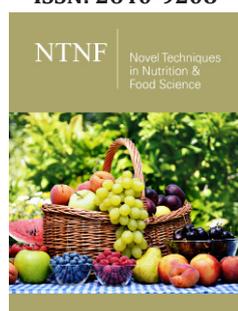


Optimal Dietary Electrolyte Intake and Accelerated Removal of Stage 2 Hypertension Causing Excess Electrolytes in a Dry Sauna Could Significantly Lower High BP Prone Stroke, Kidney and Heart Disease

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Abstract

Hypertension (HTN) is a silent killer that sometimes ends lives abruptly. There are multiple hypertensive drugs that enable millions to survive HTN, but many are still unable to lower BP with medication alone, along with a low salt and optimal potassium intake balanced nutrition diet. Costly/time consuming emergency help when blood pressure (BP) exceeds stage2 HTN to normalize levels to prevent strokes is generally recommended. There are 3 major ways that water and sodium can be excreted: urine, stools and sweat. But kidneys are the most critical organs for excretion. Supplementing kidney function with sweating by exercise, hot yoga or dry sauna (DS) is reported to have beneficial effects. How that might happen in cases with stage2 Systolic hypertension has not been systematically studied in even a single-documented case to-date. In December 2018, a 64-year old male subject went to a local gym and recorded his BP and found BP level at stage2 (systolic BP>160). He then sat in a dry sauna (DS) for 20min at 175 deg F (79 °C) and found BP was in the normal range (<120/70). He then subsequently recorded systematically and continuously for 24 weeks his BP before and after sit ins in DS for same duration and temperature twice a day, to determine whether his observation was reproducible as long as a low sodium diet and optimal potassium intake without changes in prescription medications to lower BP was maintained. The results show that the systolic BP significantly and reproducibly lowered to normal (<120) or pre HTN (<140) levels. The implication of this phenomenon if tested in a large population of patients with similar histories of stage 2 HTN could be a major advance in medical care of patients avoiding salty foods. Instead of dialysis or emergency visits, such subjects could sweat for a prescribed length of time as determined in consultation with their physicians.

Keywords: High systolic blood pressure; Dietary intake of sodium and potassium; Dry sauna; Stoke; Kidney disease; Heart disease; Accelerated sweating; Dialysis

Abbreviations: BP: Blood Pressure; Deg: Degree; DS: Dry Sauna; HTN: Hypertension

Introduction

Hypertension is one of the leading causes of death among baby boomers [1] that could be brought under control under medical supervision with a range of prescription medications and dietary reduction of salt intake [2] and optimal potassium intake to maintain appropriate Sodium and potassium ratio [3]. Salt (Sodium chloride) has been an essential ingredient in almost all cuisines for centuries. Some cuisines have a higher level of salt exceeding the daily requirement as suggested by the FDA. For example, Asian restaurants that use soy, teriyaki sauce, or masalas may use far greater amounts of salt in their cuisine. This may contribute to the high incidence of hypertension in some countries. In the west the use of brine to preserve foods and to dress deli meats and sausage contributes to considerably more salt intake than recommended by the food regulatory agencies. During a visit to a grocery store in Copenhagen, Denmark, one learns about the regulation that require no more than 20% of daily salt intake in any portion of food being sold. Compliance with consumption of low salt foods especially in restaurants although desirable is very difficult due to addiction from childhood for tasty

foods of which salt is a key component (Figure 1). One needs to regulate or encourage low or no salt foods by substituting salt with herbs and spices or commercially available salt substitutes like Mrs. DASH. In addition, one needs to develop tasty precision low to no salt food alternatives like GEGGZA to replace salt loaded foods like Pizza [4].



Figure 1:

Assuming that the battles against excessive sodium intake will be a long one, alternative life style changes will be required to stem the tide of growing numbers of people with hypertension by ways in which excessive salt in the body is regularly removed in population that does not sweat enough during the day (Figure 2). Previously published preliminary observations of a large study conducted in Finland and elsewhere on persons using dry heat saunas provide evidence that could be used to advance medical practice. There have been several studies suggesting that sweating in sauna has health benefits [5-13], but precise reproducible health benefits in persons with stage 2 systolic hypertension have never been reported. Here we report a study which shows that stage 2 systolic hypertension can be brought to normal levels or close to them relatively quickly by maintaining a low salt diet with optimal potassium intake and oral intake of antihypertensive medications under medical supervision by sitting in a dry sauna room for a personalized precise duration and temperature. Countries like Finland have the highest dry sauna per capita in the world and seem to manage better heart health among their population.

