CHAPTER - I

INTRODUCTION

1.1 Introduction

The world’s largest growing economy is undergoing a rapid economic growth, coupled with demographic, cultural and lifestyle changes posing a serious concern of the health profile of India citizens. In India, CVD has been designated as the leading cause of mortality and morbidity, representing a total of 31% of all global deaths (WHO Fact sheet, 2015). With the growing incidences and presence of CVD in both urban and rural area among male and females, it gets necessary to look into the depth and quote the causes for the growing condition. The focus of the country has been long in combating the acute, chronic infections and communicable diseases, however recent data from various sources (Gaziano T., et.al, 2006) (World Health Report, 2002) (Gupta and Gupta, 2009) reported 35% to 37% deaths because of CVD. Earlier the concept of CVD being a rich man’s disease exist no more as the health transition is occurring more rapidly in low and middle – income countries where the burden is getting more common among the illiterate and low socioeconomic subjects. Cardiac diseases have reached epidemic magnitude in various developing and underdeveloped countries thus restricting the fact that it is limited to geographical area or by age, sex, or socioeconomic boundaries. WHO report 2011 suggests that out of 57 million global deaths in 2008, 53% were particularly due to NCDs specifically, cardiovascular diseases, diabetes, cancers and chronic respiratory diseases. The annual deaths due to these diseases are expected to rise in low and middle-income countries. According to a report published by World Health Report 2002, India by 2020 will experience the largest cause of death and disability due to CVD. Estimates suggest that around 2.6 million Indians are at the stake of death due to CVD which means 54.1 % of all CVD deaths. Cardiovascular diseases (CVDs) are a group of disorders of the heart and blood vessels and they include:

- coronary heart disease – disease of the blood vessels supplying the heart muscle;
- cerebrovascular disease – disease of the blood vessels supplying the brain;
- peripheral arterial disease – disease of blood vessels supplying the arms and legs;
• rheumatic heart disease – damage to the heart muscle and heart valves from rheumatic fever, caused by streptococcal bacteria;
• congenital heart disease – malformations of heart structure existing at birth;
• deep vein thrombosis and pulmonary embolism – blood clots in the leg veins, which can dislodge and move to the heart and lungs. (WHO, 2013a)

Certain facts of cardiovascular diseases are:
1. An estimated 17.3 million people died from CVDs in 2008.
2. Over 80% of CVD deaths take place in low- and middle-income countries.
3. By 2030 more than 23 million people will die annually from CVDs.

The Risk of developing cardiovascular diseases in early adulthood is very high, Clearly, the development of cardiovascular disease in adulthood is influenced by growth very early in life, even prior to birth (Kirley and Shalowitz, 2013). Among young adult the levels of modifiable risk factors predict the odds of developing heart disease in middle age more than the levels of risk factors measured in middle age, (National Heart, Lung, and Blood Institute, 2007).

Studies have shown that being illiterate or poor is alone an independent risk factor for AMI, whilst the factors such as smoking and tobacco use, low physical activity, high dietary fat intake, uncontrolled hypertension, uncontrolled hypercholesterolemia and diabetes are also more common among the low socioeconomic individuals (Gupta et al., 2009). The most important behavioural risk factors of heart disease and stroke are unhealthy diet, physical inactivity, tobacco use and harmful use of alcohol. The effects of behavioural risk factors may show up in individuals as raised blood pressure, raised blood glucose, raised blood lipids, and overweight and obesity. Different studies on heart disease confirmed that most of the risk factors for heart disease starts to develop at young age (Berenson, 2009; Pencina et al., 2009). Studies completed among university students showed that college students have enough risk factors for developing CVD (Hlaing et al., 2007; Spencer, 2002).

The majority of individuals lying in the age group of 20-69 years will encounter nearly half of the estimated deaths increasing to 24.8% which means losing more productive people too these diseases more
importantly the time period of early adulthood where are individual is concerned with developing the ability to share intimacy, seeking to form relationships and finding intimate love. Long-term relationships are formed, and often marriage and children result (Prabhakaran et al., 2005). The encounter of deaths by Indians is experienced a decade earlier than their matching part in countries with established market economies (EME). The prevalence in urban and rural India has been found between 10-12% and 4-5% respectively. A rough estimate has indicated around 30 million existing CHD patients of which 16 million are in urban and 14 million in rural and if this trend continues to exist by the year 2020, the burden of CVD is supposed to go beyond other regions of the world.

