthcare personnel, whereas their psychological and social needs were not attended to. Effective procedural treatment model, a holistic and multidimensional approach to the treatment of heart disease patients was proposed.

Keywords—Biopsychosocial, Coronary Heart Disease, Experience, Patients, Perception, Perspective.

I. INTRODUCTION

CORONARY heart disease (CHD) is one of the most deadly diseases posing health hazards to the humankind in our time [1, 2, 3, 4, 5, 6]. The global statistical reports about the news of overwhelming incidence and prevalence of CHD in the world over seem to be very high and ever on the increase.

According to World Health Organization, an estimated 17.5 million people died from cardiovascular disease in 2005, representing 30 % of all global deaths. Of these deaths, 7.6 million were due to heart attacks and 5.7 million due to stroke. About 80% of these deaths occurred in low- and middle-income countries. If the current trends are allowed to continue, by 2015 an estimated 20 million people will die from cardiovascular disease – mainly from heart attacks and strokes [1].

More so, it is quite alarming that several journal articles, health/heart organization publications, clinical reports,

projects/theses, doctoral dissertations, and other researches conducted on heart-related problems over the years – and until today – point to coronary heart disease (CHD) as the leading cause of death worldwide. It seems that not much has been done in practical terms to ameliorate this situation since CHD is still reported to be on the increase.

Thus CHD is termed the cardinal cause of death and disability in the North America and it accounts for over 50% of all deaths. For instance in the United States, over 459,841 deaths occurred in 1998 alone [2]. In 2003, a total number of 653,000 deaths were recorded in the United States as a result of CHD (20% of all deaths) and CHD incidence is increasing dramatically in many parts of the developing world [6].

Again in 2004, nearly 13 million people were reported to have been affected by CHD in the United States (about 6.9% of the total population), and 451,326 people died of it the same year [3]. Then from 1979 to 2001, the incidence of CHD listed as the primary diagnosis for American patients discharged from the hospital increased by 27 percent [7].

The American Heart Association reveals that about 16,000,000 people (8,700,000 males and 7,300,000 females) alive today have a history of CHD – myocardial infarction, angina pectoris or both. The Heart Association estimates that about 1.2 million Americans will have a new or recurrent coronary attack, and about 310,000 people a year die of it [4].

In the United Kingdom (UK) in 2004, the Office of National Statistics reported that nearly 106,000 people died of coronary heart disease [5].

In Hungary in 2001, the death rate of coronary heart disease was 294.1/100,000 population [8].

There is no detailed research (facts and figures) conducted and publicized about the incidence and prevalence of heart disease in Thailand. But from a few data on various chronic diseases available in some healthcare centers, the World Health statistically rates Thailand as one of the South East Asian countries recently experiencing increasing cases of coronary artery disease [9]. This report seems to support the fact that Thai government has been spending huge sums of money in the recent years in manufacturing and importation of medical drugs for heart disease patients in the kingdom.

Research on the prevalence of chronic diseases in Africa revealed that between 1997 and 2004, 195 people died per day because of some form of heart and blood vessel disease (CVD) in South Africa [10]. About 33 people die per day because of heart attack, while about 60 die per day because of stroke [10]. For every woman that dies of a heart attack, two

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men die. In South Africa, actuarial projections suggest that the rate of chronic diseases, including heart disease, is also going to increase by 2010 just as the high death rates caused by AIDS. The models suggest that chronic disease death, including heart disease, will increase from 565 deaths per day in 2000 to 666 deaths per day in 2010 [10]. The highest death rates for heart and blood vessel diseases in South Africa are found in Indian people, followed by the colored people, while the white and black African people have the lowest rates [11].

A study on the outlook of coronary heart disease in Africa suggests that generally CHD is virtually absent in rural areas, and very uncommon in urban centers, where many Africans are in an advanced stage of transition. With the increase in risk factors like obesity, diabetes mellitus, hypertension and smoking, one can expect urban Africans to attain the high mortality rate for CHD now experienced by African Americans [12].

In the light of this puzzling background, the ultimate question remains:

What can be done to slow down the increasing health hazards caused by CHD?

The medical health approach to date has generally neglected the social, emotional, spiritual, cultural, and ultimately the psychological aspects of life in the CHD treatment procedures [13]. Hence more efforts need to be made to include the psycho-somatic variables in the treatment approach available at the various hospitals/medical centers worldwide.

