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POSITION PAPER

A qualitative exploration of patients' experiences and barriers to adequately controlling hypertension in Greece

Maria Michou[1], Niki Mourouti[1], Christos Lionis[2], Panagiota Kalagia[3], Angelos G Ioannidis[3], Michalis Kaloeidas[3], & Vassiliki Costarelli[1]

[1]*Harokopio University, Greece*

[2]*Medical School, University of Crete, Greece*

[3]*Health Center, Nea Filadelfeia, Greece*

Abstract

***Purpose**: The aim of the study was to have adults discuss experiences and barriers to managing hypertension and to provide suggestions to improve healthcare delivery.*

***Methodology**: Focus group discussions were employed in this qualitative study. A total of 14 hypertensive participants were recruited from the 1st Local Health Unit of Nea Philadelphia, Attica, Greece. Discussions were audio recorded and thematically analyzed.*

***Findings**: Two major themes were developed: a) barriers for better adherence to lifestyle modifications and b) suggestions to improve hypertensive patients' experience in primary health care. Reasons for not adhering to lifestyle modifications were low self-care levels, swift work, low perceived risk, prescription of medication to control blood pressure and lack of easy-to-follow guidelines on lowering dietary salt. Suggestions to improve patients' experience in primary care included: comprehensive description of the seriousness of the condition at diagnosis, emphasis on the importance of the lifestyle modifications, more frequent follow up and referral after diagnosis to other health professionals which could aid with dietary and mental stress management.*

***Conclusions**: The study offers an insight into patients' experiences and barriers to adequately controlling hypertension in Greece. The results could be useful for primary care practitioners, researchers and policy makers. This is the first study in Greece assessing concurrently, patient-related barriers to controlling blood pressure and suggestions to improve primary health care in an urban setting.*

KEYWORDS: **HYPERTENSION; BARRIERS; FOCUS GROUPS; GREECE**

Introduction

High blood pressure (BP) constitutes a major public health problem, there is evidence that it is a health equity issue and is the leading, preventable risk factor for premature death and disability, worldwide (Wilkins et al., 2017; Mills et al., 2016). The number of people with raised

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Email: Maria Michou ✉ mariamixou@hotmail.com

blood pressure in the world has increased by 90% during the last four decades, with the majority of the increase occurring in low-income and middle-income countries (Wilkins et al., 2017). The high and increasing worldwide burden of hypertension is a major global health challenge because it increases morbidity and mortality from cardiovascular and kidney diseases and financial costs to society (Mills et al., 2016). Some of the highest rates in 2019 were seen in the Dominican Republic, Jamaica and Paraguay for women and Hungary, Paraguay and Poland for men. Men and women in Canada, Iceland and the Republic of Korea were most likely to receive medication to effectively treat and control their hypertension, with more than 70% of those with hypertension receiving treatment in 2019. Comparatively, men and women in sub-Saharan Africa, central, south and south-east Asia, and Pacific Island nations are the least likely to be receiving medication. Treatment rates were below 25% for women, and 20% for men, in a number of countries in these regions, creating a massive global inequity in treatment. Encouragingly, some middle-income countries have successfully scaled up treatment, and are now achieving better treatment and control rates than most high-income nations. For example, Costa Rica and Kazakhstan now have higher treatment rates than higher-income countries (WHO 2021).

In Greece, the prevalence of hypertension seems to be rising and it affects approximately 40% of adults. According to Stergiou and his partners, one-third of people with hypertension in Greece are undiagnosed and only 30% are actually controlling their hypertension with treatment (Stergiou et al., 2021). In another, more recent study, conducted in urban areas of Greece, in a sample of 5727 adults, it was reported that 41.6% of the participants had hypertension, of which only 78.7% were actually diagnosed, 73.1% were receiving treatment for their condition and only an estimated 48.3% were controlled. Women and older participants reported better awareness, treatment, and control of hypertension.