**Figure 1.1: Projected Global Burden of CVD Deaths (1990-2020)**

Various Clinical and statistical studies have recognized several factors that elevate the risk of developing CVD (American Heart Association [AHA], 2010). Each and every factor has an independent effect, however also the combinations of these factors show the effects to be synergistic. The risk factors can be classified into Major RFs; those that have shown to significantly increase CHD, or contributing RFs; those only associated with CHD and have yet to be precisely determined (AHA, 2010).

Major RFs includes both Modifiable and Non – modifiable RFs. Modifiable RFs are those that can be changed, controlled or treated by modifying lifestyle habits or by
taking medication (AHA, 2010) whereas Non-modifiable includes those that are inherited and an individual does not have any control over them. However, people in these high-risk categories should receive regular check-ups. Table 1.1 summarises the modifiable RFs defining how each factors increases the chances of developing CVD.

### Table 1.1: Cardiovascular Disease Major Modifiable Risk Factors

<table>
<thead>
<tr>
<th>Risk Factors</th>
<th>How does the risk factors increase CVD development?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tobacco Smoking</td>
<td>An impairment of the endothelial function in plaque formation causing the rupturing of plaque thus increasing the clotting property. Tobacco smoke also reduces the amount of oxygen the blood is able to carry (Cutting, 2004) and thus increases blood pressure (AHA, 2010).</td>
</tr>
<tr>
<td>High Blood Pressure</td>
<td>With ever 20 mmHg systolic or 10 mmHg diastolic augment in resting blood pressure there is a two-fold elevation in risk of death from ischemic heart disease or stroke. (Maraj et al. 2013) elucidate that HTN is associated with decrease in vascular fulfilment and endothelial injury.</td>
</tr>
<tr>
<td>High Blood Cholesterol</td>
<td>Through time as the cholesterol level increases, the chances of heart disease and stroke parallel to it also increases. When too much fat like substance starts building up in the arteries in the form of plaque. A block in the blood flow occur which results in heart attack or stroke.</td>
</tr>
<tr>
<td>Physical Inactivity</td>
<td>People who lead a sedentary lifestyle are nearly twice as likely to develop a heart disease as compared to those who do</td>
</tr>
<tr>
<td>Obesity and Overweight</td>
<td>Pertaining to the fact that how excess body fat especially at the waist is related to increased Heart disease risk and associated with high blood pressure, high cholesterol, or high blood sugar can make the condition shoddier. In 2014, more than 1.9 billion adults aged 18 years and older were overweight. Of these over 600 million adults were obese.(WHO,2016)</td>
</tr>
<tr>
<td>Diabetes Mellitus</td>
<td>High blood glucose level causes blood vessels damage leading to the formation of plaque.</td>
</tr>
</tbody>
</table>
People belonging to rural areas are more susceptible to stroke and heart diseases as a fact that the use of alcohol, tobacco, burden of diabetes and very little access to health services is seen, the main factors that are require to manage CVD (Gamm et al., 2003). The contributing factors for the growing burden of CVDs are increasing prevalence of cardiovascular risk factors especially hypertension, dyslipidemia, diabetes, overweight or obesity, physical inactivity and tobacco use. The prevalence of HTN in urban areas is seen to be similar in rural areas and other world regions, however its rate is higher in males than in females, prevalence rate of 29.3-45.1% in men and 25.2- 38.2% in women, with a steady increase seen over the past 20 years (Bansal et al., 2012). Prevalence of hypertension in India is 25% in urban and 10% in rural inhabitants; Prevalence of dyslipidemia is about 37.5% among adults of 15 to 64 years of age.

