



ORIGINAL- ARTICLE



Social Determinants of hypertension in adults

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Abstract: Background: Hypertension is a major health problem and a leading cause of mortality and morbidity worldwide. Hypertension is defined as having a blood pressure higher than 140 over 90 mmHg, with a consensus across medical guidelines (1). This means the systolic reading (the pressure as the heart pumps blood around the body) is over 140 mmHg (millimeters of mercury) and/or the diastolic reading (as the heart relaxes and refills with blood) is over 90 mmHg. Hypertension is now firmly established as a public health problem. It is considered as disabling disease in many countries, and for this reason, the investigations for the social risk factors that are associated with this disorder are very important. **Aim:** To establish the social factors of adult's hypertension and its preventive measures. **Method:** To achieve the aim of the present study descriptive cross-sectional study design was adopted, medical records of 100 patients who had a hypertension (cases) were taken in Intifadhath Al-aqsa primary health care center /Basrah/Iraq. They were evaluated between December and February, 2018. The data was mainly obtained from cases by the investigator through direct interview procedure. **Result:** The mean ages of cases was (51±11.97). The prevalence of hypertensive patients is about (78.5%) in those age groups more than 40 years old with and the percentage of hypertension is increased as the age increased. This study showed that the main age group at which the cases were diagnosed with hypertension (40-49years) (47%). Regarding the gender, male sex is more common than female sex in the distribution of cases of hypertension; male: female ratio about 3;1; with no significant relation between male gender and hypertension as a result of gender matching for cases and controls. Married status may not have subsequent development of hypertension. In hypertensive cases, the distribution of the educational level of the studied population are relevant. In this work, type of occupation is distributed highly especially manuals type (partially skilled occupations and unskilled). Currently smokers history appeared to of highly results in those who developed hypertension. Family history of HTN was recorded in highly proportion of hypertensive cases, among people in the sample study, those classified as stressed persons appeared to have HTN. In this work, among the social context factors are founded to promote the development of hypertension. Unhealthy life style history appeared in the development of hypertension cases. A highly percentage of hypertension cases with a Past medical history was founded. **Conclusion:** Hypertension has become one of the major health problems in the Eastern Mediterranean region, and is associated with several etiological causes and risk factors. There is some strategy to prevent and control hypertension in the health plans of most (if not all) the countries of the Eastern Mediterranean region. In addition, there is a great lack of quantitative and qualitative researches and studies on hearing loss. This creates the need for affective action, either to study factors contributing to the occurrence of hearing loss or to establish programs to control it. In order to achieve this, following recommendations should be considered. Age more than 45 years old was highly associated with development of hypertension. males' sex is more common than females' sex in the distribution of cases of hypertension in a ratio about 2:1. In this work, partially skilled occupations, Currently and passively cigarettes smokers, Family history of hypertension, type A personality, presence of life stressors, economic factors carried a high percentage in cases with hypertension.

Key words: DM, foot infection, role of LMWH evaluation, treatment

Supplementary information the online version of this article contains supplementary material, which is available to authorized users. Rabah Salih Mohammed Al. Ali, 2023; Published by Innovative Journal, Inc. his Open Access article is distributed under the terms of the Creative Commons License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

1 | INTRODUCTION

Hypertension is defined as having a blood pressure higher than 140 over 90 mmHg, with a consensus across medical guidelines (1).

This means the systolic reading (the pressure as the heart pumps blood around the body) is over 140 mmHg (millimeters of mercury) and/or the diastolic reading (as the heart relaxes and refills with blood) is over 90 mmHg. This means the systolic reading (the pressure as the heart pumps blood around the body) is over 140 mmHg (millimeters of mercury) and/or the diastolic reading (as the heart relaxes and refills with blood) is over 90 mmHg (1,2). This threshold has been set to define hypertension for clinical convenience as patient's experience benefits once they bring their blood pressure below this level (3). Blood pressure is the force exerted by the blood against the walls of blood vessels, and the magnitude of this force depends on the cardiac output and the resistance of the blood vessels (4). However, medical experts consider high blood pressure as having a continuous relationship to cardiovascular health (1,3). The researchers believe that, to a point, the lower the blood pressure the better (down to levels of 115-110 mmHg systolic, and 75-70 mmHg diastolic) (1). Worldwide, raised blood pressure is estimated to cause 7.5 million deaths, about 12.8% of the total of all deaths. This accounts for 57 million disability adjusted life years (DALYS) or 3.7% of total DALYS. Raised blood pressure is a major risk factor for coronary heart disease and ischemic as well as hemorrhagic stroke. Blood pressure levels have been shown to be positively and continuously related to the risk for stroke and coronary heart disease. In some age groups, the risk of cardiovascular disease doubles for each increment of 20/10 mmHg of blood pressure, starting as low as 115/75 mmHg. In addition to coronary heart diseases and stroke, complications of raised blood pressure include heart failure, peripheral vascular disease, renal impairment, retinal hemorrhage and visual impairment. Treating systolic blood pressure and diastolic blood pressure until they are less than 140/90 mmHg is associated with a reduction in cardiovascular complications(1-5). Globally, the overall prevalence of raised blood pressure in adults aged 25 and over was around 40% in 2008. The

