RESEARCH PROTOCOL

PERCEPTION AND PRACTICES OF HEALTHCARE PROVIDERS AND HYPERTENSIVE PATIENTS FOR ACCESSING TREATMENT OF HYPERTENSION AT A TERTIARY LEVEL HOSPITAL IN RAWALPINDI, PAKISTAN: A STUDY PROTOCOL

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ABSTRACT

To enable delivery of a multi-component intervention comprising of strategies based on Disease Control Priorities 3rd edition for management of hypertension among hypertensive patients. The secondary objective is to test the feasibility, acceptability and adaptability of a multi-component intervention delivered at a tertiary level health-care facility in the cultural context of Pakistan. For this formative research study, we will employ qualitative research methods to explore the feasibility, applicability and acceptance of DCP3 based intervention comprising of strategies for hypertension management. Focus group discussions and in depth interviews with selected study participants will be conducted at Armed Forces Institute of Cardiology, Rawalpindi for which a prior written and verbal consent will be obtained from all research participants.

Keywords: Disease control priorities, Hypertension, Pakistan

INTRODUCTION

Hypertension is a clinical condition which refers to persistently raised pressure of blood in the vessels[1]. Since 1980s, there has been a reduction in the mean blood pressure (BP) level at population level. By 2010 however; still it was counted as the fourth highest risk factor for cardiovascular diseases (CVD) but then it became the highest risk factor attributable to disability adjusting life years (DALYs)[2]. In low and middle-income countries, hypertension disproportionately affects the population which signals the weakness of health system. As hypertension is considered as a silent killer, it often undergoes unrecognized and leads to the development of major cardiovascular events. In addition, it also pertains to dietary and sedentary behaviors including excessive intake of salt in food, obesity and stressful life and environmental factors[3]. According to the findings of a meta-analysis, the quantifiable rise in lower-middle income countries was primarily due to aging and population growth. Approximately, 80% of global deaths due to cardiovascular deaths occur in lower-middle income countries[4] whereas; a significant decline has been experienced by high-income countries. The decline in high-income countries is mainly accredited to reduction in deaths from coronary heart diseases and stroke. Changes in population-level of risk factors, specific blood pressure control (BP) and effective antihypertensive treatment as well as management of hypercholesterolemia were the major attributable aspects of this success. However; with the exception of some regions of Africa, high blood pressure has been rated among five leading risk factors contributing to worldwide morbidity and mortality[5].

Globally, 9.4 million deaths per year are accounted for increased blood pressure and due to complications of hypertension alone[5,6]. An increased blood pressure is considered as the leading risk factor of mortality[5,7] however; an estimated 18 million deaths annually are attributed to cardiovascular diseases worldwide[2,6]. Heart diseases, stroke, renal failure, premature death and disability owing to hypertension contributes to the prevailing burden of cardiovascular diseases (CVDs) and therefore pose as

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an issue of public health concern[6]. The findings from Global Burden of Disease study (2015) reports the burden from Eastern Mediterranean Region (EMR) due to cardiovascular diseases (CVD) which principally included stroke and ischemic heart disease. One-third of all deaths in 2015 were ascribed to cardiovascular diseases (CVD) alone. Amongst 22 countries of the EMRO region, Pakistan was ranked first for reporting 85.1% of total deaths due to cardiovascular diseases in the country. Despite the fact that majority of deaths owing to cardiovascular diseases occurred in low and middle-income countries. However; this decline in age standardized mortality rates have been observed since last 25 years which were mainly attributed to public health and preventive interventions[8]. For policy and health system perspective, cost-effective health interventions help to aid budgeting of national healthcare plans and strategies[9]. Some related interventions for the management of hypertension as per Disease Control Priorities (DCP3) includes initial screening by physicians, monthly visit and training of non-physician healthcare workers. Non-physician healthcare workers can serve in task shifting and can contribute in increasing knowledge about cardiovascular risk, hypertension management and adherence to treatment particularly in low-resource settings[5].

Study Objectives

The main objective of the formative phase is to enable the development and delivery of an intervention comprising of DCP3 strategies for hypertension management and control. The specific of the study is to test the feasibility, acceptability and adaptability of DCP3 interventions in the cultural context of Pakistan and modify it on the basis of findings of formative phase. This study will explore if a DCP3 based hypertension related intervention comprising of recommended strategies for the management and control of hypertension is acceptable among physicians and cardiologists? What are the key challenges in its applicability? Is it feasible in our local context?