Successfully managing and overcoming a chronic disease like hypertension, requires self-care management, self-efficacy, adherence to taking recommended drugs, as well as, diet and lifestyle modifications. However, the above is occasionally difficult to achieve, partly due to the inability to surmount certain barriers that often relate to the patient himself/herself and/or the health care system (Nieuwlaat et al., 2013). During the last decade, studies from all over the world, have evaluated potential barriers faced by patients with a chronic disease diagnosis, such as hypertension, in their effort to adequately manage their disease. Lack of knowledge regarding hypertension is the most usual obstacle for early diagnosis, as well as successful treatment, and follow-up (Belizan et al., 2020; Heinert et al., 2020; Khatib et al., 2014; Okwuonu et al., 2014). Disease awareness and certain misconceptions also seem to play an important role in controlling hypertension (Belizan et al., 2020; Heinert et al., 2020). In terms of hypertension treatment adherence, patients mostly report forgetting to take their medication (Khatib et al., 2014). Mistrust of medical treatments and overestimation of the adverse effects of the medications, are often also reported as important adherence barriers (Belizan et al., 2020). It has also been reported in the past that lack of awareness of the importance of lifestyle modifications in managing the disease and subsequent failure to adopt them, is also identified as and a patient-related barrier to blood pressure control (Okwuonu et al., 2014). In addition, there is good evidence that stress, anxiety and depression, usually delay or hinder the adoption of a healthier lifestyle (Khatib et al., 2014). The high cost of a healthy diet, the lack of time for preparing healthy meals or engaging in physical activity, the lack of access to places for physical activity, as well as the lack of family support, have been recognized as potential barriers of appropriate lifestyle modifications, to manage hypertension (Belizan et al., 2020). Finally, it is important to note that negative primary care experiences have also been reported as significant patient-related barriers to control hypertension (Heinert et al., 2020).

Potential barriers to achieve adequate management of hypertension in Greece have not been adequately investigated in the past. A recent study conducted in rural areas of central and northern Greece, aiming at investigating patients' knowledge and attitudes towards BP management, in order to identify possible barriers to achieving effective control, indicated that the main barriers in hypertension control were: knowledge gaps, intolerance of adverse events, negligence, unmet individual preferences, financial barriers and overtreatment of hypertension (Tsimtsiou et al., 2020).

The aim of the current focus group study was to have hypertensive adults discuss experiences and barriers to managing hypertension and to provide possible suggestions to improve healthcare delivery. To the best of our knowledge, this is the first study in Greece conducted in an urban area, aiming to assess patient-related barriers to controlling blood pressure, including suggestions from the patient's perspective, to improve primary health care experiences. The results of the current study will also aid in the development of a specifically designed experiential educational material, which will be used for a future educational intervention, aiming at improving Health Literacy (HL) in hypertensive patients.

Material and Methods

The study design and analysis adhere to the 32-item Consolidated Criteria for REporting Qualitative (COREQ) research (Tong et al., 2007).

Ethical Considerations

The study was approved by the Institutional Ethics Review Board of the Harokopio University and the Scientific Council of Primary Health Care of the 1st Health District of Attica, Greece. Participants were informed about the purpose of the study prior to consenting to taking part.

Research team and reflexivity

Three researchers conducted the focus discussions; one moderator and two observers. CV was the moderator and MM and NM were the observers who made field notes during the focus group discussions. All the researchers hold a PhD. Specifically, CV is a Professor with expertise in nutrition behavior and health and previous experience in qualitative research. MM is a public health educator and NM is a dietician. Prior to study commencement the relationship with the participants was limited to communication for information on the purpose of the study. All the researchers directly involved in the focus group discussion were female.

Study Design

It is a qualitative study, using focus groups discussions. This approach was adopted because it is an easy, fast, economic and efficient way to obtain qualitative data while it can simultaneously maximize interactions between the participants (Jonhson et al., 2016). The environment that is developed provides the chance to the participants to feel free to share information, feelings and experiences about certain issues (Liamputtong, 2013; Rabiee, 2004; Kitzinger, 1995). The duration of each focus group discussion was 60-90 minutes. The discussions were audio recorded and thematically analyzed. The topics of the discussions were selected after a literature review and are presented in Table 1.

