Traditional societies in many developing countries health essay

INTRODUCTION

1. 1 BACKGROUND OF THE STUDY

Over the last few decades, traditional societies in many developing countries have experienced rapid and unplanned urbanization, which has led to lifestyles characterized by unhealthy nutrition, reduced physical activity and tobacco consumption. These unhealthy lifestyles are associated with common modifiable risk factors for chronic diseases such as hypertension, diabetes mellitus, dyslipidaemia and obesity. Non-Communicable Diseases (NCDs) impose a large burden on human health worldwide. Currently, more than 60% of all deaths worldwide stem from NCDs (Figure 1). Moreover, what were once considered " diseases of affluence" have now encroached on developing countries. In 2010 roughly four out of five NCD deaths occurred in low- and middle-income countries World Health Organization (WHO, 2011), up sharply from just under 40% in 1990 (Murray & Lopez, 1997). Moreover, NCDs are having an effect throughout the age distribution – already, one-quarter of all NCD-related deaths are among people below the age of 60 (WHO, 2011)75. The 2011 WHO country profile report on mortality stated that in the year 2008, 53% of premature mortality was due to chronic diseases in India. Of these, 24% were due to cardiovascular diseases, 6% from cancer, 11% were due to respiratory disease, 2% from diabetes and 10% from other NCDs. Apart from this, Indians are prone to diabetes, high blood pressure and heart attacks 5-10 years earlier then the western counterparts. Coronary Heart Disease (CHD) is the most common cause of death (and premature death) in the UK in 5 men and 1 in 7 women die from CHD. There are 94, 000 deaths from CHD in the UK each year. Death rates

from CHD have fallen by 45% for people aged under 65 years in the last 10 years. (BMJ 2010)47It is expected that by 2020 in developing countries, NCDs will account for 69% of all deaths, with cardiovascular diseases in the lead. The prevalence of diabetes mellitus will almost double in the next 25 years and at least 75% of those affected will be in developing countries. The burden of disease will be worse in these countries, as the majority of sufferers are expected to be relatively young, of lower socioeconomic status and to suffer from severe disease of premature onset. NCDs account for nearly half of all deaths in India. Among the NCDs, Cardio Vascular Diseases (CVD) account for 52% of mortality (52%) followed by Chronic Obstructive Pulmonary Disease (COPD), Cancer, Diabetes and Injuries. Projection estimates have shown that unless interventions are made, burden due to NCDs will increase substantially . NCDs account for 43% of the Disability Adjusted Life Years (DALYs). The Potentially Productive Years of Life Lost (PPYLL) due to CVDs in the age group of 35-64 was 9. 2 million in 2000 and is expected to rise to 17. 9 million in 2030. Since the majority of deaths are premature there is a substantial loss of lives during the productive years as compared to other countries. Heart diseases, stroke and diabetes are projected to increase cumulatively, and India stands to lose 237 billion dollars during the decade 2005-2015. (American Heart Association (2009)58. Non communicable diseases are assuming alarming proportion in the Southeast Asian Region. They account the 51% of all death and 44% of the disease burden in the region and clearly emerging as a major public health challenge in developing countries of Southeast Asian Region. Cardio Vascular disease (CVD) has emerged as a major health problem worldwide. CVD

contributed to 15. 3 million deaths in 1996, of which 5. 5 million was from developed countries and 9. 77 million from developing counties. A rise in the incidence of CVD in the early half of twentieth century and a subsequent decline in the later half have been documented in the industrialized countries. However, the scenario is reversed in developing countries especially India with a steady escalation in prevalence of CVD (Gopinath, et al., 2005)42Myocardial Infarction (MI) is the most common contributor of morbidity and mortality worldwide. In US about 1. 1 million cases occur every year with about 30% mortality and more than 50% of deaths occur on way to the hospital. In India, 31. 7% of deaths occur due to MI. Incidence of cardiovascular diseases was about 7% in 1970 and increased up to 32% in 2011 in India. The huge burden of Coronary Artery Disease (CAD) in Indian subcontinent is the consequence of large population and high prevalence of cardiovascular risk factors, like smoking, alcohol, low fruit and vegetable intake, physical activity, obesity, high blood pressure and abnormal lipids and diabetes (Godona Willims, et al., 2011)48. Globally, among NCDs Myocardial infarction are increasingly recognized as a major cause of morbidity and mortality. The World Health Report 2010 indicated that NCDs account for almost 60% of deaths in which 47% of the burden is due to MI. Seventy five percent of the total deaths due to NCDs occur in developing countries. Acute Myocardial Infarction (AMI) constitutes a major public health problem, not only in western countries but increasingly in developing countries. An estimated 1. 1 million Americans will have a new or recurrent AMI per year, and many survivors will experience the progression to heart failure and death. In the United States, diseases of the heart are the leading