Non – modifiable RFs are those which cannot be changed, they include race/ethnicity, age, gender and heredity (AHA, 2010). Studies have suggested that as a person ages there is an increase in endothelial injury and decreased endothelial repair, thus the risk increases with age as the heart lessens its functions (Huether and McCance., 1994), also the risk factors they start to develop at a young age (Berenson et al., 1998; Pencina et al., 2009). In a recent AHA update on CVD statistics, the authors states that a number of studies have defined potential beneficial effects of healthy lifestyle factors and lower CVD risk factor burden on CVD outcomes and longevity. These studies suggest that prevention of risk factor development at younger ages may be the key to “successful aging” (Roger et al., 2011). Male counterparts are susceptible of greater risk when compared to females in experiencing CD events in earlier life (AHA, 2010), it is because of the fact that the female hormone oestrogen provides a protective sheet against CVD, in association with lipid metabolism. However Post menopause a women’s risk gets quite similar to that of men. (Mackay et al., 2004) as menopause and age obscures a casual relationship. The children who have a history of heart disease running in the family are likely to develop the disease themselves than those who have not (AHA, 2010). The occurrence of any heart disease event is more likely if any first-degree blood relative before the age of 55 years (in a male relative) or 65 years (in a female relative) will more likely increase the risk of developing CVD (Mackay et al. 2004).
Studies have suggested that the risk of CVD is higher among Indians and other Asians because of obesity and Diabetes Mellitus (WHO, 2011).

The contributing RFs include Stress, Alcohol consumption and diet & Nutrition (AHA, 2010). A significant association has been seen between stress and CVD as stress elevates other RFs such as overreacting, alcohol consumption smoking etc. Alcohol has shown to increase stress and chaotic flow of blood (Pletcher et al. 2005) along with increased inflammation or cholesterol oxidation. Smoking may be less relevant in South Asian groups particularly among women’s, but ghee consumption is strikingly high which is undoubtly atherogenic (Chaturvedi, 2003). Pertaining to the fact that all these RFs significantly have a high level of relationship in elevation of CVD, management of these RFs becomes of utmost priority, and the focus should be diverted towards main three components; Smoking/tobacco/alcohol cessation, Diet modification and physical activity (British Association for Cardiac Rehabilitation [BACR], 2007). When all these activities are coupled better heart health can be seen and evidences have proved that there is a reduction in CVD cases and enhancement in good practices associated with CVD (Khosravi et al. 2010; Ramanath et al. 2012; Sarrafzadegan et al. 2013). The prevention of CVD lies on the fact that how knowledgeable an individual is of its own RFs and upto what extent he can practice it to improve it (Jafray et al. 2005).

![Figure 1.2: The casual Chain, Major Risk factors of CVD (Arrow indicates some (but not all) of the pathways by which these causes interact.](image-url)
The prevention of CVD as denoted by (WHO, 2000) marks the prevention into two categories one for those people with RFs but have yet not developed clinically manifest cardiovascular disease (primary prevention) and second those who have established CVD. Primary prevention partially depends on awareness and perception of personal risk (O'Donnell, 2005). Primary prevention includes provision of counselling and care of individuals who place themselves to 10 years of CVD events, encouraging them to stop smoking or not start smoking for non smokers, encouraging strongly to maintain the fat intake, taking certain drugs if they are the edge of developing HTN, consuming less alcohol, maintain ideal weight and being physically active. Whereas secondary prevention focuses on stopping any future recurring cardiac events where along with drugs an intensive lifestyle is advised along with the same modifications and continued practice of these modification every day in secondary prevention. The acceptance of any interventions has seen to modify the health beliefs of individual to a large scale.