Participants and Procedure

The sample of the study is a convenience sample and the participants were approached face – to-face in order to be informed about the study and its purposes. A total of 14 hypertensive participants (9 men and 5 women) were recruited from 1st Local Health Unit (TOMY) of Nea Philadelphia, Attica, Greece and two focus group discussions of 7 participants each, were conducted in the same place. The inclusion criteria were: men and women over the age of 30,

patients diagnosed with hypertension, the diagnosis should exceed two years and the ability to speak and understand Greek. Two individuals refused to participate due to lack of time.

Table 1 Focus Groups Topics

	Focus Groups Topics
1	How would you define hypertension?
2	How did you learn that you had hypertension?
3	What were your first thoughts and feelings that you had, when you learned that you had hypertension?
4	How do you feel now about being hypertensive, after some years?
5	What do you think are the three most important things a patient needs to do to properly manage their hypertension, other than medication?
6	What can hypertension cause?
7	What barriers did you encounter in trying to follow the instructions given to you for managing hypertension?
8	What would you like to be different about understanding the disease and its guidelines which were given to you?
9	What is your experience of primary health care?
10	Could you, from your experience so far, suggest something that could change and that if implemented would have helped you to get acquainted with the disease and its treatment?

In the two focus groups discussion a semi-structured interview was used. At the beginning, the moderator and the observers introduced themselves. The moderator informed the participants about the aim of the study and the focus group's rules. The rules included: everyone should be involved in the discussion, wait for someone to finish talking, do not stray from the topic being discussed, sign consent forms and complete the questionnaire at the end of the discussion. When the focus group started, introductory questions were made to make participants feel comfortable and get to know each other (Topic 1 and 2 from Table 1). Then, questions aiming to introduce the topic and starting the reflection of the participants followed (Topic 3 and 4 from Table 1). Transition questions, which act as a logical link leading to the formulation of key questions, were next (Topic 5 and 6 from Table 1) and finally the key questions were made, which aimed at addressing, in depth, the main aspects of the study (Topic 7-10 form Table 1). At the end of the focus group, each participant completed a questionnaire which included sociodemographic questions and the European Health Literacy Questionnaire (HLS_EU_Q16), in order to assess HL levels. The HLS_EU_Q16 is a short version of the HLS_EU_Q47. HLS_EU_Q16 is a 16-item self-reported tool and it is used to measure the ability of the participant to access, understand, appraise and apply information in health care, disease prevention and health promotion sectors. This tool has been used in many recent studies for assessing HL levels in general population, after the appropriate validation process (Gustafsdottir et al., 2020; Eronen et al., 2019; Lorini et al., 2019Salm et al., 2018) The answers to the 16 questions range from 0 = very difficult to 4 = very easy. Difficult categories are coded with 0 and easy categories are coded with 1. Total HL score is a sum score and ranges from 0-16. A score between 0 and 8 indicates inadequate HL levels, between 9 and 12 problematic HL levels and between 13-16 sufficient HL levels (Michou and Costarelli, 2022). Finally, participants self-reported their height and weight in order to calculate their body mass index (BMI).

Data analysis

A thematic analysis of the data was carried out. The steps that were followed were: 1) Become familiar with the data, 2) Generate initial codes, 3) Search for themes, 4) Review themes, 5) Define themes and 6) Write-up. Firstly, two investigators read the transcripts again and again and they made notes. Then the data were organized in a meaningful and systematic way through coding. The codes then were examined. Some of them clearly fitted together into a theme (Maguire and Delahunt, 2017). A third researcher evaluated and approved the major themes identified in this study.

Also, data are presented as frequencies (percentages) for the categorical variables and as mean (SD) and median (IQR = interquartile range) for the continuous variables. Median (IQR) was used additionally to Mean (SD) due to the non-normal distribution of the data.

Results

Two focus group discussions were held with a total of 14 participants with diagnosed hypertension. The main characteristics of the participants are presented in Table 2.

Table 2 Composition of focus groups participants.

