**Title:**

**ESSENTIAL HYPERTENSION:- A MODERN DAY MENACE ; WELL-MANAGED BY HOMOEOPATHY**

ABSTRACT

Almost one-third of the world's population is affected by hypertension. Unfortunately, despite improved detection and treatments, rates of HTN are not decreasing in the population. Therefore, we must improve our understanding of HTN's aetiology and determine optimal prevention strategies to reverse this trend.

 Essential HTN (EHT) is considered one of the seven psychosomatic diseases. It's established that the increase and variation of blood pressure are afflicted by mood and way of thinking. Besides physical factors, psychosocial factors play a vital role in the pathogenesis of HTN. Long-term depression, insomnia, stress, anxiety, or sharp and intense mental trauma are also important causes of hypertension, as research suggested.

In homoeopathy, the remedy is selected by considering the totality of an individual's symptoms and circumstances, including personality, behaviour, fears, responses to the external environment, etc. Therefore, the changes in the patient's state of mind and disposition must be considered and matched with the particular homeopathic remedy which can produce a similar state in a healthy human being. As a result, permanent relief from the disease can occur. Hence, homoeopathic therapeutics can influence mental processes favourably and mitigate psychosomatic problems like EHT.

KEYWORDS

Anxiety, depression, anger, psychosomatic diseases, essential hypertension, homeopathy

Introduction

Hypertension (HTN) is one of the most rampant disease- state that occurs in approximately one in four adults1. It is paradoxical that despite the enormous advances in

antihypertensive- drug therapy, the number of people with uncontrolled HTN has continued to rise. Additionally, despite the enhanced screening, early detection and treatment of HTN, it is clear that the scientific community has not yet found a way to prevent it. Moreover, it is estimated that 90% of people will inevitably develop HTN over their lifetime2, emphasising its unavoidable nature.

Essential Hypertension (EHT): Modern Definition

 Essential hypertension, also known as primary or idiopathic hypertension, is the presence of high blood pressure not explainable by secondary causes, representing 95% of all cases of high blood pressure3.

The search for a major and specific cause of essential hypertension (EHT) has been unsuccessful. Approaches have varied from examining genetic factors, neural mechanisms, and humoral factors, including disturbed renal function, to more complex ones at a cerebral level. In addition, the effects of age, sex and obesity have been better defined, and the social characteristics of hypertensives have been examined. Unfortunately, all these studies reveal small pieces of a jig-saw, so piecemeal; it is difficult to see their relationship even at a hypothetical level. Nevertheless, it leads to the conclusion that the cause of raised blood pressure is multifactorial, as described by Page in his mosaic theory4.

The search for specific factors and the causal mechanisms underlying hypertension is ongoing. Researchers have noted psychological factors as important as biological factors in developing psychosomatic conditions5, such as hypertension. A sizable body of studies supports the association between psychological factors and increased risk of hypertension6, supporting the notion that psychological factors play a significant role in the pathogenesis of hypertension7. According to Rutledge8 (2009), among the known psychological factors predisposing towards the development of hypertension, the ones with the strongest epidemiological evidence are anxiety9,10, 16, 17, hostility11, anger12, Type A behaviour pattern13, 18, and depression14, 15.

Effects of Socioeconomic status (SES) and Psychosocial status on essential hypertension:

Socioeconomic status (SES) is generally a composite of factors such as occupational status, economic resources, education, and social status.

The literature has documented that cardiovascular disease, in general, and hypertension, in particular, have a socioeconomic and psychosocial component. In most populations, hypertension is more common in a disadvantaged stratum of society, in people with low income and low educational level, where smoking is common, and concerns for diet, exercise, and relaxation are sporadic and contribute to cluster components of metabolic syndrome, focused on hypertension, obesity and insulin resistance19, 20.

Low SES is characterised by poorer health habits and higher frequencies of coronary risk factors, which account for half or less of the SES-CAD gradient21. More financial hardship, poorer housing conditions, and increased levels of chronic stress also characterise low SES, as do poorer and more physically repetitious working conditions and less job security and job latitude21. Thus, low SES can be viewed as a composite chronic psychogenic stressor22, a perspective supported by pathophysiologic evidence. Hypothalamic-pituitary-adrenal (HPA) dysfunction frequently accompanies chronic stress, and increased dysfunction is observed as SES level declines.

