

# The role of health promotion behavior in controlling anxiety and stress in patients with hypertension

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## Abstract

**BACKGROUND:** Hypertension is one of the most important chronic diseases worldwide. In most cases the real cause of hypertension is not clear but recent studies have shown that unhealthy lifestyle may lead to stress, anxiety and hypertension.

**METHODS:** In this study we reviewed the published articles in scientific database including ISI web of knowledge, Medline, PubMed, and Elsevier. The articles about healthy lifestyle, stress and anxiety in patients with hypertension was extracted.

**RESULTS:** Hypertension was the major risk factor for developing cardiovascular and renal disease. In most cases the real cause of hypertension was not clear but recent studies have shown that unhealthy lifestyle may lead to stress, anxiety, and hypertension. Lifestyle factors were critical determinants of blood pressure levels operating against a background of genetic susceptibility. An improving healthy lifestyle behavior was important in improving health and a multidimensional pattern was found. Not all strategies would be effective for every individual, but to some extent all patients being treated for hypertension should incorporate elements of therapeutic lifestyle changes into their treatment regimen. Healthcare providers play an important role in teaching individuals with hypertension on health promotion program and healthy lifestyles. Not only healthcare providers' advices are integral to controlling hypertension, but also patients should follow those advices. Special attention must be paid to intervention programs aimed at modifying lifestyle and providing education on stress management techniques. Non pharmacologic interventions include methods to modify lifestyle and reduce or cope with stress and anxiety such as: stress management intervention (SMI), dietary sodium reduction, and weight reduction, supplement regimens utilizing calcium, magnesium, fish oil, and potassium.

**CONCLUSION:** Several studies in the context of chronic disease like hypertension had shown that increasing individual's self-efficacy in order to modify lifestyle has an important role to improve or control their disease. Education is the key component of increasing self-efficacy in patients with hypertension and in nursing service prides itself on a holistic approach to healthcare that includes disease prevention and health promotion.

**Keywords:** Health Promotion Behavior, Stress, Anxiety, Hypertension

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## Introduction

Hypertension is one of the most important worldwide chronic disease<sup>1</sup> that has a great burden on health systems in terms of providing care and budget in both developed and developing countries.<sup>2</sup> Because of associated morbidity and mortality and cost of society, hypertension is an important public health challenge. According to international hypertension association, hypertension is responsible for 7.6 million deaths (13.5% of all deaths) and 6% of deaths all over the world.<sup>1</sup>

The world health organization has estimated that approximately 600 million people are affected by hypertension disorder and 5.7 million deaths occur

each year due to the disease and its morbidity.<sup>3</sup>

Hypertension is the most important modifiable risk factor for coronary heart disease, stroke, congestive heart failure, end stage renal disease and peripheral vascular disease. In most cases, hypertension is not only caused from morbidity, but unhealthy lifestyle including lack of daily activity, incorrect nutritional habits, smoking and excessive alcoholic consumption have great impact on developing morbidities.<sup>4,5</sup>

Recent studies showed that life style behaviors might have a role in developing stress, anxiety that is followed by hypertension.<sup>2</sup> Huang stated that improving life style behaviors can help people to be healthy and overcome daily stresses. Therefore, healthy life

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style might have an effective role in preventing stress, anxiety and depression.<sup>6</sup> Healthy People is a set of health goals and objectives with 10 year targets designed to guide national health promotion and disease prevention efforts to improve the health of all people in the United States. Two goals of Healthy People 2010 for hypertension were to decrease prevalence and increase successful treatment rate. A multifactorial approach is needed to achieve these goals. Therefore health care professionals must not only identify and treat patients with hypertension but also promote a healthy lifestyle and preventive strategies to decrease the prevalence of hypertension in the general population.<sup>5</sup> Lin et al. have demonstrated that lifestyle modification is the first and also most important therapeutic strategies.<sup>7</sup>

Several studies in the context of chronic disease like hypertension had shown that increasing individuals self-efficacy in order to modify lifestyle has an important role to improve or control their disease.<sup>8,9</sup> Education is the key component of increasing self-efficacy in patient with hypertension.<sup>10,11</sup>

Nursing prides itself on a holistic approach to healthcare that includes disease prevention and health promotion. As the largest group of healthcare providers, nurses have the potential to exert a strong influence on health care practices in their nations.<sup>12</sup> The objective of this study was to discuss the effective role of lifestyle behaviors in controlling stress and anxiety in patients with hypertension.

## Materials and Methods

The study design was based on reviewing published articles in scientific database including ISI web of knowledge, Medline, PubMed, and Elsevier. The search strategy was to apply healthy lifestyle, stress and anxiety on patients with hypertension. Ultimately 35 articles were applicable according to study criteria. The founded articles were categorized in 3 main subjects related to healthy lifestyle promotion behavior, stress and anxiety in patients with hypertension.