proportion of the world's population with high blood pressure, or uncontrolled hypertension, fell with prevalence rates over 40%. The lowest prevalence of raised blood pressure was in the WHO Region of the Americas at 35% for both sexes. Men in this region had higher prevalence than women (39% for men and 32% for women). In all WHO regions, men have slightly higher prevalence of raised blood pressure than women. This difference was only statistically significant in the Americas and Europe(3-5). Across the income groups of countries, the prevalence of raised blood pressure was consistently high, with low, lower middle and upper middle countries all having rates of around 40%. The prevalence in high income countries was lower at 35%(5). One billion of the world's population has hypertension, resulting in four million deaths per year. Data on the prevalence of hypertension in the Arab world are very limited. This review summarizes existing knowledge regarding prevalence, awareness, and control of hypertension in Arab countries. The PubMed, Cochrane Library, Scopus, and CINAHL databases were searched for publications on HTN among Arab people from 1980 to January 2011. Only 13 studies were identified in the literature from 10 Arab countries. The overall estimated prevalence of hypertension was 29.5% (n=45 379), which indicates a higher prevalence of hypertension among Arabs compared to people from the USA (28%) and sub-Saharan African (27.6%). Awareness of hypertension was reported for 46% of the studies and varied from 18% (Jordan) to 79.8% (Syria). The control rate varied from 56% (Tunisia) to 92% (Egypt and Syria). The prevalence of hypertension was found to increase with age, occurring more frequently in Arab women (6). Hypertension is a major health problem and a leading cause of mortality and morbidity worldwide. Almost a quarter of the world's adult population has hypertension, and the prevalence is projected to rise to 29% by 2025. Nearly 75% of people with hypertension live in developing countries where awareness of the disease and access to health care are sometimes inadequate (6,7). The prevalence of hypertension is high in the Middle East. In a study of 12514

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people aged 19 years or older from Isfahan (7), central Iran, the prevalence of hypertension varied in the urban population from 3.6% in people younger than 30 years to 57.3% in those 60 years or older. In rural areas, the prevalence was 5.5% and 52.0%, respectively. In a longitudinal study in Tehran, northern Iran, in 4656 adults (mean age 42 years) without diabetes, with normal blood pressure, and no history of cardiovascular disease, the incidence of hypertension was 29.3 per 1000 women per year and 30.9 per 1000 men per year. In a cross-sectional study in Saudi Arabia, hypertension was reported in a quarter of 4758 adults. The high prevalence of hypertension in the Middle East is believed to be attributed to several factors including longevity, control of infectious diseases, sedentary lifestyle, changes to dietary habits, and social stress (e.g., busy daily lives, traffic, and pollution caused by urbanization). Low levels of physical activity, high calorie intake, high-fat and low-fiber diets, and increased frequency of overweight and obesity are predisposing risk factors for hypertension. These changes are more pronounced in urban than in rural areas in developing countries(6). Management of hypertension in the Middle East is compromised by the low level of awareness by patients about their disease. In a nationwide study of 64 694 people in Iran, only 36% of individuals with hypertension were treated. In the previously mentioned cross-sectional study in Saudi Arabia, only 45% of people with hypertension were aware of their disease; 72% of those who were aware were treated, and only 37% had their hypertension controlled. However, many people with hypertension are reluctant to accept that it is a disease that can cause serious consequences—it is the silent killer(6,7). Malignant hypertension and hypertensive crisis are associated with severe signs and symptoms; however, lesser degrees of hypertension, though harmful, are often not associated with specific signs or symptoms compared with other common diseases. Furthermore, benefits of treatment for hypertension might not be noticeable to patients, whereas the side effects of medicines can be troublesome. Therefore, individuals with hypertension are less likely to accept their diagnosis and treatment than are those with other diseases. Hypertension is associated with nephropathy, retinopathy, cardiac and cerebro-vascular disease, and diabetes. In one cohort study(8), almost 90% of