Characteristics	Sub-characteristic	1st Group		2nd Group	
		N	%	*N*	%
Sex *N* (%)	Male	4	57.1%	5	71.4%
	Female	3	42.9%	2	28.6%
Age	Mean (SD)	62.43	11.19%	60	13.98%
	Median (IQR)	65	20.0%	54	19.0%
	Min-Max	43 to 74		49 to 84	
Marital Status *N* (%)	Unmarried	1	14.3%	4	57.1%
	Married	3	42.9%	2	28.6%
	Divorced/Widowed	3	42.9%	1	14.3%
Years of diagnosis	Mean (SD)	8.86	3.58%	9.33	3.88%
	Median (IQR)	8	2.0%	8	7.0%
	Min-Max	3 to 15		5 to 15	
BMI	Mean (SD)	30.61	4.18%	28.77	4.80%
	Median (IQR)	30.62	3.96%	27.21	4.15%
	Min-Max	26.08 to 38.97		25.38 to 38.40	
HL	Mean (SD)	9.71	6.95%	10.43	4.12%
	Median (IQR)	12	15.0%	11	8.0%
	Min-Max	0 to 16		5 to 15	
HL Category *N* (%)	Inadequate HL	2	28.6%	3	42.9%
	Problematic HL	2	28.6%	1	14.3%
	Sufficient HL	3	42.9%	3	42.9%

Note: BMI: Body Mass Index, HL: Health Literacy

The main findings of the focus group discussions are presented below. With respect to the question "How would you define hypertension?" common answers include "…is the blood that presses on the arteries" or "...the speed at which blood leaves and returns to the heart". Also, most of the participants' stated that they are aware that hypertension could potentially lead to stroke, heart attack and clogged arteries, if it is not carefully controlled. Many participants said that hypertension was diagnosed after presenting stress symptoms or they learned about their condition after a routine blood pressure measurement, without any symptomatology. Other less common reasons which led to the diagnosis of the condition were: pregnancy, headache and unexplained nose bleeding.

As far as participants' first thoughts and feelings following the diagnosis are concerned, some reported that they initially refused to accept it or to believe it, whereas others felt fearful, sad, anxious or shocked. These feelings were followed by a sense of relief by some of the

participants, as time went by, they stated that "…it is better to know than not to know that you have the condition". Some of the participants also stated that they somehow, expected the diagnosis, because it was common in their family or among their friends. One of the participants said, immediately after diagnosis, "….hypertension is a reversible diagnosis. I can overcome it". Over time, most patients seem to become more familiar with the disease and they seem to feel safer and protected, whereas other participants continue to feel a sense of vulnerability. Typical responses by the participants include: ".... It is a habit / obligation to remember to take your pill" and ".... We have learned to live with it".

The participating hypertensive patients to the focus group discussions also stated that in their opinion, the most important things to do, apart from taking their medication, are: physical activity, healthy diet (reduce fat intake, restrict alcohol intake, reduce food portion sizes and reduce dietary salt intake), body weight reduction, stress management and smoking cessation.

The data analysis based on the key questions of the focus group method resulted in two major themes. The first theme refers to the barriers that participants' face which hinder their adequate adherence to treatment and lifestyle modifications and the second theme refers to specific participants' suggestions to improve hypertensive patients' experience, in primary health care in Greece.

Barriers to control hypertension

Participants reported varying reasons for not adhering to lifestyle modifications in order to manage hypertension. Most of the participants identified low self-care levels as a key reason for poor adherence to the treatment and management of the disease. More specifically, the vast majority of the participants believed that the hectic rhythms of everyday life, mental stress, overworking, shift work, together with the existence of children in their family and other family issues, often hinder their effort to comply to the suggested lifestyle modifications and medical treatment, because they often don't identify themselves and their condition as a priority. Some interesting responses include:

> ... It's not that difficult (to comply to the recommendations), especially when the doctor tells you that you should do this for your health ... but because you do not feel hypertension immediately, you forget it and as you get older the priorities change and you put family, as a priority. You simply neglect yourself. You are not in the mood to put yourself forward again; you think you should have done it long ago. (FG 1)

> The reason is the many obligations and especially obligations you have for others. Work, parents, children ... you prioritize them, you burn out and then you have no time for anything, neither walking nor anything. (FG 1)

> Taking the pill is a habit, but changing your lifestyle is not easy with the current working conditions. I work in shifts and I have problem… (FG 2)

> Stress, and especially work stress is a main barrier… (FG 2)

> Exercise is very important but I do not have time to apply it. I have a small child and I end up just sitting on the couch at the end of the day. Life is very demanding. (FG 2)