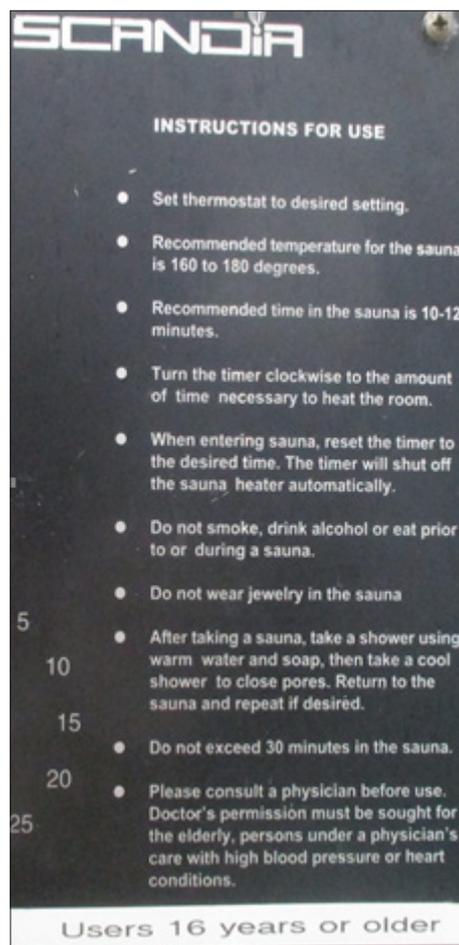


Figure 2:

Result and Discussion

This is an opinion based on a case being reported, that provides a perspective on evidence that advances medical science and could potentially improve emergency patient care for stage 2 hypertension (systolic BP >160). Essentially, a 64-year old male subject with no caffeine intake went to a local gym and recorded his BP using a Life Clinic (capitalize "Clinic") International BP measuring standalone kiosk station (Figure 3) and found BP level at stage2 (systolic BP>160). He then sat in a dry sauna (DS) manufactured by Scandia for 20 minutes at 175degF and found BP was around the normal range (<120/60). He then subsequently recorded systematically and continuously for 25 weeks his BP before and after sit ins in DS for same duration and temperature twice a day, to determine whether his observation was reproducible. Figure 1 shows a Scandia sauna in which the subject sat. Figure 2 lists safety rules from the manufacturer. Figure 4 shows 15 representative comparisons out of over 500 readings in systolic BP before and after sauna sit ins twice a day. Spot Checks were made with standard non digital manual BP measuring equipment, at the clinic of his primary care physician to validate the Life clinic International measurements. The pulse rate remained unchanged. Salt intake was kept low and precision potassium intake of 10% of daily requirement supplement in addition to dietary intake

to compensate potassium loss due to diuretic medication was achieved by consumption of Thinny potato chips from Jimmy Johns or Classic Lays potato chips with composition listed (Figure 5). The conditions for exposure to dry heat at the temperature listed has to be personalized for every individual to benefit from BP reduction without any adverse effect and those with lower than normal blood pressure could have harmful effects from exposure to heat [14]. All persons sitting in sauna should ensure that they do not fall asleep or stay inside saunas for extended period as that could be fatal. This unique finding reported here which shows that stage 2 systolic hypertension can be brought to normal levels or to

prehypertension levels by sitting in a dry sauna room for a precise duration and temperature could have a major global impact (Figure 6). The people from Finland have the most saunas per capita than anywhere else in the world. They like to call themselves “sauna crazy Finns” but maybe they are not crazy after all and persons with hypertension can explore therapeutic dry heat health benefits and this exciting novel finding could revolutionize optimal electrolyte balance not achieved by dietary control alone for life saving medical care of patients with chronic Hypertension by supplementing kidney function with accelerated precision sweating by dry sauna (DS).



Figure 3:

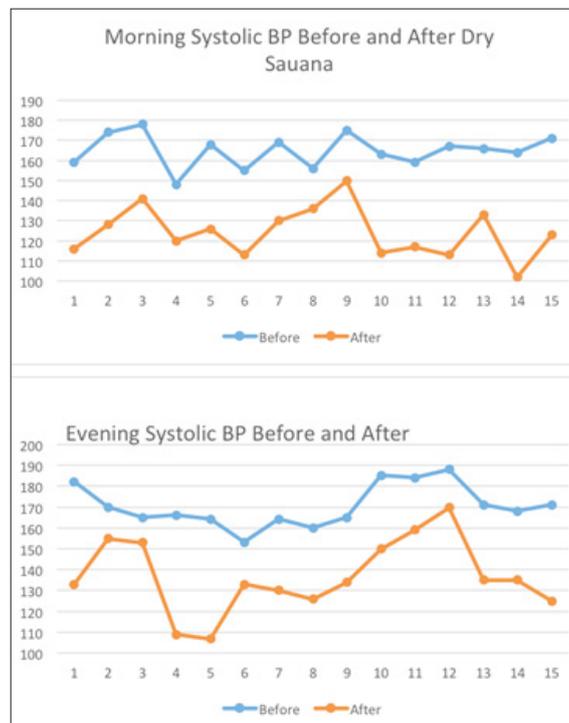


Figure4:



Figure 5:



Figure 6:

Conclusion

The results show that the systolic BP significantly and reproducibly lowered to normal (<120) or PREHTN (<140) levels for several weeks. The implication of this phenomenon if tested in a large population of patients with similar history of stage 2 HTN could be a major advance in nutritional science and medical care. Instead of expensive dialysis or emergency visits, such patients could sweat for a personalized period and temperature in DS with optimal intake of Sodium and potassium

Acknowledgement

Dr Jha had been diagnosed with hypertension and passed away in his mid 40s likely after cardiac arrest or stroke. The author thanks John Chenault and Archana Kotwal for reviewing the proofs and Prof. Sufan Chien for examining the BP recordings.

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