In summary, the research aimed at description of the biopsychosocial experiences of the patients presenting with coronary heart disease as well as their perceptions of services received from the healthcare personnel. Risk factors and duration in which the patients were suffering from CHD were examined. Thus, the research proposed an effective procedural treatment model, a holistic and multidimensional approach to the treatment of patients presenting with coronary syndrome.

II. RESEARCH QUESTIONS

The research questions guiding this study are classified into two major domains namely: the main research question and the specific research questions.

The main research question focuses on:

- 1) What are the perceived biopsychosocial conditions and experiences of the patients diagnosed with coronary heart disease?

The specific research questions include:

- 1) What are the CHD patients' views towards the services rendered by the healthcare providers with regard to biological, psychological and social perspectives?
- 2) To what extent does only biomedical care satisfy the needs of the CHD patients?
- 3) How does duration of the disease affect the patients' experiences?

III. METHOD

The research adopted a qualitative approach which focused on in-depth interview to elicit the cardinal biological, psychological and social experiences of the patients living with CHD. Furthermore, the research participants were observed during the interviews and their non-verbal cues, observable cum behavioral responses were noted.

A. Participants

The participants in this research included the patients presenting with coronary heart disease. Efforts were made to identify, define and select the participants in this study, and make the group as homogeneous [14, 15] as possible in that all the members were confirmed cases of CHD.

For the purpose of this study, the researcher utilized criterion sampling to select the participants. A set of criteria was established and individuals who met the set of criteria were selected for the study. Thus, ten participants were recruited based on the following criteria:-

- 1) The patient must be a known case of CHD
- 2) The condition of the patient at the time of interview has to be:
 - a) good general appearance (not in ICU nor oxygen, etc)
 - b) with no serious signs and symptoms
 - c) in good condition/state of mind
- 3) Both male and female who are above the age of 18 were considered
- 4) Voluntary participation in the study
- 5) Duration of the patients diagnosed with CHD: ranging from those under 1 year to those above 1 year duration. This group has to deal with the necessary transitions.

B. Measures

The research instrument employed in the research was in-depth interview questions which were formulated to elicit cogent information about the experiences of CHD patients. The interview questions were designed in line with the research questions in order to meet the objective of the study. In sum, the research instrument covered the following items:

- 1) The experiences of the patients diagnosed with CHD in terms of biological, psychological, and social aspects of life
- 2) CHD patients' perspectives about receiving current medical attention.
- 3) The participants' views toward the services received from the healthcare professionals according to biological, psychological and social perspectives.
- 4) Specific experiences as a result of differences in duration at which the patients have been with CHD.

C. Procedures

Data collection method used in this research included in-depth interview accompanied with observation of verbal and non-verbal cues as well as behavioral responses of the participants. Since the interview questions were semi-

structured in the open-ended pattern such that they allowed the participants the freedom and privilege to share their experiences, they helped the inquirer to obtain a wide range of information.

A pilot study was conducted prior to the actual study, on four CHD patients who were recruited via convenience sampling. The pretest exercise addressed possible difficulty the respondents might encounter with regard to the research instrument. After a successful pretest, the inquirer proceeded to conduct the actual study by seeking and obtaining permission and informed consent of the respondents. Those who willingly and freely agreed to participate in the study were then interviewed. The in-depth interview lasted between 35 – 45 minutes, and the collection of data lasted for about one month.

To generate the accurate information needed in the study, the data collection method was followed by the researcher paying adept attention to the participants as they shared their unique experiences according to the interview guideline. The interviewer asked the questions and consequently followed the trail of the patient's answers in order to explore his/her experiences at every stage.

Lastly, the use of "why and how" questions were adopted in attempt to deeply understand the interviewee and obtain the necessary information.

IV. RESULTS

The summary of findings of the research as derived from the qualitative analyses of the CHD patients' biopsychosocial perspective revealed that the older the participants were, the more CHD negatively impacted the CHD patients' biological, psychological and social experiences. Marital/being single through divorce and/or death of spouse with the issue of single parenting played a crucial role in affecting the experiences of the CHD patients, especially the female participants. Although the patients have all been diagnosed of CHD for about 4 to 16 years, there weren't many differences in their experiences. But it was ascertained that the longer the patients live with CHD, the easier and better they adapt.