5578 Iraqi people with diabetes mellitus also had hypertension. Hypertension and diabetes are important risk factors for coronary heart disease and kidney disease. In a study in 84 Palestinian patients with chronic renal failure, diabetes mellitus (33%) and hypertension (17%) were the two most important causes of chronic renal failure in Jenin district, occupied Palestinian territory. Concomitant hypertension and diabetes have synergistic effects and worsen the outcome in patients. Therefore, meticulous control of blood pressure is of paramount importance in the management of patients with other comorbidities. For these reasons, the best approach to hypertension is to develop a national program for prevention, early detection, and control. More attention should be paid to educate people to raise awareness about hypertension and predisposing lifestyle risk factors(7,8). In Iraq, the prevalence of high blood pressure among the adult population (25 years and above) and the use of medication to control it, was found to be 40% in 2008. Prevalence is higher among males than females. About 50% of total mortality in Iraq is caused by non-communicable diseases (NCDs). High blood pressure, or hypertension, is a major contributor to NCDs, a global epidemic which necessitates greater and coordinated efforts by all stakeholders(8). Everyone is at greater risk of high blood pressure as they get older. Prevalence of hypertension is higher in people over 60 years of age. Blood pressure also increases steadily with age as arteries become stiffer and narrower due to plaque build-up. Vascular and heart disease also contribute to rising blood pressure in older adults, and a high systolic reading is a major risk factor for cardiovascular disease in adults over 50 years old (1,4). African-American adults are at higher risk than white or Hispanic American adults (1,5). Males and females have different risk profiles. While lifetime risk is the same for everybody, men are more prone to hypertension at a younger age and women have a higher rate of hypertension at older ages. (1) Not getting enough physical activity as part of your lifestyle increases your risk of getting high blood pressure. Physical activity is great for your heart and circulatory system in general, and blood pressure is no exception (4,9). High in sodium; A salt-rich diet

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associated with processed and fatty foods, and low dietary potassium are associated with increased risk of hypertension. Good nutrition from a variety of sources is critical for your health. A diet that is too high in salt consumption, as well as calories, saturated fat, and sugar, carries an additional risk of high blood pressure. On the other hand, making healthy food choices can actually help lower blood pressure (4,9). Carrying too much weight puts an extra strain on your heart and circulatory system, and can cause serious health problems. Being overweight increases your risk of cardiovascular disease and diabetes. It also increases your risk of getting high blood pressure (3,9). Using tobacco can cause your blood pressure to temporarily increase and can contribute to damaged arteries, which can make high blood pressure worse (5,9) Stressors is not necessarily a bad thing in and of itself. But too much stress may contribute to increased blood pressure. Also, too much stress can encourage behaviors that increase blood pressure, such as poor diet, physical inactivity, and using tobacco or drinking alcohol more than usual (1,5,9). First and second degree relative have a positive association with development of hypertension. An increase in the number of family members with hypertension was associated with an increasing prevalence of hypertension and blood pressure in the propends, independent of conventional risk factors for hypertension. Family members of hypertensive subjects may need to be treated in primary prevention efforts related to hypertension (1,9).

Methods

To achieve the aim of the present study a cross-sectional study design was adopted. The study was conducted in Intifadhat Ai-aqsa PHC, Basrah, Iraq. This PHC is the main PHC family medicine PHC at third sector health centers in Basrah. Also, it is the main referral level for other hospitals and health centers in Basrah. This PHC was provided with computer services for data collection. The data was mainly obtained from cases by the investigator through direct interview procedure. A detailed questionnaire form was prepared to record all the relevant information related to cases

in the sample. (75) Cases were consulting patients who consulted the PHC outpatient who have hypertension for any cause. They were collected consecutively.

Ethical Approval: This study was conducted according to the written approval agreement of the Training & Development Department of the Health Directory of Basra governorate and a verbal consent was obtained through personal communication.