Status groups are similar not only in terms of education, income and occupation but also in terms of dietary practices, alcohol consumption, smoking behaviour and physical activity23. Moreover, emotional distress is associated with the above-mentioned behavioural practices24 and BMI25, 26 and sleep disorders27. This network of associations establishes the role of risk factors for hypertension in the relationship between psychosocial status and hypertension. Psychosocial status is interrelated with health conditions through intricate, socially embedded mechanisms.

Low SES environments contribute to developing many characteristics identified as psychosocial risk factors for serious disease, including anger, hostility and aggressiveness28. Further, there is some evidence that negative emotional and interpersonal characteristics like anger, hostility, anxiety and depression account for at least some of the effects of low SES on health29 30. Also, negative emotions are presented as having a role in treatment nonadherence24, 31, 32.

Essential hypertension as a psychosomatic disorder:

Psychosomatic disorders are an illness whose symptoms are caused by the mental processes of the sufferer rather than immediate physiological causes. If a medical examination can find no physical or organic cause or an illness appears to result from emotional conditions such as anger, anxiety, depression or guilt, then it might be classified as psychosomatic. The concept of psychosomatic disorders has existed since the time of Sigmund Freud. The belief is that with the varied emotions that a person experiences, each disease manifests with a different set of symptoms in each person, implying that each person needs to be treated differently and not given the same disease-specific medication. Homoeopathy plays a very strong role in psychosomatic disorders as it also believes in treating the individual as a whole, not just the symptoms. The changing concepts in modern medicine depict that they are coming closer to the homoeopathic model. Perhaps nothing epitomises this better than the aetiology of primary hypertension, which is seen as a product of "constitutional" and environmental factors.

Both systems of medicine have significant difference in etiology. The essence of this difference is mentioned in the Organon of medicine, "There are no diseases but sick people". Dr Kent has advocated more eloquently (Kent, 1989) in his book, under the chapter: "The Sick". He says, "The allopath thinks that the house in which the man lives, which is being torn down, expresses all there is in sickness. Modern medicine considers, tissue changes are all there is to the sick man. But homoeopathy perceives that there is something before the outcome. The individual who is sick and has to be brought back to health, not his body, not his tissues".

Emotions become pathological when intensely felt for prolonged periods, not recognised or unexpressed. Repression will always call forth a compensatory counteractivity of the unconscious which will, through the back door, force upon the individual the very thing s/he is trying to repress. The human body can be compared to a triangle. Each side of the triangle directly influences two sides. Complete health is when the structural, biochemical, and emotional aspects are harmoniously balanced.

Mental symptoms often play a primary role in selecting the correct medicine. This doctrine, which has been extensively developed in the Western world in the past few years, is not a new discovery, for ever since the time of Hippocrates and Galen, the influence of the psychic over the physical has been admitted. Nevertheless, the physicians of the orthodox school are only now discovering psychosomatic. After cutting a man in two and isolating his psyche and mind from his soma, they have again stuck the two pieces together to consider him a biological whole33. The neuro-vegetative system is the structural bond between the psychic and the somatic spheres; its paths and centres are graduated from the cortex to the major diencephalic crossroads to the bulb or the spinal cord. Their ramifications extend to the vascular extremities and into the depths of the tissues33. Due to emotional conflicts present in the background, the psycho-neurotic and anxiety states pursue their covert action on the neuro-vegetative system. A continuance of emotional outbreaks can end in disturbances of the cardiovascular system, which terminate in essential hypertension to begin with.

Homeopathy entails a holistic view of wellness and ascertaining the physical factors following the emotional or mental triggers to get the total picture. The trademark of the homeopathic approach to disease is an understandable view of the multiple causalities of ailments, be they banal or important disorders. Homeopathy favours an amalgam approach to treatment that does not segregate the psychological causality from the physical manifestations. Therefore, we base our prescription on constitutional symptoms, where we give a lot of importance to the mental and characteristic physical symptoms. Hence every prescription from a Homoeopathic physician will surely include an element of psychosomatic angle. Ever since Hahnemann in 1796, the homoeopathic school has always considered the patient as a living entity and unity and has treated him as such while always giving preference to the mental and subjective symptoms so greatly discarded by the ordinary school. Psychosomatic medicine aims at an original synthesis that recognises the multiple causalities of morbid phenomena; it studies the sick man as a biological whole among his multiple psychosomatic inter-reactions33. Hahnemann evoked this biological whole in 1813 in his famous essay, "Spirit of the Homoeopathic Doctrine' of Medicine, " where he speaks of the living individual unity of the organism. In a phrase by Kant, the philosopher, cited by Hufeland, we read: "We do not for a moment deny the influence of the physical on the spiritual, but the psychological power of the spirit on the body is just as astonishing and even greater. It can give birth to ailments; it can kill, and it can revive."