Awareness towards the RFs as already mentioned stands of utmost importance and its management and continued practice have resulted in improved situation of individuals (Eastwood et al., 2013; Khosravi et al., 2010; Rani et al., 2012; Ramanath et al. 2012; Sarrafzadegan et al., 2009, ) such as bringing the SBP, DBP level to normal range, decreased cholesterol levels, smoking cessation, increased physical activity etc. An understanding of CVD and its risk factors gives a judgement and decision making power in CVD prevention and control. The awareness of risk has a direct relation to preventive strategies adopted for defying heart diseases and adopting future preventive behaviours says (Glanz, 2002) and those who are not aware have the least possibility of adopting preventive strategies (King et al., 2002). The most important reason for the unawareness is the lack of knowledge which in return affects their attitude and practices, and pertaining to the fact that there is very little existing knowledge on CVD among both sexes and also that they identify CVD as a risk for their health in the coming future (Vanhecke et al., 2006) and also among those who have existing CVD (Celentano et al., 2004). Most respondents are not able to identify their own RFs and the one who do recognise are quite different from those recognised by physicians (Mcneil and Artinian, 2002). So a better knowledge of RFs is needed to reduce the incidences of mortality and morbidity.
However individual change in a person knowledge alone cannot reflect a change in their practices if there is a lack of skill and motivation. The behavioural model states that a person who has a willingness (motivation) to perform and availability of conducive environment, there will be a higher probability that the changes of practice will occur (Fishbein, 2000). So a person with a positive attitude will divert himself to change his behaviour to practice good things as the existing studies prove that there is significantly low proportion of people having good knowledge (Pandey and Khadka, 2012; Winham and Johns, 2011), Positive attitude (Monuica, 2015; Oguoma et al., 2014) and fair practice (Kopp, 2015; Mittwali et al., 2013). Most of the studies found that participants had no idea about any type of CVD and among it only CHD was the most identified type (29.0%) (Awad and Nafisi, 2014) almost half of respondents were not able to recognize any stroke symptoms, and the most commonly recognized were ‘confusion or trouble speaking’ (36.4%) and ‘numbness or weakness’ (34.7%), had a moderate level of knowledge regarding CVD risk factors. In a study to assess attitude by Oguoma et al., 2014 28.4% people accepted of visiting the clinic regularly, whereas 10.4% gave no reason for not visiting the doctor, had a nonchalant attitude towards health. Whilst, 16.7% quoted the statement as not falling ill or being healthy is a good enough reason to not go to doctor whereas when asked about practice 64.9% did not indulge in any exercising, while only 1.4% do it for less than 3 hrs / week, whereas a total of 83.5% had not checked their blood pressure in the last 18 months. Therefore the assessment of knowledge, attitude and practice on CVD and the association of these 3 components are considerably the most important factors in order to prevent CVD problem since it is fatal, as most of the cases occurring are somewhere associated to lack of knowledge, ignorant attitude or poor practices.

A Knowledge, Attitude and Practices (KAP) survey is basically a method that provides access to both qualitative and quantitative information. This survey helps in revealing any kind of misconception that the respondent may have regarding the change that we would want to implement, it takes an opinion of the individual. It reveals what the person has knowledge of and what he is practicing instead but is willing to adapt something new. A KAP Survey can:
A Retrospective study on Cardiovascular disease “at risk” in early adulthood: Measuring by KAP and their Nutritional management

1. Enhance an individual’s knowledge on certain areas, and change their concept on health related issues.
2. It can measure the situation that has existed in the society and can provide new background on the existing reality.
3. Establish the baseline (reference value) for use in future assessments and help measure the effectiveness of health education activities ability to change health-related behaviours.
4. Suggest an intervention strategy that reflects specific local circumstances and the cultural factors that influence them; plan activities that are suited to the respective population involved

![Figure 1.3: Conceptual Framework of Knowledge, Attitude and Practices](image)

The involvement of patients or an individual in managing their disease, along with the effort to reduce the RFs is important in the overall treatment strategy. This is only possible if the person is well aware of his own state thus, giving him a better ability to perceive their risk.

Risk perception most commonly stated as a judgement that a person makes about the characteristics and severity of risk, mostly explained in terms of health (Tod et al., 2001) explains risk perception as a very important predictor that ascertains a person’s commitment towards healthy lifestyle.

In a study done by (Lisk and Garu, 2016) to assess the perception of women living with coronary heart disease it was found that most of the participants failed to
recognize the significance of risk factors and symptoms, they even refuted the existence of any disease following diagnosis and treatment. Risk factors and risk perceptions among HIV-infected adults states that knowledge regarding RFs of CVD is not predictive of perceived risk of CVD $F(1,117) = 0.13, p > .05$), the perceived risk was weakly associated with estimated risk but significantly correlated $r(126) = .24, p = .01$ Cioe et al. (2014).