Another important reason for not adhering that was mentioned, was low perceived risk of the disease at diagnosis, due to young age and lack of symptoms:

> Obviously the doctor did not make me understand the severity of the disease. (FG 1)

> The doctor did not make me understand that hypertension is something serious. He told me to take a pill and I will be ok. (FG 2)

Prescription of medication to control blood pressure together with unclear guidelines, occasionally led to poor adherence to the suggested lifestyle modifications. Some interesting responses include:

> Usually, I think…I have taken the pill, I am protected and then I can eat what I want and I can put a bit more salt on my plate. (FG 1)
>
> The doctor did not give me specific guidelines to reduce salt intake or on how to reduce salt intake, he gave me only the pill. (FG 2)

Suggestions to improve hypertensive patients' experience in primary health care

With respect to the above topic, participants expressed different thoughts and opinions and made some interesting suggestions for useful changes in primary health care. Some participants stated that a more thorough and comprehensive description of the seriousness of the condition, at diagnosis, would be helpful:

> Doctors must give a cruder, a harsher description of the disease. They have to say that the patient may die, the patient may remain disabled. (FG 1)
>
> "Doctors need to make patients aware of the risk immediately." (FG 1)
>
> "Doctors see many patients and do not pay the necessary attention." (FG 1)

Also, participants believed that at diagnosis, doctors must give emphasis on the importance of the lifestyle modifications, regardless of the concurrent prescription of medication to control blood pressure:

> When the doctor gives you the choice between taking a pill or changing your diet and does not specifically tell you to make certain changes in your lifestyle, then we have problem. (FG 1)
>
> The doctor should tell you to exercise in addition to the dietary instructions he/she gives you. (FG 1)
>
> They (doctors) should give more emphasis to the importance of lifestyle changes and specially on exercise and healthy eating. (FG 1)
>
> We were not given the option to modify our lifestyle for a while and then if nothing changes, to take the pill. (FG 1)
>
> Doctors do not believe that patients will make lifestyle changes. (FG 1)
>
> The doctor did not focus on reducing salt intake, only on stress management (FG 2)
>
> There should be personalized programs to change lifestyle and improve nutrition. (FG 2)

A more frequent follow up, particularly during the first year after diagnosis, was identified by most of the participants, as essential:

> Hypertension is a disease that doctors do not often monitor. Usually, the next appointment is after a year. (FG 1)
>
> For your next appointment with the doctor you have to wait a long time (FG 2)

Finally, a referral after diagnosis to other health professionals, which could aid with dietary and mental stress management, was identified as helpful:

> Primary health care does not prevent the disease but tries to cure it. Nobody gave us the option for another health professional. (FG 1)
>
> No doctor referred me to a dietitian (FG 2)
>
> Specific (tailor made) dietary and exercise programs (with specific examples) adapted to the Greek everyday life, diet and culture, are necessary (FG 2)

Discussion

Suboptimal control of blood pressure (BP) is emerging as a common and serious public health challenge in Greece and internationally. The current study offers a much-needed insight into patients' experiences and barriers to adequately controlling hypertension in Greece. The main barriers to control hypertension via certain lifestyle modifications were: low self-care levels,

swift work and low perceived risk of the disease at diagnosis, usually due to young age and/or lack of symptoms. The above findings are plausible and anticipated since they have been supported by other similar studies in the past, as key factors in hindering adequate patient centered management of chronic diseases in general, and hypertension, in particular (Robatsarpooshi et al., 2020; Bonaccorsi and Modesti, 2017). It is of paramount importance to underline that both low self-care levels and low perceived risk, are key parameters usually associated with suboptimal health literacy levels, in adults (Nam and Yoon, 2021; Orom et al., 2018). It is worth highlighting that the HL levels of the participants in the focus groups discussions were assessed with, 8 of the 14 participants having inadequate and problematic health literacy levels. The reported findings regarding the difficulties associated with the compliance to the lifestyle modification guidelines, could partly be attributed to the HL levels of the participants.