METHODOLOGY

For the formative study, qualitative research methods will be employed to conduct a desk review. To explore the feasibility, applicability and acceptance of DCP3 based hypertension intervention, focus group discussions and in depth interviews with selected study participants will be conducted. A prior written and verbal consent will be obtained from all study participants by the principal researcher herself. Data will be collected after obtaining an ethical approval from the Institutional review Board of Health Services Academy (HSA). The following will be the key steps:

Desk Review

A desk review will be conducted using Pub Med, CINAHL and Google Scholar and literature available past five years will be selected for the review. The inclusion criteria will comprise of DCP3 interventions or strategies to manage and control hypertension (table-I). Specifically, for the non-pharmacological strategy which includes aspects of awareness, counseling, lifestyle modifications and changes in diet pattern to control and manage hypertension among hypertensive patients pattern; systematic reviews and randomized trials will be included for the literature search. The results will be coded into themes and review findings will be reported accordingly.

Table-I: Sampling matrix for qualitative interviews from study respondents (n=57).

Study Respondent/s	Number of Participents	Total Interview
For IDI		
Subject Experts	02	02
Cardiologist /Physicians	05	05
For FGD		
Pharmacists	6-8 persons	X2
Nurses	6-8 persons	X2
Patients with uncontrol-led hytertention startified in age groups of 30 years and 30 years above	6-8 persons	X4
Total Number of Interview		15

Selection of Study Respondents

1. Subject experts who have been working for non-communicable diseases and/or involved

in policy and decision making for health related priorities.

2. Cardiologists / physicians / senior doctors.
3. Pharmacist who are working in the hospital setting.
4. Nurses who are primarily involved with cardiac patients in OPDS and wards.
5. Patients with uncontrolled hypertension who are able to give consent without any organ damage or serious health condition requiring emergency care.

Development of Topic Guides

A general topic guide on hypertension management and control will be prepared in English language which will be translated into local language Urdu. Initially, the guide will be prepared which will base on the gaps identified in the desk review. The guide will be further modified after collecting data from the identified study respondents for the formative phase. The format of the guide will include the procedure of obtaining consent from the study participants selected through convenience-based sampling technique. Their socio-demographic characteristics and contact details will be documented in information sheets. The topic guide and study tools will be administered by the principal researcher herself. Initially, length of time for each interview will be recorded in the pre-testing phase and an average of time will be settled for consecutive interviews. Common ground rules will be established for the discussion on the topic which will be taken in the form of notes. The guide will be followed by questions concerning hypertension, its management, treatment and self management among hypertensive patients. The study tools will be reviewed by subject experts and will be pre-tested for the intervention's acceptance, feasibility and adaptability into the local context and will be thus modified based on the findings of the formative phase. Furthermore, their awareness, perception, self-rated health and importance of early detection of hypertension will also be assessed. The qualitative interviews will be transcribed into Urdu and will be translated into English language. The interviews will be conducted until saturation is achieved, the results will be coded into themes and findings will be hence reported.

Sample Size

Using team-based care model[10], purposive sampling will be opted to select study respondents for qualitative interviews in accordance with the sampling matrix as indicated in the sampling matrix (table-I). The in-depth interviews will be conducted after obtaining consent from the study participants who will be subject experts and cardiologists or physicians. Purposive sampling will be used to identify key subject experts in the field similarly; the physicians will be asked for their contribution to the study. The consent will be taken by the principal investigator herself and they will ensured for anonymity and confidentiality to be protected. The contact details of the study participants will be obtained from relevant authorities, they will be asked to provide a suitable time for the interview. All interviews will be audio recorded as well as notes will be taken which will be transcribed and translated into English language. The focus group interviews with 6-8 participants will be conducted twice or more until the saturation is achieved on the coded themes for the FGDs. However; FGD conducted among hypertensive patients will include equal number of male and female patients which will be stratified into two age groups i.e. less than 30 years and more than 30 years age groups. These FGDs will be conducted at the study site for which a suitable time, day and location will be decided. In FGDs, study assistant will accompany the principal researcher as facilitator and will ensure time and established rules to be followed in the discussion.