(Armitage and Conner, 2000) states that behavioural change is implemented through knowledge and perceived risk that has been stressed through various behaviour motivation theories. People’s perception towards risk factors of CVD reveals perceived dietary factors, particularly consumption of salty, fatty, and oily food, as the main determinants of CVD, respondents commonly linked smoking, alcohol intake, and high blood pressure with cardiac ailments but account a mixed opinion regarding the causal role of body weight and physical inactivity (Oli et al., 2014).

Perceiving and being able to understand the risk is a very important component which helps to determine the health associated behavioural changes, thus ensuring that an individual’s knowledge is enhanced as he can well understand his own RFs is very important (Surka et al., 2015). Awareness and knowledge towards RFs of CVD are the prerequisites for adopting healthy attitude and a behavioural practice says (Homko et al., 2008) because majority of population still adopt orthodox attitude towards treating cardiac disease (Za et al., 2002).

The concept that CVD can be prevented has increasingly become quite a driving force for people working in the health care area. In the recent years the prevention technique has turned it way and is being given an upper hand. The concept of taking prevention before occurrence of any CVD event or seeing an individual predisposed to any CVD RF should be taken more seriously. Preventive strategies adopted in intervention procedure should take a look at the concept of risk, because according to the category of risk, the aggressiveness of intervention should be planned (Grundy, 2016). Individuals with CVD are instructed to involve in self –
care, the term interchangeably used with self-management, self-regulation, self-monitoring, adherence, and compliance to describe the behaviours or activities in which people are asked to engage in to promote health and well-being, generally the interventions are categorized into three groups tailored counselling, self-monitoring, and periodic reminder of which tailored counselling was proved best for interacting with people of low literacy level (Lee et al., 2012).

Provision of intervention via any methods such as in a study of 6 months where the control group received printed educational information and brief advice on lifestyle modifications at 1 individual, 30-minute session at randomization. Participants in the established interventions group (EST) and the established interventions plus DASH (Dietary Approaches to Stop Hypertension) diet group (EST+DASH) received an intensive behavioural intervention and had in-person contacts with an interventionist at 4 individual and 14 group sessions (Maruthur et al., 2009), results showed that mean systolic BP 3.7 mm Hg ($P<0.001$) lower in the EST group and 4.3 mm Hg ($P<0.001$) lower in the EST+DASH group after intervention.

Similarly in another study an intervention of lifestyle behavioural changes on SBP there was a reduction ranging from (1)/2 to 1(1)/2 mm Hg for reduced urinary sodium, improved fitness, and adherence to the DASH diet (except sodium at 18 months). With weight included, only fitness change additionally predicted SBP at 18 months (Obarzanek et al., 2007) thus more strongly depicting the effect of changes through interventional approach as these interventions address the broader determinants of risk and disease burden affecting both the population as whole and individuals.

Providing appropriate counselling in matters such as recommending increased intake of plant proteins; increased intake of omega-3 fatty acids; modification of the types of oils used in food preparation; decreased intake of saturated and trans-fatty acids, increased intake of whole grains and dietary fibre (especially soluble fibre) and decreased intake of refined grains, modification of alcohol intake, if needed, and regular exercise can prove to be helpful for those who are at the risk of CVD as
dietary management is quite a powerful tool. Interventions that include counselling and education have shown improved knowledge of CHD, AMI symptoms and the appropriate response to symptoms in people at risk of AMI which sustained up to 12 months (Buckley et al., 2006). Good knowledge about CVD RFs will aid them to be proactive in reducing the risk as most the RFs are modifiable.

Figure 1.4: Framework depicting the outcomes of an Interventional Approach

Another interventional study conducted on 35–70 years women was performed in four urban and five rural locations on 4624 (rural 2616, urban 2008) of eligible 8000 women (58%) with the help of interventional modules such as posters, handouts, street plays, public lectures, group lectures and focused group discussions at each site and it was found that there was an increase in knowledge regarding diet in hypertension, diabetes, heart disease and anaemia as well as importance of dietary proteins, fats, fibres and fruits was observed \((p < 0.001)\). There was insignificant change in most of the practices regarding intake of low fat, high protein, high fibre diet except sieving the flour which declined significantly \((80.1 \text{ vs } 53.6, p < 0.001)\) (Pandey et al., 2013). If the prevalence of these diseases need to be reduced, it is very important to take interventions into account for effective health behaviour change mechanisms.