Hahnemann is thus the true creator of psychosomatic medicine. Although he may not be the first to speak of the relationship between the spirit and the body, he is nevertheless the first to have outlined the practical rudiments of possible therapeutic measures to be taken in the resulting ailments. In Aphorism 215, he makes the following observation: "Nearly all morbid states which are referred to as 'psychic' is, in reality, nothing but somatic ailments in which the discord between the intellectual and moral faculties, each in its specific way and a manner more or less rapid, have become predominant through their relation to the purely physical symptoms. Thus, they finish by taking on the character of a 'defective' disease which gives the appearance of a local ailment having its seat in the delicate and invisible organs of thought."-the "psychosomatic ailments" of the modern authors. In 1810 Hahnemann was already insisting on the essential relationship between the patient's physical and psychic condition. In aphorism 210 of the Organon, he writes:"… there does not exist a single so-called somatic illness where we may never discover constant modifications in the psychic condition of the patient …" 35

 In aphorism 21335: "It will never be possible to effect a cure in conform with nature-that is to say homoeopathically- if, in every individual case disease, even acute, we do not at the same time observe the changes which have taken place in the psychic or mental state of the patient. "Furthermore, we shall no longer be able to cure if we fail to choose from among the medicines a pathogenetic force capable of provoking not only the symptoms similar to those of the disease, but even more, one that is similar to the mental state and character of the patient."

Thus, it can be endorsed that Hahnemann was a precursor in the field of psychosomatics. He saw the human being as having an integrated mind and body, in contrast to the prevailing dualism of his time. He propagated that disease is not a physical entity. It cannot cease to be dynamic (spiritual) derangements of our spirit-like vital principle in sensations and functions, immaterial derangement of our state of health. The causes of our disorders cannot be material. He has enumerated 3 causes for chronic diseases: Exciting, maintaining and fundamental. The disease is a response to adverse environmental stimuli. The physician must ascertain and consider both the cause and effect. A chronic disease like EHT is most subtle and slow but steadily progressing, culminating in damage to vital organs and leading to death if not treated in time. A complete picture has to be understood by collecting all the pieces of evidence starting from family history to past history, present and personal history, which includes the mind symptoms and temperament to trace the affecting miasmatic influence.

Hence, he insists that the physician must have examined the following aspects in every chronic case35, such as EHT:

1. Causes: Exciting, Fundamental and Maintaining

2. Important features in the whole history, viz., present, past and family history

3. Physical constitution

4. Mental state (emotional and intellectual)

5. Age and Occupation

6. Personal history, including sexual functions

7. Environmental stimuli (Socio-economic-religious-political, etc.), especially the adverse inputs

8. Inter-personal relationships (family, work, social)

All homeopathic medicines alter the state of mind and disposition in their peculiar way (Organon of Medicine § 212)35. Therefore, the changes in the patient's state of mind and disposition must be considered and matched with the particular homeopathic remedy which can produce a similar state in a healthy human being. Permanent relief from the disease can occur. Hence, if the changes in the state of mind and disposition are ignored while prescribing, an ideal cure cannot occur. Unless a medicine can produce in its artificial drug-disease a similar state of mind and disposition along with other symptoms similar to the natural disease, the disease will not be eradicated.

A detailed study of the Homoeopathic Material Medica, which is compiled by collecting drug pictures by proving drugs on healthy human beings, shows that every such drug effect is characterised by specific alterations of the total personality, namely by emotional and mental changes which arise in addition to the disturbance of the general vitality and the special organs. The homoeopathic literature provides vast experimental data and clinical observations, suggesting that every substance represents a force complex that produces the exact duplication of spontaneous psychic and somatic events. Moreover, we deal with a characteristic complex of combined mental, emotional, and organic physical symptoms in every instance of experimental and spontaneous pathology. This complex is constant and specific for each drug. Since each drug can be functionally matched to a certain state of a "similar" spontaneous disorder, it is equally specific for each instance of pathology. The only variation is in the intensity, prevalence or completeness of the various groups of symptoms presented by the individual prover or patient. This justifies the specific usefulness of homoeopathic medicines for treating psychosomatic diseases like EHT.