cause of death, causing a higher mortality than cancer. Myocardial Infarction is responsible for 1 in 5 deaths in the U. S. Some 7, 200, 000 men and 6, 000, 000 women are living with some form of Coronary Heart Disease(CHD). 1, 200, 000 people suffer a (new or recurrent) coronary attack every year, and about 40% of them die as a result of the attack. (Wolters Kluwer Lippincott Williams & Wilkins, 2012)34Elevated CVD burden mainly with MI in developing countries appears to be attributable to increasing incidence of atherosclerotic diseases; population growth; urbanization; drug shortages in public health services; and high prevalence of risk factors such as obesity, diabetes, dyslipidemia and hypertension. Deaths from MI—the principal cause of CVD deaths are projected to increase in developing countries by 120% in men and 137% in women between 1990 and 2020, increases far greater than those anticipated in developed countries (29% and 48%, respectively). In India, Cardio Vascular Disease (CVD) is the leading cause of death. The deaths due to MI in India were 32% of all deaths in 2007 and have increased from 1. 17 million in 1990 and 1. 59 million in 2000 to 2. 03 million in 2010. Although a relatively new epidemic in India, it has quickly become a major health issue with deaths due to CVD expected to double during 1985-2015. Mortality estimates due to MI vary widely by state, ranging from 10% in Meghalaya to 49% in Punjab (percentage of all deaths). Punjab (49%), Goa (42%), Tamil Nadu (36%) and Andhra Pradesh (31%) have the highest CVD related mortality estimates. State-wise differences are correlated with prevalence of specific dietary risk factors in the states. Moderate physical exercise is associated with reduced incidence of MI in India (those who exercise have less than half the risk of those who don't). MI

also affects Indians at a younger age (in their 30s and 40s) than is typical in other countries.

1. 2 NEED AND SIGNIFICANCE FOR THE STUDY

Cardio Vascular diseases (CVDs) will be the largest cause of death and disability by 2020 in India. In 2020 AD, 2. 6 million Indians are predicted to die due to coronary heart disease which constitutes 54. 1 % of all CVD deaths. Nearly half of these deaths are likely to occur in young and middle aged individuals (30-69 years). Currently Indians experience CVD deaths at least a decade earlier than their counterparts in countries with Established Market Economies (EME)57 2005. Accordingly, the Registrar General of India (2004)68 reported that from the 1990s the proportion of mortality attributed to CVD or circulatory system diseases remained almost static at 15%-17%. However, these rates were based on limited data, mainly rural, and the only significant information on CVD mortality in urban subjects was from Maharashtra and Tamil Nadu. Since 2001, the Registrar General of India and Million Death Study investigators have collected mortality statistics from all Indian states using the country-wide Sample Registration System. In the first phase of this study from 2001-2003, causes of deaths in more than 113 000 subjects from 1. 1 million homes were retrospectively analyzed using a validated verbal autopsy instrument. CVD was the largest cause of deaths in males (20. 3%) as well as females (16. 9%) and led to about 2 million deaths annually. The Secular trends in incidence of major coronary risk factors in India showed there is increasing prevalence of smoking, hypercholesterolemia and diabetes while hypertension prevalence has stabilised in urban and increasing in rural locations .(World Journal for

