

Sodium and Hypertension

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Abstract

While other studies suggest that lowering sodium intake to 2300 mg per day will be beneficial, additional researches claim that consumption levels must be even lower, around 1500 mg to eliminate risk factors. Dissenting voices refute that sodium intake is not correlated with hypertension. Excessive use of salts causes higher blood pressure and the deficiency in sodium intake causes goiter in equal measures. Balance is therefore of necessity on the amount of salt intake to maintain healthy living. This research applied a qualitative methodology in making such conclusion. The paper introduces the topic giving background information on hypertension and salt intake interrelationships. A further analysis of researches to valid the claim that higher proportion of undertaken surveys are in agreement that salt intake is directly related to the development of cancer in individuals. Physical activity was recommended as a solution to the continued urge to consumptions of processed foods that are composed of hidden artificial sugars and salts.

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Introduction

Hypertension is a chronic heart disease caused by elevated blood pressure, commonly associated with poor lifestyle. This means that behaviors like smoking, diet, and exercise are modifiable risk factors for developing and preventing hypertension (WHO, 2013). Correlational studies have been undertaken in hypertension to find possible causation. Sodium has been among the study variants in relation to the development of hypertension producing a mixed result and deduction (Gu et al., 2010).

The populations from around the world show varied reactions to the amount of sodium consumption and consequently, hypertension. The study conducted by Alderman (2010) suggests that lowering sodium intake to 2300 mg per day will be beneficial. Another researcher, such as Delahaye (2013), claims that consumption levels must be even lower, around 1500 mg to eliminate risk factors. There is a perception, that sodium intake is not correlated with hypertension. A critical evaluation of current research is necessary before judging the extent that sodium is involved in the causation of high blood pressure. This paper seeks to underscore the relationship between a high intake of sodium and hypertension.

Background information

Sodium is an essential food mineral required for various functions in the body. It helps in maintaining body fluid balance, propagates nerve impulse transmission and also affects the functionality of the muscles (Cloe, n.d.). When sodium is in excess in the bloodstream, water is pulled from the surrounding into the blood vessels which consequently raises overall blood vessel contents (Cloe, n.d.). To that effect, pressure builds up due to tensions as a result of stretching of the blood vessel linings. Gunky plaque builds up to minimize tear and act as a

protective layer to the fragile capillaries and veins (Cloe, n.d.). This additional protective layer narrows the blood vessels further. The heart, therefore, has to work extra hard to pump blood through the body. Physiologically, this suggests that sodium plays a role in modulating blood pressure (Cloe, n.d.).

Analysis of researches

The devastating effects of salt and sodium, to be precise, on blood pressure tends to be higher in blacks, older populations and individuals already experiencing hypertension, kidney disease or diabetes. If all the vulnerable hypertensive populations are added together forms half of the US population (Bernstein & Willett, 2010). The statistics, therefore, have compelled stakeholders to inform American citizens that they have been consuming excess amounts of sodium which has led to the current upsurge in morbidity and mortality each year. This longstanding cautioning has received the undivided attention of researchers who say that the average American's sodium consumption is not dangerous (Bernstein & Willett, 2010).

The primary difference concerns how to characterize the word "excessive" (Leeuw & Kroon 2013). Under the present food rules, more than 2,300 mg of sodium intake per individual on a daily basis (the measure of salt in a teaspoon of sodium) is deemed as excessive consumption of this mineral (Delahaye, 2013). For individuals more than fifty years old, African-American citizens, vulnerable groups, the current suggested consumption is even lower: 1,490 mg for each day (Bernstein & Willett, 2010). If the United States sodium restrictions guidelines are right, individuals will drastically need to reduce the amount of sodium in their diets. American citizens ordinarily go passed the standard required consumption quantities consuming approximately 3,490 mg of sodium daily (Bernstein & Willett, 2010).

However, if the opposition to these restrictions is right, then again most American citizens have good sodium level score. In their perspective, a healthy individual might devour as much as 6,100 mg for each day without substantially endangering himself or herself (Go et al., 2013). Nonetheless, consuming too little – for instance, less than 3,100 mg – on the same note endangers their health (Go et al., 2013). These are conflicting statements emanating towards the fight against hypertension. The intended utilizer of the information is left more confused on which guideline to follow. However, the entirety of the proof unequivocally recommends that American citizens bring down their sodium consumption (Go et al., 2013).

Everybody agrees that current sodium consumption is in excess not only in the direct addition of salts to foods but hidden salts in processed products like cheese, doughnuts, bacon (Leeuw & Kroon 2013). This is the notion established for an extended period, and it depends on the perception that, for a few people, lessening sodium utilization might bring down the body's pulse rate. Since hypertension is not typical and raises the danger of heart failure, strict sodium cutoff points will benefit individual persons and society in general (Bernstein & Willett, 2010).

Table salt is an essential element required for normal body functioning. This element is found naturally in foods, which makes it simple for most people to meet the dietary needs. Processed and fast foods contain significant amounts of added salt. The Canadian government has recommended that healthy individuals consume 1000-1500 mg per day of sodium to meet daily intake requirements Sodium in Canada (2012). However, different organizations and countries have different guidelines for sodium intake. The World Health Organization (2013) on the other hand suggests that adults consume no less than 2000 mg salt per day. The WHO recommendation is much vaguer than Canadian guidelines, and it does not specify a maximum intake; only the minimum recommended intake. The Canadian government claims that 2300 mg

of sodium is the upper intake amount that poses no health risks although they do not specify what those risks may be.