All of the patients had similar experiences of physical signs and symptoms of CHD from time-to-time which ranged from chest discomfort, discomfort/pain on the legs, waist, ribs, stomach, joints, jaws, back bone, throat and back-neck-bone, tiredness, fatigue and loss of energy, shortness of breath, feeling of dizziness, headache, inability to perform their normal duties effectively to signs of overweight. All the CHD patients had past serious medical conditions – asthma, overweight, lower/irregular heart rate/beat, blood heart disease, high BP, lungs, kidney or spinal cord problems, leg or back bone pains, diabetes or gout/arthritis – for which they had been receiving medications/treatments from their physicians. And two participants had previously had spinal cord/back bone and heart operations. All the CHD patients successfully underwent heart operation except one patient who did not have heart surgery. Two patients engaged in both

doctors' prescribed and self-prescribed medications, whereas a patient indulged in the pleasure Chinese medicine called "Yaa-Gin". Four participants had a family history of medical or physical health problems – head-related problem, diabetes, asthma and ultimately coronary heart disease. Three patients had very good nutrition; six patients had fairly good diets, while one patient experienced poor nutrition. Two patients were vegetarians.

A majority of the CHD patients had been active in their lives at one time or the other, but the attack of CHD rendered them inactive, dormant, weak, helpless and dependent on medications and family/neighbors for support. On the average, the patients experienced intense fear, anxiety, worry and depression, while a few others continued to experience normal state of mind on hearing the news of their positive CHD status. The patients experienced better mood before the attack of CHD. Two patients experienced great joy and happiness after their successful heart operations. A majority of the CHD patients bore some traits of 'Type A Personality', over and above being hot-tempered and easily prone to anger and hostility. All the participants experienced different chronic life stresses and challenges. Four participants had poor mental health history.

More so, a majority of the CHD patients were social persons, and so perceived no relationship in their social lives and their attack of CHD. But two patients viewed social life as uncomfortable and upsetting. Four patients experienced some social problems in the family life. Most of the participants had high or average socioeconomic statuses, while one was very poor. All the patients were faced with some social impairments imposed on them by CHD. A majority of the patients perceived their social environment (collectivist culture) and lifestyle as having good and positive effects to their overall well-being. Three male patients had the lifestyle of regularly drinking, smoking, or gambling prior to the attack of CHD. One CHD patient bore the additional burden of being immediate care-giver to her husband who is also suffering from coronary syndrome. A majority of the respondents experienced sound/good living conditions in terms of having family/social supports, while two patients had deplorable living conditions.

All the CHD patients were satisfied with the services rendered by the healthcare personnel in terms of their biomedical needs, whereas they were all bearing the burden laid on them by the ignorance of the healthcare provider over their psychological and social needs.

TABLE I
SUMMARY OF RESULTS

| Demographic Report | Experiences of CHD patients | | | Experiences of Healthcare Service | | |
|--|--|---|---|--|--|--|
| | Biological Experiences | Psychological Experiences | Social Experiences | Biological Experiences | Psychological Experiences | Social Experiences |
| <ul style="list-style-type: none"> ✓ Advancing age, single marital status, divorce and/or death of spouse (single parenting) played a crucial role in affecting the CHD patients' experiences. ✓ There weren't many differences in their experiences due to duration of CHD. | <ul style="list-style-type: none"> ✓ The patients' experiences of physical signs and symptoms of CHD, past serious medical conditions, use of self-prescribed medications, and family history of poor medical or physical health, nutritional problems and insufficient physical activities heightened their risk of coronary attack. | <ul style="list-style-type: none"> ✓ Patients experienced intense fear, anxiety, worry and depression which negatively affected their health condition. ✓ Patients experienced better mood before the attack of CHD, and two patients experienced great joy and happiness after their successful heart operations. ✓ Patients' temperament, experience of different chronic life stresses/challenges, and poor mental health history posed cardiovascular risks. | <ul style="list-style-type: none"> ✓ Patients' perception of social life as uncomfortable and upsetting, lifestyle of regularly drinking, smoking, or gambling, poverty, experiences of some social problems in the family life and social impairments posed on them by CHD compounded their health situation. ✓ Patients' perceptions of healthy social environment and lifestyle, experiences of sound/good living conditions and family/social supports were discovered to have good and positive effects to their overall well-being. | <ul style="list-style-type: none"> ✓ Patients were satisfied with the biomedical services from the healthcare provider. | <ul style="list-style-type: none"> ✓ Patients' psychological needs were not attended to by the healthcare professional. | <ul style="list-style-type: none"> ✓ Patients' social needs were not attended to by the healthcare personnel. |

V.DISCUSSION

Advancing age is found to be a contributing factor that negatively impact on the CHD patients' experiences owing to the fact that majority of the patients are in their late 60s and 70s, and they report as such. This finding supports the point that advancing age is a powerful independent, non-modifiable risk factor for coronary syndrome [16, 17, 4]. The issues of having single status, divorce and/or death of spouse along with single parenting also pose negative experiences to the CHD patients in that they feel lonely and have to bear the yoke of family and children's upbringing all alone. The only difference in the experiences of the patients due to duration they have been suffering from CHD lies in the fact that the longer the patients live with coronary syndrome, the better they understand, accept, adapt and deal with their health condition biologically, psychologically and socially.