Cardiology. 2012)49Top five causes of deaths in India classified according to areas of residence and gender Adapted from Registrar General of India Reported that cardiovascular disease which comprised myocardial infarction was in first place with regard to (all age groups), Economically backward states, Economically advanced states, Rural populations, Urban populations, Men, Women, Middle-age (25-69 yr). The prevalence of cardiovascular disease was high among the population of Chennai . Although the overall treatment and control of diabetes and hypertension was better than that in the general population, it was still inadequate and this emphasizes the need for greater awareness about non-communicable diseases. (News Report Delhi, 2010)68Sen . SK, et al., (2010)54 has found that although males are at increased incidence of myocardial infarction, the severity of disease is same for both genders among prediabetic myocardial infarction cases. An evidence of impairment in blood pressure homeostasis in female patients which could be one of the factors responsible for the equal degree of severity in myocardial infarction among females compared to males, despite lower incidence of MI in them. Martin TC, et al., (2009)53 revealed that in the epidemiological transition from infectious diseases in the Caribbean, chronic non-communicable diseases including cardiovascular disease have emerged as important public health interest. Although hypertensive heart disease predominates in Afro-Caribbean populations, ischemic heart disease and acute myocardial infarction have also been present. Grover G, et al., (2009)57 conducted a study to determine the risk factors for nonfatal acute myocardial infarction among Indian men and women showed that family history of MI, smoking are significantly associated with acute myocardial

infarction after adjusting the effects of hypertension. Patil SS, et al., (2008)70 conducted a prospective case control study to determine the risk factors for acute myocardial infarction in a rural population of central India. The study reveals that elevated fasting blood glucose, abnormal hip-waist ratio were independently associated with the first episode of acute myocardial infarction. In conclusion, revealed that reduction in blood glucose levels and truncal obesity may be important in controlling the burden of coronary artery disease in rural Indians. Biswas, et al., (2007)47 studied a total of 124 patients of ischemic heart disease under 40 years of age for risk factors of coronary artery disease . Electro Cardio Gram (ECG), threadmiltest, lipid profile, and coronary arteriography were done in all cases in which smoking(56. 4%), hyperlipidemia(30. 6%) emerged as the major risk factors. Shrang et al(2006)61 conducted a repeated cross-sectional study to examine trends in the prevalence of myocardial infarction (MI) and conventional risk factors in Indian adults. Logistic regression analysis showed that the risk factors were significantly associated with MI. The factor that showed the greatest magnitude of association with MI was hypercholesterolemia, followed by diabetes, hypertension and smoking. MI mortality rate was greater in south India while stroke was more common in the eastern Indian states. MI incidence and prevalence is higher in urban Indian populations while stroke mortality is similar in urban and rural regions. Case-control studies in India have identified that the common major risk factors account for more than 90% of incident myocardial infarctions and stroke. The case-control INTERHEART and INTERSTROKE studies reported that hypertension, lipid abnormalities, smoking, obesity, diabetes, sedentary lifestyle, low fruit

and vegetable intake, and psychosocial stress are as important in India as in other populations of the world (World J Cardiol, 2012)49The Central Health Education Bureau (CHEB), a subordinate organisation of Directorate General of Health Services (DGHS), Ministry of Health and Family Welfare (MOH&FW) established in the year 1956, states that Over the period of time there has been epidemiological and demographic transition due to increase in life expectancy leading to ever increasing geriatric population. These coupled with life style changes have led to increase in incidence, prevalence and mortality due to non-communicable diseases notable cardiovascular diseases, diabetes, renal diseases, cancers and other degenerative diseases. This goal can be achieved by mitigating the impact of risk factors associated with the broad determinants of health as they lead to illness and premature death. Also the investigator had personal experience of witnessing the clients with risk factors like diabetes mellitus, hypertension, obesity, smoking habits, alcoholism, tobacco chewing also had poor knowledge and attitude towards cardiovascular disease and its prevention during her clinical experience at Omayal Achi Community Health Centre. Investigator being specialized in the field of community health nursing felt the need and was motivated to conduct the study on knowledge and attitude on myocardial infarction through Ischemic heart disease (IHD)education package among people at risk at Omayal Achi Community Health Centre.

1. 3 STATEMENT OF THE PROBLEM

A study to assess the effectiveness of Ischemic Heart disease(IHD) education package on knowledge and attitude regarding myocardial infarction among

people at risk at Omayal Achi Community Health Centre, Arakampakkam, Chennai.

1. 4 OBJECTIVES

To assess the pre and post level of knowledge and attitude regarding myocardial infarction among people at risk. To assess the effectiveness of Ischemic Heart Disease (IHD) education Package on knowledge and attitude among people at risk. To correlate mean differed knowledge score with attitude score regarding myocardial infarction among people at risk. To associate the mean differed level of knowledge and attitude score regarding myocardial infarction among people at risk with selected demographic variables.