Furthermore, mental symptoms often appear first and are followed by conditions we clinically associate with the results of such mental states. A uniform biologic stimulus (the individual drug) can produce a specific response simultaneously on the psycho-emotional and biological levels. Similarly, the actual instances of clinical disorders like EHT fit into the concept of the fundamental identity of the processes which present themselves in a dual manifestation in the psychic and somatic spheres.

Let's look to illness as a potential guide to the discovery of the transformative forces of the whole person. Each illness is revealed as an opportunity to grow, mature and evolve. This holistic psychosomatic approach recognises illness as: "pointing to a reality beyond themselves and not just as symptoms of a problem which is nothing but disturbed normalcy. Such a view may change illness and difficulty into something from which new life may spring. The "illness" can become a source of renewal when it pressures us into another life meaning. Whitmont36 wrote about this process: … the ego's effort to confront the complexes' distortions—the "shells" – and finally comprehend their archetypal cores has a constructive effect. Capacities which may have been lacking before and whose unavailability was compensated for by neurotic exaggeration of available capacities and compulsive, obsessive pressure of the barred energies may now become accessible to the conscious personality. Thereby not only is psychopathology relieved, but the creative potential is also enhanced.

In other words, a constructive transformation always results when the ego ceases its distortion of the outer "shells" of the personal complexes, instead surrendering to the archetypal forces at the core. Until this stage is reached, creative capacities are distorted, only made available to the conscious personality as "problematic" symptoms. Their energy is barred from creative expression by neurotic defences. The obsessive pressure of ego defence produces an exaggerated distortion of the central forces of the complex. When the ego's defences collapse, the neurotic psychopathology is relieved, and the creative potential of the archetype can emerge.

Homeopathic psychiatrist Dr Philip M Bailey37 says, "Homoeopaths need an accurate and realistic description of the personalities of the constitutional remedies. In Homeopathy, emotional symptoms are considered as important as physical ones. In chronic diseases, they are usually treated with even more importance."

As Dr Catherine Coulter38 puts it: "The homoeopathic physician does not treat the malady but the symptom conglomerate of the person who has heart disease, arthritis, migraine headaches, colitis, cystitis, influenza, dysmenorrhoea, insomnia or the common cold. And this ability to make distinctions among patients and superficially similar disease processes – that is, to "individualise" every case – is the natural result of the concern for the whole person which lies at the core of homoeopathic practice."

Benefits of effective homoeopathic case-taking:

According to Dr Hahnemann35, case taking is the individualising examination of the case of disease. In aphorisms 83-104, he gives comprehensive directions for obtaining the necessary information and recording it to reveal the totality of symptoms or the picture of the disease that marks and distinguishes the case of disease from the rest of the cases of the same disease (individualised examination of the case).

The positive impact of paying attention to the concerns of the patient:

Physician listening addresses the psychosocial aspect of illness. The mere act of physician listening empowers the patients by inspiring them to take ownership of their health. Also, when the doctor does not pay attention to the patient's problems, it can lead the patient to mistrust their judgement, intuition and the signals their bodies are transmitting. Listening to the patient's particular needs and issues provides individualisation of care and a mechanism to ensure that the patient's welfare remains the priority42. It is compatible with the literature on the positive impact of listening on patient satisfaction39,40, 41 and patient confession of problems and emotional content. Davidsen's43 study found that physicians' listening signalled a 'general agreement' for the patient to disclose emotionally laden content.

 In aphorisms 210-225 (Hahnemann, Organon of Medicine)35, he describes mental diseases and psychosomatic problems. He gives detailed information about their diagnosis and treatment and auxiliary measures like psychical remedies, such as a display of confidence, friendly exhortations and sensible advice.

In treating chronic psychosomatic disease, he has insisted that the state of disposition is often the decisive factor in the selection of the true similimum as it is a particularly characteristic symptom and the one that can least of all remain hidden from the accurately observing physician. This has been applied consistently and successfully by modern-day homeopaths with remarkable results.