Statistical analysis: All analysis was performed using SPSS version 26.0, in addition to GraphPad Prism version 8.4.3, wherein descriptive statistics were applied to analyze these data. Numerical variables were expressed as frequencies and percentages.

Results

The distribution of cases according to age and gender is shown Table 1. The mean age of the studied patient with hypertension were (52) years. About (75 %) of hypertensive patients were female with female: male ratio 2:1. There was high recordings between increasing age and the development of HTN in both sex group, as shown in table (3.1) (3.2).

Table (1) Distribution of cases of hypertension according to age:

Age	Case	%
18-29	3	4%
30-39	5	6.6%
40-49	11	14.6%
50-59	30	40%
60-69	15	20%
70 and above	11	14.6%
Total	75	100%

Table (2) Distribution of cases of hypertension according to gender

Sex	Case	%
Male	19	25.3%
Female	56	74.6%
Total	75	100%

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The higher percentage (80%) of patients with hypertension were married. There was no significant association between married state and the development HTN in both married and single state in table (3)

Table (3) Distribution of cases of hypertension and control according to marital status.

Marital status	Case	%
Married	60	80%
Single	15	20%
Total	75	100%

Of the studied hypertensive patients (56 %) were illiterate, while those with high level of education constituted (13.3%). There was important recordings between low education level and development HTN in table (3).

Table (3.4) Distribution of cases of HTN according to level education.

Level of education	Case	%
Illiterate	42	56%
Primary	15	20%
Intermediate secondary	7	9.3%
Higher education	10	13.3%
Above higher	1	1.3%
Total	75	100%

Of the studied patient with hypertensive patients about (8%) were currently smokers. There was engagement between smoking and development HTN in (5)

Table (5) Distribution of cases of HTN an according to smoking.

Smoking	Case	%
Current	6	8%
EX	3	4%
Passive	38	50.6%
Non-smoker	28	37.3%
Total	75	100%

About (62.6%) of the studied hypertensive patients were reported to had a positive family history of hypertension as shown in table (.6).

Table (6) Distribution of cases of HTN according to family history.

Family History of HTN	Case	%
Yes	47	62.6%
No	28	37.3%
Total	75	100%

The higher percentage (40%) of the studied patients had poor history of life style control. as shown in table (7)

Table (7) Distribution of cases of HTN according to life style.

Life style	Case	%
Healthy diet/poor	30	40%
Healthy diet/good	45	60%
Total	75	100%
Physical exercise /poor	38	50.6%
Physical exercise /good	37	49.3%
Total	75	100%

About (28%) of cases had an economical factor. Economic factor not have any effect on development of HTN as shown in table (8).

Table (8) Distribution of cases of HTN according to economical stressfulness.

Economical stressful	Case	%
Yes	21	28%
No	54	72%
Total	75	100%

There was occupational difference in HTN as shown in table (9).

Table (9) Distribution of cases of HTN according to occupation.

Occupation	Case	%
High	15	20%
Low	60	80%
Total	75	100%

BMI (Body mass index) in HTN patients is drawn in a table (10). Overweight and obesity are of highly percentage distribution among the HTN cases.

Table (10) Distribution of cases of HTN and control according to BMI.

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BMI	Case	%
Normal	12	16%
Over weight	26	34.6%
Obesity	37	49.3%
Total	75	100%

Discussion

Hypertension is common among adult people in the community and is one of major causes of disability. Hypertension was selected because it is a significant health problem in the world that is unevenly distributed across racial/ethnic groups and there are compelling theoretical reasons for expecting that the spatial locations of racial/ethnic and socioeconomic groups may be linked to hypertension. Segregation may also differentially structure the level and quality of care individuals receive for diagnosing and treating hypertension, which could lead to disparities in not only the prevalence of hypertension, but also awareness, treatment, and control of hypertension (14). The goal of this paper is to assess the extent to which social disparities in blood pressure and hypertension prevalence, awareness, treatment, and control are associated with differences in the areas where these groups tend to live. We accomplish this by decomposing socioeconomic disparities and hypertension prevalence, awareness, treatment, and control into within-and between-area components (10-13). This is a necessary first step in assessing the extent to which neighbourhood residential context matters for social disparities in all these aspects of hypertension. It will thus target and focus future research that aims to identify whether and through what specific mechanisms residential environments may be related to hypertension and aspects of its diagnosis and treatment (19). The majority of cases and controls were between the age of years (50-59). The mean age of cases of hypertension was (52) years. The prevalence of hypertension was found to be strongly age related. The prevalence of