1. 5 OPERATIONAL DEFINITION

1. 5. 1 Effectiveness

It refers to the outcome of Ischemic Heart Disease (IHD) education package on knowledge and attitude among people at risk which was measured using structured questionnaire and modified four point likert attitude scale devised by the investigator.

1. 5. 2 Ischemic Heart disease(IHD) education package

Ischemic Heart Disease (IHD) education package in this study refers to the Information Education Communication(IEC) on myocardial infarction in which,

Information:

Is given through Lecture method which consists of meaning, causes, riskfactors, manifestations, diagnostic measures, management, complications, prevention and emergency health care services of Myocardial infarction devised by the investigator.

Education:

Is given through video assisted learning which consists of meaning, causes, risk factors, manifestations, diagnostic measures, management, complications prevention and emergency health care services of Myocardial infarction devised by the investigator.

Communication

Is done through booklet which consists of meaning, causes, risk factors, manifestations, diagnostic measures, management, complications prevention and emergency health care services of Myocardial infarction, devised by the investigator (local language-Tamil).

1. 5. 3 Knowledge

It refers to the information known by people at risk regarding myocardial infarction which was measured by using structured questionnaire devised by the investigator.

1. 5. 4 Attitude

It refers to the opinion of people at risk regarding myocardial infarction which was measured by using modified four point likert attitude scale devised by the investigator.

1. 5. 6 Myocardial infarction

It is defined as the death of the heart tissue caused by lack of oxygenated blood flow to the myocardium.

1. 5. 7 People at Risk

It refers to the people, who are having mild, moderate, severe risk for myocardial infarction which is identified by the tool prepared by the investigator based on Framingham cardiovascular disease risk assessment tool which consists of different scores on age, total cholesterol, High Density Lipoproteins (HDL), smoking and diabetes mellitus.

1. 6 ASSUMPTIONS

People may have some knowledge regarding myocardial infarction. Providing a education package on myocardial infarction may enhance knowledge among people at risk. Adequate knowledge on myocardial infarction may promote favorable attitude among people at risk.

1. 7 NULL HYPOTHESES

NH1: There is no significant difference between pre &post test level of knowledge and attitude regarding myocardial infarction among people at riskNH2: There is no significant correlation between mean differed level of knowledge with attitude regarding myocardial infarction among people at risk. NH3: There is no significant association of mean differed level of knowledge and attitude score with the selected demographic variables.

1. 8 DELIMITATION

The study was delimited to a period of 4 weeks of data collection.

1. 9 CONCEPTUAL FRAMEWORK

A conceptual framework or model is made up of concepts that are mental image of a phenomenon. These concepts are linked together to express their relationship between them. The conceptual framework is based on J. W. Kenny's general system model. The concepts of kennys general system model are input, throughput, output and feedback. Input refers to matters and information, which are continuously processed through the system and released as outputs. After processing the input, the system returns output (matters and information) to the environment in as altered state, affecting the environment for information to guide its operation. This feedback information of environment responses to the systems output is used by the system in adjustment correlation with the environment. Feedback may be positive, negative or neutral. In this study the concepts have been modified as follows.

1. 9. 1 INPUT

It consists of the pretest assessment of knowledge and attitude about myocardial infarction among people at risk. It includes the demographic variables like age in years, gender, religion, educational status, occupation, income, marital status, family history, personal habits, type of chronic disease, years of dealing with chronic disease, place of treatment, duration of treatment and knowledge regarding cardiovascular disease. The level of knowledge and attitude are assessed by structured questionnaire and four point likert attitude scale.

1. 9. 2 THROUGHPUT

It consists of information, education and communication package on , meaning, causes, risk factors, manifestations, diagnostic measures, management, complications, prevention and emergency health care services of Myocardial infarction.

1. 9. 3 OUTPUT

It consists of the posttest assessment of knowledge and attitude about myocardial infarction among people at risk using the same structured questionnaire and four point likert attitude scale. If the result is adequate knowledge and favorable attitude of the people at risk need to be enhanced and if they have inadequate knowledge and unfavorable attitude need to be reassessed and reinforced to prevent myocardial infarction.