Conclusion

Dr Whitmont mentioned in preface 38: "Homeopathy bridges the Cartesian body-mind split. The body-oriented physician in the past has tended to gloss over psychological determinants and their fine points in the genesis of illness. But, on the other hand, the psychologist has lacked adequate specific data for linking biological factors with psychic dynamics."

Hence, psychological assessment and homoeopathic management of hypertensive patients are very useful for the most efficient disease management beyond antihypertensives. Furthermore, the improvement in quality of life is an additional benefit. This is an era of psychosomatic diseases; hence homoeopathy is the treatment of choice.

It is important to understand the influence of psychological factors on HTN and cardiovascular diseases and to develop interventions to determine whether any forms of responding to negative emotions are beneficial, or at least less harmful, in cardiovascular health. Hypertensives have quite different cardiovascular and safety risks. One cannot and should not treat all these hypertensives with the same approach – we must treat an individual and not a risk factor. Importantly, it is more efficacious to prevent end-organ damage rather than to reverse it – prevention is better than cure. Indeed, older studies have shown that once structural changes occur, they cannot reverse them. Therefore younger hypertensives with no co-morbidities must be treated aggressively.

We must emphasise the importance and necessity of educating patients with HTN about appropriate methods of expression and management of negative emotions, as done during our case-taking and follow-ups. These precautions will contribute to better prevention and control of the disease, alongside other factors.

Chronic stress, negative emotions, allostatic load, distorted lifestyle and mental distress could increase blood pressure. Removal of such stress is difficult, and the evidence is limited. However, considering patients' backgrounds and allowing them to present their concerns during homoeopathic case-taking process help to establish rapport, which is essential to maintain long-term compliance for hypertension treatment.

HT has serious economic implications also, as it is a leading cause of hospitalisation and outpatient visits. The annual income loss (calculated in 2004) was Rs. 43 billion, accounting for 64% of out-of-pocket expenses44. Moreover, a month's treatment with just one antihypertensive medication costs 1.8 day's wages and becomes unaffordable if more than one drug is prescribed or more than one person has hypertension in the family.

The use of pharmacological treatments for patients with mild EHT is being questioned since the trade-off between costs, risks, and benefits does not fully justify such a policy, unlike those with moderate, severe or very severe EHT45. In such cases, homoeopathic treatment can be readily used.

Homoeopathic therapeutics affords unlimited possibilities of influencing the mental processes favourably and mitigating the adverse influence of the hereditary predispositions to illness, thereby leading to a better adaptation of the patient to his environment. Thus, it represents the practice of constitutional medicine at its best and reigns supreme in psychiatry and psychosomatic medicine46.

Bibliography

1. Kearney, P. M., Whelton, M., Reynolds, K., Muntner, P., Whelton, P. K., & He, J. (2005). Global burden of hypertension: analysis of worldwide data. The Lancet, 365(9455), 217-223.

2. Vasan, R. S., Beiser, A., Seshadri, S., Larson, M. G., Kannel, W. B., D'Agostino, R. B., & Levy, D. (2002). Residual lifetime risk for developing hypertension in middle-aged women and men: The Framingham Heart Study. Jama, 287(8), 1003-1010.

3. Carretero, O. A., & Oparil, S. (2000). Essential hypertension: part I: definition and etiology. Circulation, 101(3), 329-335.

4. Page, I. H. (1967). The Mosaic Theory of Arterial Hypertension—: Its

Interpretation. Perspectives in biology and medicine, 10(3), 325-333.

5. Page, I. H. (1982). The mosaic theory 32 years later. Hypertension, 4(2), 177-177.

6. Battegay, E., Bakris, G. L., & Lip, G. Y. (Eds.). (2005). Hypertension: Principles and Practice. Taylor & Francis US.

7. Jennings, J. R., & Heim, A. F. (2012). From brain to behavior: hypertension's modulation of cognition and affect. International journal of hypertension, 2012.

8. Rutledge, T., & Hogan, B. E. (2002). A quantitative review of prospective evidence linking psychological factors with hypertension development. Psychosomatic medicine, 64(5), 758-766.