hypertension in this study increased from 4% among the younger age group (18 to 29) to 14.6% among those who were aged 70 years and above. The increasing prevalence of hypertension with age represents the biological effect of increased arterial resistance due to thickening arterial wall that comes with age 43 or due to aggregation of the other risk factors which tend to increase with age advancement(24,25). With increasing age, the means of both systolic and diastolic blood pressure were increasing.(25) Age groups more than 18 years old are susceptible & show higher percentage of hypertension(4%) than those above 70years old(14.6%). This study showed that the main age group (about 14.6%) at which the cases were diagnosed with hypertension is(40-49years). This result agrees with American Heart Association (25), in a study conducted at 2006 who clarify a highly significant relation between aging process and hypertension. This association can be explained by atherosclerotic changes in the blood vessels as well as the fact of associated other chronic medical diseases such as diabetes abnormal uncontrolled lipid profile, vascular and metabolic factors which could be attributed to & approved isolated systolic hypertension specifically caused by the aging process and not by genetic factors (24-26). The increasing prevalence of hypertension with age represents the biological effect of increased arterial resistance due to thickening arterial wall that comes with age43 or due to aggregation of the other risk factors which tend to increase with age advancement(18). The percentage of hypertensive patients is about 14.6% in those age groups more than 40 years old; and the percentage of hypertension is increased as the age group increase. In the present study findings about the association of gender with hypertension express that the prevalence among males is higher than among females (about 57%,43%) respectively, with male: female ratio about 2:1 This result agreed with that of Phyllis (27),2004 who showed that the cases of hypertension are more common in male gender

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than female which may be attributed to overload responsibilities and harder work upon female more than male. A similar result had been reported by Martins & others (28) The reasons could be the protective effect of sex hormones. As a result of gender unmatching process between cases and controls there was highly significant association between gender and hypertension. Mirowsky and Ross (42) have suggested that education enable people to integrate behaviours into a coherent life style. give them a sense of control over their health, and make them more able to pass on healthy habits to their family. The explanation may be that, the higher prevalence of unhealthy behavior such as smoking, low physical activity, obesity, unawareness of hypertension are among individuals with low educational level(42,42,43). Also, low education usually accompanies low income, which adds a further barrier to get the medication. In contrast to this Finding about the association of educational level with hypertension, the present study expresses that hypertension had no significant association with the educational level of the studied population Y Wang & J Chen(43), suggest apposite association between hypertension and the educational level of the person, especially those illiteracy persons. The present result shows that 20% of cases were manual workers. The rest of them were non- manual workers. A significant association was found between hypertension and type of occupation especially partially skilled occupations and unskilled. Analysis of results regarding occupation show a high percentage between occupational and individual activities with hypertension This may be explained on the basis of that partially skilled occupations having more mechanical, occupational hazard, traumatic and stress burden on the cardiovascular system of the body, while semi-professional and unskilled occupation have not such a burden as in the first group (30). This result agreed with that of Pickering results (31), in a case-control study conducted in 2005, who observed a significant association between skilled occupations and hypertension appearance. About 80% of cases were married at onset of

diagnosis of hypertension. This result agrees with Anna Lipowicz and Monika Lopuszanska study (32). Never married men had on average higher SBP and DBP than married men. Never married had also a higher risk of hypertension when compared to married men, even when adjusted for different demographic, socio-economic, life-style variables, and even that never married men had lower BMI than married subjects. Marital differences in psychological status (prolonged stress and low social support), dietary intake (mainly sodium and potassium intake) and economic aspects of living alone are suggested as factors, which might explain at least partly the marital diversity in blood pressure and the risk of hypertension in men. This finding is consistent also with that of a study in China (2005) which suggested that marriage is associated with good health especially high-quality marriages, which protects against cardiovascular diseases (33,17,8). Hypertension runs in families, some genetic components follow simple Mendelian principles of inheritance but others does not follow such principles and the influence of the genotype on the etiology of hypertension may be attenuated or exacerbated by non-genetic factors (45,20,35,26,8). In the present study a positive family history was found in a highly percentage of hypertension cases, since, about 62.6% of cases gives a positive family history of hypertension. Analysis of results regarding life style shows a highly percentage of hypertension cases has bad life style history the relationship between life style and BP might be potentially confounded by dietary salt intake and physical activity levels, both of which are difficult to standardize and measure across populations in different countries (45,20,35,8). A current smoker represented about (8%) of cases as well as. Ex-smoker represented about (4%) of cases. These results agreed with Virdis and others (34,18,24,26). Those found that hypertension is highly associated smoking status. (47) There is evidence that stress, an individual's capacity to control their stress level, may play a role in etiology of hypertension. In a study conducted by Karen (35), in 2001, it found that the stress is a significant risk factors for hypertension especially those persons with type A personality. Out of all life events risk