CHAPTER – II

REVIEW OF LITERATURE

This chapter deals with the related review which includes a written summary of the state of existing knowledge on the research problem. The review of literature includes a broad comprehensive, systematic, and critical review of scholarly print materials, and personal communication in the study topics for the logical sequence of that chapter is organized in the following sections. 2. 1 Part-I: Studies related to the risk factors associated with myocardial infarction2. 2 Part-II: Studies related to effectiveness of Ischemic heart disease education package

2. 1 Part-I : Studies related to the risk factors associated with myocardial infarction

Patra SK, et al., (2012)45 conducted a true experimental study to assess the predictive value of cholesterol levels for risk assessment for CAD in the Indian population. The study group comprised of 100 clinically assessed patients of myocardial infarction and 100 samples of age and sex matched healthy controls. The cases showed significantly high levels of total serum cholesterol and High Density Lipoproteins (HDL). On carrying out multivariate regression analysis HDL and total cholesterol ratio emerged as the best determinant of CAD risk. Haidinger, et al., (2012)57 conducted a study to assess individual CVD and risk factor awareness, preventive action taken and the barriers to cardiovascular health in which 573 women and 336 men were randomly chosen to complete an anonymous questionnaire. The results showed that knowledge about risk factors for CVD needs to be improved in members of both sexes. However greater effort is needed to inform men, compared with women, about the various ways in which to prevent CVD and to motivate them to preventive action. Mukattash TL, et al., (2012)44 conducted a study to assess the level of current knowledge and understanding of cardiovascular disease (CVD) among jordan's general public, their behavior towards CVD and the factors associated with different CVD knowledge levels, using interview administered questionnaire among one thousand members of general public. Findings showed that general public in Jordan has limited knowledge and awareness of CVD. In in planning to positively impact CVD prevention and management, community health workers must develop and promote effective and accessible sevices.

Famolini, et al., (2011)63 conducted a study to investigate the knowledge of

cardiovascular risk factors among secondary school teachers in oyo state and Nigeria in which 358 secondary school teachers from akinyele local government school were completed a questionnaire seeking such information as, which diseases constitute CVD and also identify risk factors for CVD. The determinants of such knowledge were investigated by log likehood ratio using logistic regression. The findings revealed that generally the knowledge and the risk factors. The knowledge base of the teachers need to be improved. Roy A, et al., (2010)50 conducted a case control study of acute myocardial infarction patients of Indian men. The study revealed that alcohol consumptions in south Asians was not protective against CHD. The subjects for this study were recruited from a cross sectional study using stratified random sampling technique and observed an inverse association between alcohol intake and the prevalence of CHD, suggesting possible harm of alcohol for coronary risk in Indian men. Nanda N, et al., (2010)45 have retrospectively analyzed various biochemical and physiological parameters and cardiac makers of patients admitted for the first instance of myocardial infarction and found an evidence of impairment in blood pressure homeostasis in female patients which could be one of the factors responsible for the equal degree severity in myocardial infarction among males compared to females. Kumar MV, et al., (2010)44 conducted a comprehensive study on the serum lipid profile and risk factor analysis for cardiovascular diseases in a cross sectional Indian population revealed that ratio of total cholesterol to HDL cholesterol was found to be greater than 6. 5 in all the cases, those who are found to be high risk for myocardial infarction. Gupta R.(2009)57 conducted the inter heart-South Asia study among 400

Indian men and women, identified that eight established coronary risk factors- abnormal lipids, smoking, hypertension, diabetes, abdominal obesity, psychosocial factors, low fruits and vegetables consumption and lack of physical activity accounted for 89% of myocardial infarction in Indians. Rastogi T, et al., (2009)64 conducted a hospital based case control study and collected data from 350 cases of acute myocardial infarction and 700 controls matched on age gender and hospital in New Delhi and Bangalore. Conditional logistic regression was used to control for the matching and other risk factors, including as much as 35-40 mins per day of brisk walking was protective for CHD risk. Sedentary life styles were also positively associated with the risk of CHD. Ranjith N (2008)77 conducted a study to survey the prevalence of coronary heart disease risk factors in a subgroup of young Indian patients (less than or equal to 45 years) who showed that smoking and dyslipidemia were the most common cardiovascular risk factors of myocardial infarction in young south African Indian. A strong familial link was observed not only for a history of CHD/MI, but also for hypertension and diabetes mellitus, supporting genetic basis for the development of premature CHD. Trivedi DH, et al., (2007)55 conducted a longitudinal epidemiological study of coronary heart disease in a rural population of Kheda district, Gujarat, India. The purpose is to determine the incidence and related risk factors for coronary artery diseases and hypertension in the rural population using stratified random sampling technique. The study revealed that CHD was significantly associated with increased blood pressure(both systolic and diastolic), smoking and family history of heart disease, and was weakly associated with body weight (p= 0.