New technologies such as websites, videogames, computer programmes etc. may reach people with better health messages and promotion of healthy ideas can be implemented among masses in a more desirable form. (Barrera et al., 2009; Levy and Strombeck, 2002; Walters et al., 2006). One quite common benefit of these interventions is that the people can be reached at any point of time without any
disparity as the people continue to use these devices and with the enhancing technology, the use is gradually increasing. A study conducted by Barerra et al., 2009 in a global sample of Spanish- and English-speaking smokers who participated in a series of randomized controlled smoking cessation trials conducted via the Internet, it was reported that substantial numbers of smokers from numerous countries seek Web-based smoking cessation resources and adds to the growing support for Web-assisted tobacco interventions as an additional tool to address the need for global smoking cessation efforts.

Knowledge, Attitude and practices provided to the early adulthood people through web based interventions are likely to have a profound influence on the overall health of people with identified CVD and the one predisposed with RFs. This aspect has remained unexplored, with this background this study is proposed with the aim of enhancing the overall KAP of people along with determining their perception of risk towards heart diseases in Lucknow city.

The prevalence of CVD as evident is on increase in most of the countries especially low and middle-income countries, true to say that the epidemic has reached globally now (Khan et al., 2006); a plague that almost crossed all borders (Mackay et al., 2004), the current situation requires a change in the preventive techniques associated with CVD more importantly among early adulthood, though CVD is considered the disease of elderly studies have proved that it occurs early in life Even though CVD is considered the disease of the middle age or elderly, different studies have shown that it begins early in life (Berenson, 1998; Pencina et al., 2009). As the prevalence of risk factors is quite high among adults and studies have supported the fact that the increase in CVD is increasing day by day (Gupta et al., 2002; Prabhakaran et al., 2005), because of increased health risk behaviours especially HTN, elevated FBS levels, hypercholesterolemia, increased tobacco/alcohol, stress, sedentary lifestyle because of the day to day increasing work pressure and deteriorating life style making them more prone to development of heart disease as they grow older (AHA, 2016; Irazusta et al., 2007).

Most of the risk factors are directly associated in combating with heart diseases and enhanced awareness can stop or delay the onset of heart diseases. The concept of enhanced knowledge directly on risk factors modification has been emphasized in a
lot of studies (Crouch & Wilson, 2010) as understanding your own risk is important for making further behavioural changes and improving their perception towards heart disease. Change in the knowledge has a direct impact on the attitude and practices of individuals thus adopting a healthier lifestyle (Homko et al., 2008). The prevention of CVD primarily depends on awareness and risk perception, and with the increasing incidences of CVD burden in our society, implementation of preventive strategies in the face of intervention through internet based technology such as websites etc. is very much needed and because of the fact that such technology is very much accepted among early adults it gets more easily adapted among individuals and they can have access to it whenever they want to (Barerra et al., 2009).

Thus, knowledge can help alone in accurately understanding their risk factors and improving their attitude, practices and perception towards heart disease because many adults may not see CVD as a hazard to their life and continue to exploit their risk behaviours because of unawareness but they may be at the edge of developing any disorder and intervening them through use of technology can prove to be a step ahead in Health behaviour modification. As early adults secure the maximum position in India, terming them as the productive people their health stands of utmost importance and hence there is a critical need to increase their awareness, knowledge and perception about CVD in this adult population. This study would help to understand the baseline KAP of individuals and further enhance their awareness towards CVD, thus improving their health behaviours.

1.2 OBJECTIVE OF THE STUDY

a) To know personal attributes and lifestyle variables in early adulthood.

b) To estimate the risk of CVD by using perception of risk of heart disease scale.

c) To understand the baseline KAP of the study subjects by using an inventory.

d) To intervene an experimental group for nutritional management and behaviourally oriented counselling by using Prohealth website

e) To evaluate the effectiveness of intervention and associate with pre and post phase of the study.
f) To correlate various factors with reference to CVD before and after the intervention.

1.3 HYPOTHESIS

H₀: There exists no significant relationship between KAP of respondents regarding CVD.

H₀: There exist no significant relationship between risk perception and demographic variables of respondents.

H₀: There is no significant association between risk perception and KAP of respondents.