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(stress, social discontinuity, geographical mobility and catastrophic events studied in the present study, only a significant association between stressful conditions and subsequent development of hypertension was found. This probably explained by the stress theory through the effect of stress on the hypothalamic-pituitary-adrenal axis and cortisol over production that affect vascular system which may associated with increased psychological distress and this contribute to increase risk of hypertension (36). percentage of cases who reported geographical mobility during the period preceding the development of hypertension (44%). It may be attributed to methodological differences including the design, setting, and population study as a result of the relatively low percentage of rural sample; in both cases and controls which is probably due to difficult geographical access to the service in the city.

Conclusions

The mean ages of cases was(51±11.97). The prevalence of hypertensive patients is about (78.5%) in those age groups more than 40 years old with and the percentage of hypertension is increased as the age increased. This study showed that the main age group at which the cases were diagnosed with hypertension (40-49years) (47%). Regarding the gender, male sex is more common than female sex in the distribution of cases of hypertension; male: female ratio about 3;1; with no significant relation between male gender and hypertension as a result of gender matching for cases and controls. Married status may not have subsequent development of hypertension. In hypertensive cases, the distribution of the educational level of the studied population are relevant. In this work, type of occupation is distributed highly especially manuals type (partially skilled occupations and unskilled). Currently smokers history appeared to of highly results in those who developed hypertension. Family history of HTN was recorded in highly proportion of hypertensive cases, among people in the sample study, those classified as stressed

persons appeared to have HTN. In this work, among the social context factors are founded to promote the development of hypertension. Unhealthy life style history appeared in the development of hypertension cases. A highly percentage of hypertension cases with a Past medical history was founded.

Recommendations

According to the results of the present study the following points are recommended:

I- General

1. Policy-makers should be aware of the importance and seriousness of the problem of hypertension and its cost to the health care system budget. Also, there is a need for a national program to prevent and control hypertension. A hypertension control program should incorporate risk factors prevention (primordial, primary, secondary and tertiary) and social etiological causes management as well as health education campaigns and training courses for people.
2. There is a need to include reliable information on prevention and management of hypertension in school and university curricula.
3. Public health education that can be done through different communication media to inform the whole population about social risk factors of hypertension and co-morbidities associated with, from childhood to adult phase of life. Furthermore, the health education should put in the picture self-measurement of hypertension parameters and encourage people to do periodically.
4. Effective hypertension screening for individuals and groups at risk of developing hypertension especially those with positive family history and old age involves a range of long-term strategies. They should be part of an integrated, multi-sectoral, population-based approach. Key elements include:
 - Creating supportive population-based environment through public policies that prevent a stress in the work stations and other life aspects.
 - Promoting healthy behaviours and healthy life style to encourage, motivate and enable individuals to protect their health.
 - Mounting a clinical response to the existing burden

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of hypertension and associated conditions through clinical programs and staff training to ensure effective support for them.

5. Because of the limitation of this study, further studies especially large prospective ones as nested case-control or cohort studies, will further enhance and document the knowledge about the social risk factors of hypertension in the local community.

II- Specific

1. Sociological counselling and support.
2. Early screening, diagnosis and management of hypertension.
3. Avoid stress factors as much as possible and establishing of behavioral and psychological administrative therapies to overcome and antagonize these stressors.
4. Abstain smoking as soon as possible since it is a possible risk factor for hearing loss as well as advice people to avoid becoming a passive smoker.
5. general health education regarding the importance and validity of social risk factors counselling as primordial, primary & secondary prevention of hypertension in the advanced life.
6. Promotion of healthy life style including healthy diet, good physical activity to avoid overweight and obesity.

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