On the biological experiences, the patients have similar physical signs and symptoms typically known for CHD as they have all suffered from serious medical conditions in the past [16, 18, 19, 4]. Even though one patient does not have heart surgery, yet she is neither better nor has different experiences than those who have heart operation. More so, she has to fully depend on medical drugs for sustenance. Husband and wife, both CHD patients, engage in both doctors'

prescribed and self-prescribed medications, especially energy tablets – as they termed it – as they seem to gain strength and relive from the use of medications. But the health danger discovered is the issue of taking the tablets without control; they are taking them at will, without stipulated time or regulation from a physician. One male patient indulges in the use of stimulating pleasure Chinese medicine called “Yaa-Gin” which may have heightened his risk of coronary syndrome – use of certain medications [16].

Some patients have family history of medical or physical health problems or of premature CHD which invariably inform their attack of cardiovascular disease [16]. The patients' description of themselves as having very or fairly good nutrition do not alter their experiences with CHD in that they may not be taking enough fruits and vegetables, and/or have been taking highly saturated fatty foods [16], low-fiber diets [20], high intake of red and processed meats, sweets, potatoes, and refined grains [21], and/or high caffeine consumption [22] which are known to accelerate the likelihood of coronary syndrome. Since majority of the patients lived active lifestyle prior to the attack of CHD, it may be plausible that cardiovascular disease coupled with increasing age render them inactive, dormant, weak, helpless and dependent on medications and family/neighbors for support.

Psychological experiences of the CHD patients reveal intense fear, anxiety, worry and depression which confirm the human basic instinct to live; not to die, as buttressed by the African concept “*Onwu di egwu*” or “*Egwu onwu*” (the fear of death). It seems reasonable that the patients experience better mood before the attack of CHD owing to the fact that coronary syndrome psychologically alter their mood. Conversely, two patients experience great joy and happiness after their successful heart operations because they think that they will not survive the heart operation, or come out of the theater alive. A majority of the CHD patients exhibit some characteristics of ‘Type A Personality’— such as being over-conscious of time, over-ambitious, highly competitive, workaholic, over-zealousness in profit making, and are most importantly hot-tempered and easily prone to anger and hostility [23, 24, 25, 8] — which is consistent with (one of the major psychosocial risk factors of) coronary syndrome.

All the participants experience different chronic life stresses and challenges emanating from job/work, career, finances, family and/or marital life which are found to positively correlate with both psychosocial and physiological problems like coronary heart disease [4]. Nearly half of the participants experience poor mental health which ranges from Attention Deficit Disorder, acute depression [8] to hospitalization in a mental health center, and very poor memory and easily forget/forgetfulness of self, and consequently dependent on medications. This psychological condition definitely deteriorates the physiological and social well-being of patients.

The patients who view social life as uncomfortable and upsetting seem to experience more loneliness, depression, and lack of social support in that as they withdraw from people, people equally withdraw from them. As a result, this intensifies the social impairments pose on them by CHD. Although some patients do not perceive any relationship between their social lives and the attack of CHD, yet researches have proved that alcohol with its after-effects [26, 27], heavy tobacco smoking [28, 29] and chronic gambling with its effects on personality type [23, 24, 25, 8] predict high health risks, including coronary heart attack.

About half of the respondents experience some social problems in their family lives which compound their experiences of CHD. The high or average socioeconomic statuses reported by most of the patients are discovered to be the product of their life-long hard labors, sufferings, and earnings which may have adversely affect their health, and/or expose them to coronary heart attack. Indeed, they have worked up their lives from low socioeconomic statuses [16] to high or average ones. A majority of the patients perceive their social environment (collectivist culture) and lifestyle as having good and positive effects to their overall well-being in view of the fact that they have sound/good living conditions and family/social supports. One CHD patient bears the additional burden of being immediate care-giver to her husband who is also suffering from coronary syndrome, and this heavily impact on her health condition.