Another interesting finding is that the prescription of medication to control blood pressure, occasionally led to deliberate low adherence to lifestyle modifications by the hypertensive patients. It is important to inform and educate primary care physicians about the above misconception of a numbers of hypertensive patients, with respect the prescription of medication to control hypertension and the concurrent need to adherence to the proposed lifestyle modifications.

A number of participants also stated the lack of clear and easy to follow guidelines on appropriate exercise regimes and lowering dietary salt, by the primary care doctors. It would probably be beneficial to better educate and train primary health care professionals and doctors, in applying the current official guidelines for the management of the disease, in a more comprehensive and effective manner. It was reported by a recent study aiming at investigating practices, knowledge and perceptions of medical doctors in Greece, with respect to hypertensive patients' compliance to the prescribed treatment, that the key reason for the reported poor patient treatment compliance, was the often-inadequate use of the current guidelines, by the treating physicians (Barbouni et al., 2017).

Health Equity Implications

The high and increasing worldwide burden of hypertension is a major global health challenge. Suboptimal control of blood pressure (BP) is a serious public health problem in Greece. This is the first qualitative study assessing concurrently in hypertensive patient with varies levels of HL, barriers to controlling blood pressure and suggestions to improve primary health care in an urban setting in Greece. Primary health care in the country is in great need of major restructuring (Lionis et al., 2009). The findings of the current study could a) facilitate in the effort to improve health policy in Greece, since currently, vivid discussions on further and more effective primary care reform, are taking place and will b) facilitate in the creation by our team, of a specifically designed educational intervention focusing in enhancing health literacy in hypertensive patients. We also believe that the current paper is of interest to Home Economists, worldwide since the discipline of Home Economics aims to achieve healthy and sustainable living for individuals, families, and societies.

Conclusion

With respect to the suggestions to improve hypertensive patients' experience in primary health care, a more thorough and comprehensive description of the seriousness of the condition at diagnosis, was stressed as a very important factor. As described above, emphasis on the importance of the lifestyle modifications, regardless of the concurrent prescription of medication to control blood pressure and a more frequent follow up, particularly during the first year after diagnosis, were also identified as important factors in improving primary health care. Finally, referral after diagnosis to other health professionals which could aid with dietary

and mental stress management, was also proposed by the majority of the participants. The results of the current study highlight the need for more similar studies, whose findings could be implemented in new interventions, aiming to improve prevention and control of high blood pressure, in Greece.

Author Biographies

Maria Michou

Maria Michou holds a PhD in the Human Ecology Laboratory, Department of Economics and Sustainable Development, Harokopio University, Athens, Greece. She also has an MSc in Stress Management & Health Promotion. Her research interests are focusing on health & nutrition literacy and their determinants, stress, public health promotion and health policy.

Niki Mourouti

Dr Niki Mourouti is a Registered Dietitian, she holds a PhD and she is a research fellow at the Human Ecology Laboratory of the Department of Economics and Sustainable Development at Harokopio University. Her research interests are focusing on nutrition and cancer, health education and public health promotion.

Christos Lionis https://orcid.org/0000-0002-9324-2839

Lionis Christos, MD, PhD, FRCGP(Hon), FWONCA, FESC is a Professor of General Practice and Primary Health Care at the School of Medicine, University of Crete and Head of the Clinic of Social and Family Medicine at the School of Medicine, University of Crete.

Panagiota Kalagia

Ms Panagiota Kalagia is a registered public health care nurse and she holds an MSc. Her research interests are focusing on health promotion.

Angelos G Ioannidis

Dr Angelos Ioannidis, MD, PhD, is a Medical Doctor working in primary health care

Michalis Kaloeidas

Dr Michalis Kaloeidas, MD, MSc, is a Medical Doctor in primary health care with a keen interest in Health Promotion and Health Literacy issues.

Vassiliki Costarelli https://orcid.org/ 0000-0002-3863-838X

Vassiliki Costarelli is an Assocate Professor in Nutrition Behavior and Health, in the Department of Economics and Sustainable Development, at Harokopio University, Athens, Greece. She is a dietician and a registered nutritionist (R.Nutr.) She is an active member of the Human Ecology Laboratory and her research interested are focusing on nutrition and dietary behavior, diet and quality of life, health literacy, childhood obesity and cancer.

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