9. Esler, M., & Parati, G. (2004). Is essential hypertension sometimes a psychosomatic disorder? Journal of hypertension, 22(5), 873-876.

10. Rutledge, T., Linke, S. E., Krantz, D. S., Johnson, B. D., Bittner, V., Eastwood, J. A., ... & Vido, D. A. (2009). Comorbid depression and anxiety symptoms as predictors of cardiovascular events: results from the NHLBI-sponsored Women's Ischemia Syndrome Evaluation (WISE) study. Psychosomatic medicine, 71(9), 958.

11. Jonas, B. S., Franks, P., & Ingram, D. D. (1997). Are symptoms of anxiety and depression risk factors for hypertension? longitudinal evidence from the National Health and Nutrition Examination Survey I Epidemiologic Follow-up Study. Archives of family medicine, 6(1), 43-49.

12. Ginty, A. T., Carroll, D., Roseboom, T. J., Phillips, A. C., & De Rooij, S. R. (2013). Depression and anxiety are associated with a diagnosis of hypertension 5 years later in a cohort of late middle-aged men and women. Journal of human hypertension, 27(3), 187-190.

13. Yan, L. L., Liu, K., Matthews, K. A., Daviglus, M. L., Ferguson, T. F., & Kiefe, C. I. (2003). Psychosocial factors and risk of hypertension: The Coronary Artery Risk Development in Young Adults (CARDIA) study. Jama, 290(16), 2138-2148.

14. Player, M. S., King, D. E., Mainous, A. G., & Geesey, M. E. (2007). Psychosocial factors and progression from prehypertension to hypertension or coronary heart disease. The Annals of Family Medicine, 5(5), 403-411.

15. Simonsick, E. M., Wallace, R. B., Blazer, D. G., & Berkman, L. F. (1995). Depressive symptomatology and hypertension-associated morbidity and mortality in older adults. Psychosomatic medicine, 57(5), 427-435.

16. Coryell, W., Noyes, R., & House, J. D. (1986). Mortality among outpatients with anxiety disorders. Am J Psychiatry, 143(4), 508-510.

17. Fontaine, R., & Boisvert, D. (1982). Psychophysiological disorders in anxious patients: hypertension and hypotension. Psychotherapy and psychosomatics, 38(1-4), 165172.

18. Baer, P. E., Collins, F. H., Bourianoff, G. G., & Ketchel, M. F. (1979). Assessing personality factors in essential hypertension with a brief self-report instrument. Psychosomatic Medicine.

19. Kaplan, G. A., & Keil, J. E. (1993). Socioeconomic factors and cardiovascular disease: a review of the literature. Circulation, 88(4), 1973-1998.

20. Chandola, T., Brunner, E., & Marmot, M. (2006). Chronic stress at work and the metabolic syndrome: prospective study. Bmj, 332(7540), 521-525.

21. Marmot, M. G., Bosma, H., Hemingway, H., Brunner, E., & Stansfeld, S. (1997). Contribution of job control and other risk factors to social variations in coronary heart disease incidence. The lancet, 350(9073), 235-239.

22. Baum, A., Garofalo, J. P., & Yali, A. M. (1999). Socioeconomic status and chronic stress: does stress account for SES effects on health?. Annals of the New York Academy of Sciences, 896(1), 131-144.

23. Baek, T. H., Lee, H. Y., Lim, N. K., & Park, H. Y. (2015). Gender differences in the association between socioeconomic status and hypertension incidence: the Korean Genome and Epidemiology Study (KoGES). BMC Public Health, 15(1), 852.

24. Kretchy, I. A., Owusu-Daaku, F. T., & Danquah, S. A. (2014). Mental health in hypertension: assessing symptoms of anxiety, depression and stress on antihypertensive medication adherence. International journal of mental health systems, 8(1), 25.

25. Jackson, C. A., Pathirana, T., & Gardiner, P. A. (2016). Depression, anxiety and risk of hypertension in mid-aged women: a prospective longitudinal study. Journal of hypertension, 34(10), 1959-1966.

26. Kabir, A. A., Whelton, P. K., Khan, M. M., Gustat, J., & Chen, W. (2006). Association of symptoms of depression and obesity with hypertension: the Bogalusa Heart Study. American journal of hypertension, 19(6), 639-645.