The issues of societal background in which the patients live seem to influence their situation with heart disease, with regard to the individualistic and collectivistic societies. One patient, a white American, who participated in the research, elaborates in details his experiences of living with coronary heart disease in the individualistic society vis-à-vis collectivistic society. Based on true life experience, he succinctly opines that his living condition here in Thailand (a collectivistic society) is very good, healthy, helpful and socially supportive due to collectivist culture. The societal structure makes it possible for him to have devoted people always around him who genuinely show care and concern, and render some useful helps in cases of emergency. On the contrary, he describes his ugly experiences of living with CHD in the United States of America (an individualistic society) as one of great bitterness, loneliness, difficulty, unhealthy, helpless and socially unsupportive as he had to virtually do everything all by himself. He reports this situation as facing majority of CHD patients in the US due to individualistic societal structure.

With regard to the CHD patients’ perceptions of services rendered by the healthcare professional, it is discovered that the patients are satisfied with the biomedical services they receive from their healthcare giver. In other words, their various physiological needs are met. On the contrary, sharp distinctions are deciphered in the patients’ responses as regards healthcare provider attending to their psychological and social needs. In fact, all the patients reveal that the healthcare personnel basically does nothing about the psychosocial conditions imposed on them by the attack of CHD. Surprisingly, one patient derives some mental comforts from a casual statement made by her physician: “*Your heart problem is little; you are not going to have operation....*” Considering the powerful effect of the suiting statement, one will come to understand that the CHD patients have lots of psychosocial needs.

Furthermore, a patient draws inspiration and mental power just from the fact that his friend has had a successful heart operation in the past. And so, he is psychologically comfortable that he will as well survive CHD operation, even better than his friend. One other patient, a Caucasian, concentrates on building various coping mechanisms with a view of conquering CHD psychologically – assuring himself that he still have life to live – which he successfully achieves. Equally, he devises some self-help projects like going on morning walk and on-line teaching, to remain physically and mentally active. In addition, he improves his social interaction with friends and his students. All these tremendously improve his general well-being. Some CHD patients whose daughters are nurses and/or have the privilege of being in the presence of children/family members/neighbors prior to heart surgery in the hospital experience some social and psychological comforts.

More so, religious belief and membership to a religious group seem to be advantageous, psychologically and socially, to the CHD patients. Some patients anchor their hopes on their

Buddhist belief: '*Begin life and end life*' as a source of mental and religious strength. And their membership to a religious group proffers some social supports, especially as given to the collectivist society. Another new ground made by the research is on the personality type of the healthcare provider with regard to being a taciturn/speaking just very little to the patients. It seems that many doctors do not enlighten their patients about their health condition nor verbally encourage them to bear the burden of such chronic disease. Some patients experience language problem between themselves and their medical experts and/or interpreters. This is the situation of those patients who come from a different language background to those of their healthcare providers.

Even with the use of interpreters, the question of the interpreters' proficiency in the use of the two languages involved becomes an intervening factor. Added to this adverse effect is the interpreters' personality of not being very patient with the CHD patients, the interpreters' carefree attitude of just discharging a duty for monetary gains, being unable to feel, understand and empathize with the CHD patients, and ultimately following the dictates of the physician without communicating the feelings of the CHD patients to the physician. This situation had some social and cultural implications, especially as pertain to Thailand and most other Asian countries. Medical doctors are highly rated and respected socially, and receive higher salaries than ordinary interpreters. Interpreters in most cases are younger than the doctors; even if they are older, yet they are culturally bound to honor the doctors. These points shade more lights on the reason why interpreters may not work well to the utmost benefits of CHD patients. Thus, cultural gaps in doctor-patient interaction [30] cause psychological torture to CHD patients as it prevents them from making their feelings and state of mind known to their healthcare giver.

Recommendations

As a result of the findings in the research, the following recommendations — based on biopsychosocial perspective — for practical purposes are proposed:

Biological perspective

i) The research recommends that people experiencing different physical signs and symptoms like chest discomfort, discomfort/pain in other areas of the body, tiredness, shortness of breath, loss of energy, inability to perform different functions, feeling of nausea, vomiting, lightheadedness, anxiety, irregular heartbeat, dizziness or sleep disturbances, sweating or 'cold sweat' should go to see medical experts.

ii) Similarly, it is advisable that people who have had serious medical problems in the past and/or positive family history of premature CHD should regularly go for medical check-up.

iii) The research recommends that people should guard themselves against self-prescribed/road-side medications due to the various health hazards involved, as well as the use of certain medications like oral contraceptives, hormone

replacement medicines, stimulating/pleasure drugs and their likes.

iv) About good nutrition/healthy diets, the research suggests that people should be taking enough fruits and vegetable. They ought to avoid the following: eating highly saturated fatty foods, low-fiber diets, high intake of red and processed meats, sweets, potatoes, and refined grains, and high caffeine consumption which are known to accelerate the likelihood of coronary syndrome.

v) Lastly, the research suggests that people should regularly engage in physical activities/exercises for optimum physical, psychological and social well-being.