06). Singh RB, et al., (2007)52 conducted a randomized single- blind and controlled trial. The effects of the administration of the fruits and vegetables for 12 weeks were compared as adjuncts to a prudent diet in the management of 202 group A and 204 group B patients with acute MI. The study suggested that fruits and vegetables because of their high soluble dietary fibre and possibly high anti oxidants contents, may be useful and safe adjunct to a prudent diet in the treatment of patient with acute MI.

2. 2 Part-II : Studies related to effectiveness of Ischemic heart disease education package

Pichayapinayo P, et al., (2012)59 conducted a quasi experimental study to investigation effect of a personal health booklet to knowledge, self efficacy, and health behaviors among Thai population at risk of CVD, in a primary care unit. A random sample of 204 CVD risk population were recruited as a comparison group (n= 102) and an experimental group (n= 102). The knowledge score was significantly decreased although self efficacy was increased over a time in the experimental group. However except the figure of sweet/cookies consumption, the mean score of healthy behaviors were not improved in the experimental group when compared to the comparison group. Anug MN, et al., (2012)56 conducted a study to assess the effectiveness of advanced health education intervention on salt consumption and prevention of cardiovascular disease using a cluster randomized trial. A total of 800 high CVD risk patients attending diabetes and hypertension clinics at health centres Delhi, the cluster was based on the salt content in daily diet and 24hrs salt intake. The findings revealed that the risk was found to be high about 482 patients who is diabetic and hypertensive. It is

concluded that dietary salt restriction will be applied as a prioritized, community level intervention for the prevention of CVD in developing country. Abbaszdeh, et al., (2011)64 conducted a quasi experimental study to assess the effects of health belief model –based video training regarding risk factors of myocardial infarction(MI) on knowledge and attitude in which 80 people at risk were randomly assigned to either intervention or control group. Study results showed that the mean score of knowledge about MI after the video training was increased significantly and using of videos for educating the people at risk is a effective method of preventing MI .

Gallagher, et al., (2012)41 conducted a pre experimental study to assess the effectiveness of a brief educational intervention on knowledge of potential acute myocardial infarction symptoms using one group pre and post test design in which 200 clients were selected through convenient sampling technique. Study results showed that the mean score of knowledge on potential acute myocardial infarction symptoms was increased significantly after the brief educational intervention. Srikrajang, et al., (2010)63 conducted quasi experimental study to assess the effectiveness of education package on prevention of cardiovascular disease on knowledge and attitude in which 100 people at risk were randomly selected in both study and control group. The mean differed score on knowledge and attitude had significantly improved after the administration of education package at p <0. 0001.

Lenzm kasper (2009)56 conducted a pre experimental study to assess the effectiveness of patient teaching aid for the prevention of myocardial infarction among 100 adults from selected areas using purposive sampling technique. It was found that the overall knowledge was significantly

improved from 21% to 78% in the post test at p <0. 0001. Anniewaker, et al., (2009)68 conducted a quasi experimental study to assess the effectiveness of video cum lecture discussion on prevention of ischemic heart disease (IHD) on knowledge and attitude in which 100 people at risk were selected in both study and control group. The mean differed score on knowledge and attitude has significantly improved after the administration of video cum lecture discussion at p <0. 0001. Daisychristopher, et al., (2007)71 conducted a pre experimental study to assess the effectiveness of structured teaching programme regarding risk factors of ischemic heart disease (IHD) on knowledge and attitude in which 140 people risk for heart disease were selected using purposive sampling technique. The mean score of knowledge about IHD after the structured teaching programme was increased significantly at p <0. 0001.

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