

Cardiovascular Health Literacy in Nepal: Increasing awareness of cardiovascular diseases is important but inadequate

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The last decade witnessed quite an upsurge in cardiovascular studies in Nepal.¹ Since the pioneering works of Dr. M.R. Pandey and his colleagues in the 1980s, there have been many population and hospital-based cardiovascular studies published or reported. Some of these publications are based on studies done in smaller geographical locations while a few are nationally representative. All these population-based studies nevertheless point towards the same direction- a high prevalence of underlying risk factors- be it biological factors such as hypertension and obesity; or the behavioural ones like tobacco and physical activity. There has been, however, not much research at the population level on biochemical risk factors such as diabetes mellitus and lipid profile. Genetic studies are thus even rarer in that sense.

Another characteristic of the Nepalese cardiovascular studies so far is that they have mainly looked at the medical side of the cardiovascular diseases (CVDs), mostly at the risk factors. There are other areas that are important too but ignored so far. For example, we do not have a study exploring how a population is dealing with the cardiovascular health issues, what is the treatment seeking behaviour, the underlying sociological or cultural aspects of the disease, and so on. In lack of a policy or programmes for non-communicable diseases (NCDs), question on researches that look into the efficiency of policy or the programmes does not arise at all. Thus, studies on the social or policy dimension of cardiovascular health, which are often explored with qualitative studies and operational researches respectively, are completely absent at present.

How well a population is aware of CVD, its risk factors, possible prevention and control strategies is also a critical area of research- often termed as health literacy research. Because the disease is rooted in one's life-style, this category of research looks into attitude and behaviour of the individuals as well. Only a few studies in Nepal have looked into the cardiovascular health literacy issue. Limbu and colleagues enquired a heterogeneous, non-random population on heart attack symptoms and found low level of knowledge on the issue.² Upadhyay and colleagues too found low knowledge

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of diabetes among the diabetes patients visiting the hospital.³ Clearly, these studies just indicate poor cardiovascular health literacy but do not explore deep enough in to the issues. It may be expected that in lack of adequate knowledge or proper attitude, appropriate behaviour does not ensue. But whether this is really true in Nepalese population is still an unanswered question.

We started the Heart-Health Associated Research and Dissemination in the Community (HARDIC) Trial in 2011 to look at some of the issues not studied so far. This ongoing study is being conducted at Jhaukheld and Duwakot villages of Bhaktapur district in a Health-Demographic Surveillance Site (JD-HDSS).⁴ Such a site provides longitudinal data regarding health and demography in countries with inadequate registration systems for vital statistics. The HARDIC trial aims to answer the possibility of training the lay health workers in order to improve the cardiovascular health literacy and practice in a Nepalese community. As lack of awareness leading to unhealthy lifestyle and then to disease- or lack of health literacy to recognize symptoms or to use the available facilities- contribute to the rise of CVD morbidity and mortality, it may be hypothesized that community health workers can play a crucial role in improving cardiovascular literacy and practice at the grass-root level.

Eighteen wards, i.e., the smallest administrative units, in the JD-HDSS have been divided randomly into three batches of 6 clusters. The baseline level of CV literacy and practice (Knowledge Attitudes & Practices; KAP) has been recently assessed for the first batch of six clusters, using questionnaire and devices to determine blood pressure and BMI. We shall share some of the preliminary findings in this brief communication. The next step in the HARDIC trial shall be to train the local Female Community Health Volunteers (FCHVs) in cardiovascular health using tailored guidelines. Methods of cardiovascular knowledge dissemination shall then be developed and implemented in the six clusters by the trained FCHVs. A repeat KAP-assessment of these clusters shall follow at two weeks and six months. The process shall be repeated for the next two batches of wards after six and 12 months respectively; the first, second and third batches shall have received the intervention thrice, twice and once, at the end of 18 months. Change in KAP shall be assessed across time and batches. Feasibility of the intervention shall be evaluated.

For the first baseline, the trained enumerators interviewed 777 individuals from the randomly selected three wards each of Duwakot and Jhaukheld (229 males and 548 females). Mean (standard deviation) age of the population was 39.7 (9.2) years. About 15% had been educated up to or beyond high school level while a quarter of them had not had any formal schooling. Twenty percent of the respondents were smokers (33% among males and 14% among females). Thirty-seven percent of the males and 14% of the females were alcohol drinkers. Sixteen percent of the respondents were sedentary at work while 49% were sedentary during leisure-time activities. Twenty-one percent were known to be hypertensive while 29% were found to be overweight by body mass index criterion. Thirty out of 103 respondents who had checked their blood sugar level checked within the previous 12 months were known diabetics.

The respondents were asked to name the reasons why a person suffers from heart disease. About a quarter of them named smoking and alcohol; high blood pressure and excessive stress were told by around 15%; while roughly 5% mentioned physical inactivity and excessive weight. Low level of knowledge were also found for other knowledge-related questions such as symptoms of a heart attack or what should be done in case of a suspected heart attack, and so on. The respondents were then enquired on their attitude regarding cardiovascular health with questions such as whether they perceive themselves to be at risk for heart disease or whether they would want to change their lifestyle (physical activity, smoking, and alcohol), etc. The answers were recorded in a Likert-scale with options ranging between 'strongly agree' to 'strongly disagree'. They were then asked about the behaviour-related questions such as if they did any heart friendly behaviour in the previous year. Scores were allocated for the knowledge (53 maximum), attitude (70 maximum), and behaviour-related (25 maximum) questions. Reliability Analysis of the questions as calculated with Cronbach's Alpha was: 0.94 for knowledge, 0.83 for attitude, and 0.26-0.93 for behaviour related questions. Median (inter-quartile range) of scores was 3 (2-6) for knowledge, 52 (48-56) for attitude and 12 (9-14) for behaviour. We found a very poor correlation of knowledge with attitude (Pearson correlation: 0.084; p-value: 0.018) and behaviour (Pearson correlation: 0.168; p-value: <0.001).

Nepal, at present, does not have a definite policy or programmes on CVDs and other NCDs. There are however frequent programmes carried out by different hospitals or other medical institutes and various organizations with aim of increasing public awareness and knowledge about the CVDs. From our data, we find that there is a very poor correlation between knowledge and attitude and behaviour when it comes to heart-health. Thus, just increasing the knowledge component is not enough. Efforts should be directed towards health promotion of the community by person-to-person approach that shall lead to improved behaviour of the population.⁵ In the HARDIC trial, we aim to improve the behaviour component of the heart-health by training the FCHVs who have direct access and interactions with the adult members of the households.

Community-based interventions to promote positive cardiovascular health have been tried in different countries. The Cardiovascular Health Awareness Program (CHAP) in Ontario, Canada randomly allocated thirty-nine mid-sized communities to receive CHAP or no intervention.⁶ In intervened communities, trained volunteers delivered the program with support from pharmacists, community nurses and local organisations. The Stanford Five-City Project in central California cities looked at the effect of health education in the physical activity of the 18-74 year olds, and the results indicated little consistent evidence of a treatment effect on physical activity knowledge, attitudes, or self-efficacy in either men or women and hence underscored the need for development of more effective interventions to change physical activity than is provided by a broad-based, community-wide health education program.⁷ Evidence like this further suggest that merely educating the population on heart-health is inadequate.

It is expected that our results will advocate the health policy makers of Nepal to formulate national policies for CVD as the research shall provide an insight to the feasibility and effectiveness of training primary health care workers and volunteers in a low-resource setting. As

Nepal plans to introduce programmes for cardiovascular and other NCDs soon, this research will evaluate their applicability and effectiveness in the primary healthcare setting.

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