Psychological perspective

i) The research recommends that patients who are psychologically challenged due to their medical health conditions should be referred to a counselor, behavioral trainer or life coach. Such psychological challenges include: feeling depressed, intense fear and worry, anxiety, loneliness, alteration of mood, chronic life stresses (job/work/career, financial, family or marital stresses), weird thoughts (including undue blaming of others for your problems) and ultimately thoughts of suicide and/or killing another person.

ii) The research deems it wise that patients who exhibit 'Type A Personality' traits should accept the fact of their temperament, and agree to work with the counselor in order to tame their temperament.

iii) Also, the research urges the patients who have poor mental health history and/or hospitalization in a psychiatric unit to regularly go for mental health check-up as it will boost both their physiological and social well-being.

iv) For the patients who have poor family mental health history, the research recommends the services of a counselor to fine-tune the mind-set and attitudes of the patients toward their poor family mental health history.

Social perspective

i) The research recommends counseling for the patients who view social life as uncomfortable and upsetting in that they will be experiencing more social problems which can deteriorate their health condition.

ii) For patients whose habits or lifestyle negatively affect their health condition, the research suggests that they join Alcohol Anonymous Group and/or Tobacco Smoking Control Group, or any of the Non-Governmental Organizations (NGOs) on related issues. These organizations also provide social support for change.

iii) The research recommends that people should not remain workaholics, and/or overzealous in profit making, but ought to take sometimes off for leisure activities, travel, sightseeing, and so on which can revitalize their general well-being.

iv) Finally, the research recommends that healthy social interactions between the patients and their immediate environments approximate good living conditions as well as family/social support.

Proposed Treatment Model for Coronary Heart Disease Patients

Assured of the fact that humankind is not only a biological being, but also a social, emotional, spiritual/religious, cultural and ultimately a psychological being, this research proposes a holistic procedural treatment model for CHD patients, which includes those extra-somatic aspects of life seemingly neglected by the biomedical care.

♦ First of all, the research proposes that every healthcare center treating patients presenting with chronic diseases like CHD ought to establish a mental health and/or counseling unit within the premises.

♦ Upon physician's confirmation of a patient with CHD, there is urgent need to refer the patient to the mental health unit for psychosocioeducation. Therein, the counselor/life coach will disclose the biomedical health condition of the patient to him/her, for the first time, during the therapeutic process. Psychosocioeducation for CHD patients is very important at this initial stage in order to acquaint them with the possible imminent psychological and social challenges as well as impairments they might face due to the attack of CHD. Thus, counseling will enable them to be prepared psychologically and socially to cope well with the possible imminent challenges/impairments because 'knowledge is power'. More so, counseling will make the patients to adequately dispose their minds and be fully prepared to receive biomedical treatments, which may include heart operation.

♦ Physicians specializing in heart-related problems, need to take some courses or training in psychology, especially in counseling, to help them understand the diverse problems faced by CHD patients. This will enable the biomedical professional have a holistic view of the health conditions of the patients, and not just physiological aspect.

♦ The research proposes socioeducation for the healthcare personnel treating heart disease patients as it will acquaint him/her with the basic knowledge of relating socially well with the CHD patients – to be more humane in handling CHD patients, and not to perceive himself/herself as merely performing a role/duty for money-making venture. This will abate the negative experiences reported by the CHD patients with regard to their social needs vis-à-vis their physicians.

♦ Owing that humankind is also a religious being; the research proposes a holistic treatment model that will proffer religious helps and supports to the CHD patients base on their different religious backgrounds, especially as regards boosting their faith in live with their religious tenets and beliefs, as experienced by some CHD patients who participated in the research.

♦ Since issues concerning human health is of utmost importance, there is the need for every international medical center, or healthcare centers having patients from diverse language cum cultural background, to employ the services of well-trained interpreters of different languages in the heart disease unit. This will help to address the language problem

the research ascertained to exist between CHD patients and healthcare providers.

♦ Finally, there is need to employ medical professionals who are proficient in the use of different languages, and/or medical experts who are from different language backgrounds, to work in the international hospitals/medical healthcare centers.

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