Analysis Technique

The interviews will be conducted according to the specified themes which will be coded for the purpose of analysis. All interviews will be audio recorded and will be transcribed and then translated into English language. Thematic

analysis will be conducted for which NVivo Software Version 10 will be used to interpret the results into themes and report the findings of this study.

Development of Intervention

Subsequent to above mentioned steps the intervention based on DCP3 strategies will be adapted, developed and modified. Following will be main components of the intervention development:

a. Content of Intervention

The content of intervention will base on the findings of desk review and qualitative interviews. The behavioural intervention will be largely patient-focused which will adhere to aspects of self-management by the patient, compliance to treatment, involvement of family members in reducing the BP of the patient so as to facilitate changes in diet and life style pattern. The characteristics of the participants will be kept in consideration and preferred language as identified in the interviews will be used to develop the training materials to educate hypertensive patients on it.

b. Feedback by Study Respondents

After completion of data collection, a feedback will be obtained from all study participants of the formative phase. Following the formative phase, an evaluative research on effectiveness of intervention based on DCP3 strategies will be conducted using a randomized trial study design which will adhere to CONSORT guidelines.

Data Analysis

The conducted interviews will be transcribed and translated from English to Urdu and will be then back translated to English language. Descriptive analysis will be performed using baseline characteristics of the study participants and will be reported in frequency and percentage. For the analysis purpose, coding will be done for themes based on defined research questions. Thematic analysis will be performed to report the findings of the formative research which will be conducted to explore the perception and practices of healthcare providers regarding hypertension treatment and management.

Ethical Consideration

An ethical approval was sought from Institutional review Board of Health Services Academy (HSA) letter No. F. No. 01-07/2017/ PhD dated 8th November, 2019.

CONFLICT OF INTEREST

This study has no conflict of interest to be declared by any author.

REFERENCES

1. WHO Hypertension. WHO [Internet]. 2017 [cited 2018 Dec 30]; Available from: https://www.who.int/topics/hypertension/en/
2. Murray CJL, Vos T, Lozano R, Naghavi M, Flaxman AD, Michaud C, et al. Disability-adjusted life years (DALYs) for 291 diseases and injuries in 21 regions, 1990–2010: a systematic analysis for the Global Burden of Disease Study 2010. Lancet 2012; 380(9859): 2197-23.
3. Batool A, Gilani P, Javed T. Risk factors, pathophysiology and management of hypertension. Int J Pharma Sci Sci Res 2018; 4(5): 49-61.
4. Yusuf S, Rangarajan S, Teo K, Islam S, Li W, Liu L, et al. Cardiovascular risk and events in 17 low, middle, and high income countries. N Engl J Med 2014; 371(9): 818-27.
5. Jeemon P, Gupta R, Onen C, Adler A, Gaziano TA, Prabhakaran D, et al. Management of hypertension and dyslipidemia for primary prevention of cardiovascular disease. Cardiovascular, Respiratory, and Related Disorders. Chepter – 22. Available from: http://dcp-3.org/sites/default/files/chapters/DCP3 CVRD_Ch 22.pdf
6. A global brief on hypertension. WHO [Internet]. 2013 [cited 2018 Dec 31]; Available from: https://www.who.int/cardiovascular_ diseases/ publications/global_brief_hypertension/en/
7. Lim SS, Vos T, Flaxman AD, Danaei G, Shibuya K, Adair-Rohani H, et al. A comparative risk assessment of burden of disease and injury attributable to 67 risk factors and risk factor clusters in 21 regions, 1990–2010: a systematic analysis for the Global Burden of disease study 2010. Lancet 2012; 380(9859): 2224–60.
8. GBD 2015 Eastern mediterranean region cardiovascular disease collaborators G 2015 EMRCD. Burden of cardiovascular diseases in the Eastern Mediterranean Region, 1990-2015: findings from the Global Burden of Disease 2015 study. Int J Public Health 2018; 63(Suppl-1): 137–49.
9. Horton S, Gelband H, Jamison D, Levin C, Nugent R, Watkins D. Ranking 93 health interventions for low- and middle-income countries by cost-effectiveness. Pub Lib Sci One 2017; 12(8): 0182951.
10. Community Preventive Services Task Force T. Cardiovascular disease prevention: team-based care to improve blood pressure control task force finding and rationale statement. Systematic Review 2012; 1(1): 1-12.