27. Gangwisch, J. E., Malaspina, D., Posner, K., Babiss, L. A., Heymsfield, S. B., Turner, J. B., ... & Pickering, T. G. (2010). Insomnia and sleep duration as mediators of the relationship between depression and hypertension incidence. American journal of hypertension, 23(1), 62-69.

28. Leventhal, T., & Brooks-Gunn, J. (2000). The neighborhoods they live in: the effects of neighborhood residence on child and adolescent outcomes. Psychological bulletin, 126(2), 309.

29. Gallo, L. C., & Matthews, K. A. (2003). Understanding the association between socioeconomic status and physical health: do negative emotions play a role? Psychological bulletin, 129(1), 10.

30. Williams, R. B. (2003). Invited Commentary: Socioeconomic Status, Hostility, and Health Behaviors—Does It Matter Which Comes First? American Journal of Epidemiology, 158(8), 743-746.

31. Krousel-Wood, M., & Frohlich, E. D. (2010). Hypertension and depression: co-existing barriers to medication adherence. Journal of clinical hypertension (Greenwich, Conn.), 12(7), 481.

32. Maatouk, I., Herzog, W., Böhlen, F., Quinzler, R., Löwe, B., Saum, K. U., ... & Wild, B. (2016). Association of hypertension with depression and generalised anxiety symptoms in a large population-based sample of older adults. Journal of hypertension, 34(9), 1711-1720.

33. Schmidt, P. (1966). Homœopathy and psychosomatic disorders. British Homeopathic Journal, 55(01), 13-19.

34. Arya M. P. (2008). A study of Hahnemann's Organon of Medicine, 1st ed., B. Jain Publishers (P) Ltd, New Delhi.

35. Hahnemann S. (1843). Organon of the Medical Art. 6th ed. Birdcage Books, Redmond, WA (1843).

36. Whitmont, E. C. (1993). The alchemy of healing: Psyche and soma. North Atlantic Books.

37. Bailey, P. M. (1995). Homeopathic Psychology: Personality Profiles of the Major Constitutional Remedies. North Atlantic Books.

38. Coulter, C. R. (1986). Portraits of homoeopathic medicines: psychophysical analyses of selected constitutional types. North Atlantics Books.

39. Wanzer, M. B., Booth-Butterfield, M., & Gruber, K. (2004). Perceptions of health care providers' communication: relationships between patient-centered communication and satisfaction. Health communication, 16(3), 363-384.

40. Clark, N. M., Cabana, M. D., Nan, B., Gong, Z. M., Slish, K. K., Birk, N. A., & Kaciroti, N. (2008). The clinician-patient partnership paradigm: outcomes associated with physician communication behavior. Clinical pediatrics, 47(1), 49-57.

41. Stewart, M., Brown, J. B., Weston, W., McWhinney, I. R., McWilliam, C. L., & Freeman, T. (2013). Patient-centered medicine: transforming the clinical method. CRC press.

42. Jagosh, J., Boudreau, J. D., Steinert, Y., MacDonald, M. E., & Ingram, L. (2011). The importance of physician listening from the patients' perspective: Enhancing diagnosis, healing, and the doctor–patient relationship. Patient education and counseling, 85(3), 369-374.

43. Davidsen, A. (2008). Experiences of carrying out talking therapy in general practice: a qualitative interview study. Patient education and counseling, 72(2), 268-275.

44. Mahal, A., Karan, A., & Engelgau, M. (2010). The economic implications of noncommunicable disease for India.

45. Schechter, C. B. (1990). Sequential decision making with continuous disease states and measurements: II. Application to diastolic blood pressure. Medical decision making, 10(4), 256-265.

46. Dhawale, M. L., (2006). Principles and Practice of Homoeopathy Part 1. Dr. M. L. Dhawale Memorial Trust.

47. Salazar Sánchez, L., & Oviedo Flores, K. (2016). Introductory chapter: Essential

Hypertension in the Twenty First Century… What is Next?. Update on Essential Hypertension, 1.

Lists of figures

Figure 1.

 Interactions of factors in essential hypertension development, modified from the original Paige's mosaic theory of blood pressure regulation.



There is a circuitry of several factors interacting in an individual that may lead to the development of essential hypertension, such as genetic background, diet, physical activity, psychosocial factors, environmental factors, obesity, insulin resistance, dyslipidaemia and stress

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