## Results

### Hypertension and healthy lifestyle promotion behavior

Hypertension is the major risk factor for developing cardiovascular and renal disease. In most cases the real cause of hypertension is not clear but recent studies have shown that unhealthy lifestyle may lead to stress, anxiety and hypertension. Unhealthy lifestyle includes smoking, high alcohol consumption, overweight, sedentary lifestyle, lipid disturbance and perceived negative stress. There is a higher incidence rate

of hypertension in people with unhealthy life style behaviors.<sup>13-15</sup> Lifestyle factors are critical determinants of blood pressure levels operating against a background of genetic susceptibility.<sup>16</sup> Improving healthy lifestyle behaviors are important in improving health and is a multidimensional pattern of self-actualization, health responsibility, exercise, nutrition, interpersonal support and stress management.<sup>12</sup>

Obesity is the dominant factor predisposing to blood pressure elevation. While considering options for the specific overall management of hypertension in the context of overweight and obesity one should incorporate strategies that focus on therapeutic lifestyle changes, including weight loss, exercise and dietary interventions.<sup>17</sup> Nutrition transition theory attributes increased prevalence of high blood pressure to excess body weight associated with lifestyle changes in recent decades.<sup>18</sup> High blood pressure is controllable by having a healthy lifestyle, such as weight control, dietary change, exercise, low-sodium diet, alcohol restriction and smoking cessation, and by taking medication.<sup>19</sup> These treatment strategies require a great deal of motivation on the part of the patient, the patient's family and the patient's care providers. Not all strategies will be effective for every individual, but to some extent all patients being treated for hypertension should incorporate elements of therapeutic lifestyle changes into their treatment regimen.<sup>17</sup>

Healthcare providers play an important role in teaching individuals with hypertension on health promotion program and healthy lifestyles.<sup>19,20</sup> Patient education medication adherence alone and in combination with healthy lifestyle behavior teaching is an effective tool for blood pressure reduction in the hypertensive population in primary health care settings.<sup>21</sup> It is not only advised from healthcare providers that is integral to control hypertension, but also that patients should follow these advices.<sup>17</sup> Guidelines for cardiovascular disease prevention recommend a non-pharmacological approach to reduce cardiovascular risk in those with elevated blood pressure.<sup>22</sup> Therapeutic lifestyle change interventions should emphasize patient self-management, supported by providers, family, and the community. Interventions should be tailored to an individual's cultural heritage, beliefs, and behavioral norms and the culturally adapted behavioral intervention.<sup>23,24</sup>

Simultaneously targeting multiple factors that impede blood pressure control will maximize the likelihood of success.<sup>24</sup> Medication self-management, lifestyle modifications, and factors that contribute to non-adherence should be consistently addressed while maintaining an understanding of personal and cultural beliefs.<sup>25</sup> The study findings add to an increased un-

understanding of the cultural variations in the health promoting behaviors of people with hypertension.<sup>26</sup> Nursing intervention for patients to adopt a healthy lifestyle requires effective communication. But the communication problems encountered in a culturally diverse context can result in undesirable outcomes for the patients and the healthcare team.<sup>27</sup> Genetic counseling research has been used for diseases such as breast and other cancers, but genetic counseling for hypertension has been understudied to determine the effectiveness of genetic counseling on changes in lifestyle behaviors and blood pressure readings.<sup>28</sup>

### Stress and anxiety

Genetic and psychological factors, occupational stress, stressful aspects of the social environment, and low socioeconomic status, anxiety are the etiology of hypertension.<sup>28-30</sup> Genetic and behavioral factors do not fully explain the development of hypertension, and there is increasing evidence suggesting that psychosocial factors may also play an important role. They were closely associated with higher activation of sympathetic nervous system, and they are independent predictors of non-dipping hypertension.<sup>31</sup> Psychological well-being, psychosocial stress, anxiety and sleep disturbances are of major importance for hypertension, but it is difficult to know whether they are causes or consequences.<sup>32</sup> A selected stress reduction approach, the Transcendental Meditation program, may be useful as an adjunct in the long-term treatment of hypertension<sup>33</sup> and special attention must be paid to intervention programs aimed at modifying lifestyle and providing education on stress management techniques.<sup>34</sup> The studies of the impact of psychological disorders in systemic arterial hypertension (SAH) is still controversial and is not well understood.<sup>35</sup> Psychological factors could partially account for poor hypertension control through the existence of personality traits related to treatment compliance (e.g. self-discipline, deliberation, impulsiveness) and the fact that stress and some personality traits (e.g. anxiety, depression, anger expression, Type A) are involved in the etiology of some hypertension cases.<sup>36</sup> Non pharmacologic interventions included methods to modify lifestyle and reduce or cope with stress and anxiety such as stress management intervention (SMI), dietary sodium reduction, weight reduction, supplement regimens utilizing calcium, magnesium, fish oil, and potassium.<sup>37</sup>

### Discussion

Several studies in the context of chronic disease like hypertension had shown that increasing individual's self-efficacy in order to modify lifestyle has an important role in improving or controlling their disease. Education is the key component of increasing self-

efficacy in patient with hypertension and nursing prides itself on a holistic approach to healthcare that includes disease prevention and health promotion.

### Conflict of Interests

Authors have no conflict of interests.

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