H₀: There exist no significant relationship between Age, Gender and Morbidity Status

H₀: Morbidity status is not significantly associated with marital status and employment.

H₀: There exists a significant relationship between Morbidity status and monthly income.

H₀: There exists no significant relationship between Age and food consumption pattern.

H₀: Age is significantly associated with family history of disease.

H₀: There exist a significant association between age and Lipid profile and BMI.

H₀: Age and Gender is significantly associated with eating habits/addiction.

H₀: Marital status and employment status is significantly associated with eating habits/addiction.

H₀: Age and Gender is significantly associated with KAP of respondents.

H₀: There exists no significant relationship between employment and KAP of respondents.
1.4 BRIEF OUTLINE OF THE STUDY

This study was carried out in urban area of Lucknow. The approaches adopted for the study was cross-sectional and Non-experimental pre-test/post-test design. For this study 250 individuals belonging to early adulthood age groups (20 to 40 years) were selected from two Mohall’s of Lucknow city by adopting multistage random sampling, purposive sampling and convenience sampling procedure. At different stages different sampling techniques were applied. The tools in the study were pre-designed and pre-tested questionnaire comprising of family and individual schedule, Perception of risk of heart disease scale, KAP inventory, 20-item evaluation sheet, weighing scale, steel anthropometric rod, Prohealth website. Socio-economic and demographic information were obtained by inter-viewing head / any responsible member of the family. Characteristics of the study subjects were obtained by interviewing them. Knowledge, attitude, practice level were assessed by questionnaire method using pre-designed and pre-tested inventories. Perception of risk was assessed by using a standardized scale, evaluation for the proposed website was done by a 20-item evaluation sheet, and Intervention was given through a designed website prohealth.

Anthropometric measurements i.e. weight, height were recorded by using standard techniques. Lipid estimation was done by a professional in the pathology. Consumption pattern were assessed by Food frequency method. Dietary practices of individuals were assessed by interviewing them with the help of individual schedule. Data thus generated were coded and entered into the SPSS version 20.0. Initially association of demographic, socio-economic, personal attributes with the KAP and perception of risk of the study subjects was analysed by applying chi-square test. The other appropriate statistical tools incorporated in this study included- Mean ± SD, frequency tabulation, Chi-square test, correlation, multiple regression and student ‘t’ test. The findings arising out of the analysis are presented in chapter IV.

1.5 SCOPE OF THE STUDY:

The present study besides giving an overview of the personal attributes, demographic and socio-economic profile of early adults, gives an insight to associated knowledge, attitude and practices of individuals. In respect to CVD, mostly called as an old man’s or rich man’s disease, has shifted its paradigm towards the early stages of life because of increased lifestyle and behavioural changes, this study will provide an insight to
how these individuals perceive the risk of developing a heart disease in the near coming future. The area specific consideration of an individual overall thought i.e; Knowledge, attitude, Practice and risk perception towards a particular disease will highlight the specific needs of individuals in the particular area that was never assessed before this study. A comprehensive study encompassing all the important factors Knowledge, attitude, Practice and risk perception related to heart disease have not been contemplated in this city. Because of easy adaptability of technology in this age group is quite common. Thus, the development of a website was emphasized in this study for intervening individuals for behavioural changes. These studies further focuses on people adapting health lifestyle and beliefs through this website and bring those changes in their day to day practices to curb the onset of diseases in the coming future. This approach has a tremendous influence on the outcome of research. The association of personal attributes, demographic & socio-economic profile with the KAP and perception adults have been examined by adopting befitting statistical techniques. This study helps to identify the important risk factors that have a direct affect on an individual’s thought process to adapt any behavioural change. The information gained from this present study will help to further implement policies to combat the health of people who are at the risk of developing CVD or are already suffering from. In fact this study provides a broader perspective on how much knowledge, attitude and practices they have and follow and in what way they relate it to their risk perception.

1.6 LIMITATIONS OF THE STUDY

1. Due to resource constraints non-experimental design was used, thus the changes that could have been in the control group because of other factors could not be assessed.

2. The method used does not call for generalized information and the sample provides only limited understanding of the phenomenon and should not necessarily be applied to other populations.