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## Original Article

# Barriers to cardiovascular disease risk reduction: Does physicians' perspective matter?



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## ARTICLE INFO

## Article history:

Received 2 April 2015

Accepted 17 August 2015

Available online 12 January 2016

## Keywords:

Cardiovascular disease

Risk factors

Physicians

Convergent parallel design

## ABSTRACT

**Background:** Cardiovascular disease (CVD) is emerging as a major epidemic and the leading cause of death and disability in India. This study is an attempt to understand the barriers and challenges faced by physicians in CVD risk reduction in a rural setting.

**Methods:** The study was conducted among 34 physicians across six randomly selected villages of Bangalore Rural District. Convergent parallel design was used to combine the strengths of qualitative and quantitative approaches to develop a stronger understanding of the experiences and challenges of practicing physicians in reducing the risk of CVD in this region. After concurrently collecting the data, rigorous procedures for both quantitative and qualitative methods were used independently and then merged to provide an enhanced understanding of the research question.

**Results:** Lack of knowledge and understanding of the disease, myths and beliefs, attitude of the patients, non-adherence to lifestyle changes and medications, the chronic nature of the disease, financial constraints, and lack of national guidelines were identified as the major barriers.

**Conclusion:** This study highlights the challenges faced by physicians in dealing with the increasing number of patients presenting with CVD risk factors in rural areas. It also suggests options that could minimize these barriers, enabling them to manage their patients with CVD risk in the best way possible. It is critical to institute guidelines and algorithms to manage these risk factors in the rural Indian context.

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## 1. Introduction

According to the World Health Report 2002, cardiovascular diseases (CVD) will be the largest cause of death and disability in

India by 2020.<sup>1</sup> It is the first among top five causes of deaths in the Indian population (rural vs. urban, economically backward vs. developed states, men vs. women and at all stages vs. middle age).<sup>2</sup> CVDs are expected to be the fastest growing chronic illness by 2015 growing at 9.2% annually from 2000 onwards.<sup>3</sup>

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<http://dx.doi.org/10.1016/j.ihj.2015.08.014>

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CVD, till recently, was considered as an urban epidemic; however, recent studies have reported high prevalence of CVD risk factors even in rural areas.<sup>4–6</sup> According to population-based cross-sectional surveys in 2003, the prevalence was estimated to be 3–4% in rural areas and 8–10% in urban areas.<sup>7</sup>

Risk factor modification can reduce clinical events and premature death in people with established CVD as well as in those who are at high cardiovascular risk due to one or more risk factors.<sup>8</sup>

Despite widespread awareness among clinicians about primary and secondary CVD prevention goals, the application of these interventions into their practice seems far from optimal.<sup>9</sup>

There are barriers, both from the patient as well as physicians sides that may have an effect on risk reduction especially in rural areas.

Little is known about what the physicians perceive as barriers to CVD risk reduction in rural setting areas. This study elaborates the barriers perceived by physicians in managing modifiable CVD risk factors, such as hypertension and diabetes, in the context of reducing CVD risk in rural resource constrained settings.

## 2. Methods and materials

For the purpose of this study, six villages were randomly selected from Devanahalli Taluk (sub-district) of Bangalore Rural District. They were Bommavara, Solur, Chikksonne, Kanamangala, Illthore, and Singarahalli. There were only two doctors in-toto for all the listed villages. A sample survey conducted in 30 households in each of these villages revealed that the majority of people from these villages go to Devanahalli (Sub-district headquarters situated 8–12 km from these villages), to avail medical services. Hence, the private clinics, nursing homes, primary health centers, and government hospitals in Devanahalli were mapped and the doctors were contacted for the survey.

We used convergent parallel design to elaborate on the multi-dimensional aspects of the stated problem and to better understand the experiences of the physicians in attaining CVD risk reduction. The research questions were broad, so as to accommodate both quantitative (questionnaire) and qualitative (in-depth interview) research methods.

The purpose of the convergent design is “to obtain different but complementary data on the same topic”,<sup>10</sup> to best understand the research problem and to bring together the differing strengths and non-overlapping weaknesses of quantitative methods.<sup>11</sup> We used this design to synthesize complementary quantitative and qualitative results to develop a more complete understanding of the phenomenon and to triangulate the data to enhance the validity of the results.

Overall, 42 doctors were contacted over the phone and informed about the purpose and methods of the study. All these doctors were either working in the government healthcare system (PHC, CHC, Taluk hospital) or engaged in private practice in Devanahalli Taluk; though they may not reside within the Taluk. Few resided in Bangalore town and commuted to their place of practice in Devanahalli. The doctors from the listed villages (Bommavara, Solur, Chikksonne,

Kanamangala, Illthore, and Singarahalli) were also included. Of the 42 contacted, 36 consented to participate in the study and gave an appointment for an interview. Six doctors refused to be part of the study, due to lack of time (12), lack of interest<sup>10</sup> and poor CVD patient load.<sup>1</sup> Finally, among 36 doctors who agreed to be interviewed, 34 were interviewed, as two were out of station during the study period.

A team consisting of a doctor and health worker met each doctor on the scheduled date and time for the interview. The doctor explained the purpose and the procedure of the study. Written informed consent was taken before enlisting them into the study.

The data collection was carried out in two phases. The physician was requested to complete a pre-tested questionnaire followed by an in-depth interview.

The questionnaire comprised of demographic details, their professional qualification/s, years of experience, details of CVD training undergone and an approximate estimate of the patients with CVD risk. They were then asked about the guidelines used for managing hypertension and diabetes and to rate their confidence in managing CVD on a scale of 1–10; 1 being least and 10 highly confident. Subsequently, there were six statements pertaining to the barriers which they had to mark 'Yes or No' based on their experience. These statements were

1. The attitude of the patient is a major determinant in managing hypertension and diabetes
2. Most of my patients come regularly for follow-up
3. My patients take drugs on a regular basis
4. I spend equal or more time in counseling a patient as compared to prescribing drugs
5. I am compelled to change my drugs due to non-availability of drugs
6. Financial constraints among patients is a major barrier in managing hypertension and diabetes

The questionnaire ended with two open ended questions on barriers and their suggestions to overcome the same. The completion of the questionnaire took between 15 and 22 min

After the questionnaire was completed, the researcher interviewed the physician regarding the barriers to CVD risk reduction and management. Corbin and Strauss' strategies for qualitative research<sup>12</sup> were used to guide data collection. The interview started with asking about the regular patients with hypertension or diabetes that they commonly encountered in their clinical practice.

The semi-structured interview guide contained the following prompts:

- In your practice, do you see patients with diabetes and hypertension?
- Do you face difficulties in managing these conditions?
- Can you describe the challenges you face in diagnosing them?
- In your experience, what are the challenges in achieving control of blood pressure and blood sugar?

The interviewer probed further to attain clarity about each barrier. The entire conversation was recorded by the health

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