Experimental evidence has failed to uphold the uniform relationship between high sodium intake and the causation of hypertension. The *Dairy Council of California (2014)* refutes the proposed linear relationship between sodium and hypertension. The article adds that current consumption levels of 3000-5000 mg appear to be the lowest risk level, and ironically reflects people's current consumption. The article does not offer a reference and justifies the origin of such figures which compromise the validity of the research (King, Osborn & Fink, 2007). The WHO and Canadian government would disagree because the numbers they register are much lower than the Dairy Councils.

The further research builds on the claim that sodium does not show an entirely linear relationship with hypertension (King, Osborn & Fink, 2007). The *New England Journal of Medicine* published a study that included 102, 216 people from five continents. Almost half of the participants were from China (King, Osborn & Fink, 2007). Each participant provided a fasting urinary sample each morning that was analyzed for sodium excretion. The study revealed that 43.5% of the participants had an average sodium excretion of more than 5 g per day (Mente et al., 2014). Furthermore, 45.9% had a urinary sodium excretion of 3-5 g, and less than 10.6% had an excretion less than 3 g (Stocker, Monahan & Browning, 2013). This study mostly observed Chinese populations, which could skew the data if it is true that different populations respond to sodium differently.

Since its inception in the last three decades ago, the sodium guidelines have drawn criticism and hope in equal measures (King, Osborn & Fink, 2007). Some of the earliest notions that American citizens were eating excess amounts of sodium arose from comparisons made with

other nations. For example, the lowest blood pressures instances were found among Brazil's Caraja, Eskimos, Bushmen from Africa and New Guinea's Chimbu (Bernstein & Willett, 2010). The survey showed that the modern society adaptations to high sodium intake are as a result of modernity and lifestyle changes. People ate much less sodium in prehistoric times. It, therefore, implies that the human body may not be prepared for the larger amounts of sodium available in the current society.

However, these findings should not serve as the basis of dietary guidelines. It is worth noting that these remote peoples are different from modern populations in socioeconomic and cultural practice. They lead a simpler life of savage, free from diabetes, obesity, and the life challenges present in the current society (Bernstein & Willett, 2010). A researcher may not premise its argument at a no-sodium culture and say that behaving in like manner would result in improved health. In fact, failing to take any sodium is not a wise decision because of vulnerability to goiter, sodium deficiency.

While the business frequently finances diet studies, some are subsidized by administrative and different sources even the government at times. In 2014, the American Institute of Medicine undertook a survey, the proof of the positive relationship between sodium utilization and wellbeing results. The result showed that 90% of Americans are likely to develop hypertension in the course of their lives (Schmidlin, Sebastian & Morris, 2007). And that Low sodium may limit the production of renin, a hormone that may effectively affect the proper functions of blood vessels and further cause compromised the immune system. A balance of salt in the body, therefore, is vital in regulating prevalence of hypertension.

Recommendations

Sodium chloride, which people gain from table salt and additionally from salted diet items, is required for metabolic capacities in the body and manages liquid volume (He & Macgregor, 2010). The issue with sodium is like sugar: The ordinary American consumes well over the suggested sum. If we are eating entirely regular diet, sodium consumption might be lessened effortlessly. Maintaining a strategic distance from included salt, soy sauce or other salty toppings will likewise decrease total sodium consumption (Kotchen, Cowley & Frohlich, 2013). Search for items fewer than 141 mg for each serving, which is thought to be low in sodium will offer a great service to the fight against salt consumption and hypertension. Asking for less sodium added to the diet in restaurants is another way to diminish the volume of sodium in bodies (He & Macgregor, 2010).

Excess sodium might increase circulatory strain in the individuals who have hypertension. It makes the body hold liquids which may bring about swelling in helpless people, and salty diet tends likewise to be high in absolute fat and calories – prompting overabundance all out calorie consumption, overweight, and stoutness (He & Macgregor, 2010). A long haul issue identified with hypertension is kidney ailment, an interminable sickness that might prompt kidney diseases.

The typical American eats around 3,400 mg sodium a day; yet, the suggested volume for an average individual is 2,300 mg a day (King, Osborn, & Fink, 2007; Guild et al., 2012; Stocker, Monahan, & Browning, 2013). For individuals with hypertension or diabetes, African American citizens, and any person who is age 51 or more seasoned, the common suggestion is 1,500 mg of sodium. Along these lines, the vast majority are consuming twofold what they require as far as salt consumptions are concerned. For a large number of people, a high sodium-

eating regimen might prompt higher water intake (He & Macgregor, 2010). Furthermore, for some salt-sensitive individuals, holding liquid might prompt greater circulatory strain, which puts somebody at higher danger of stroke, coronary illness and kidney ailment.

In a snapshot, excess sodium hastens pulse since it holds excess liquid in the body, and that makes an additional weight on the heart (Guild et al., 2012). A lot of sodium will heighten the possibility of getting a stroke, heart complications, osteoporosis, stomach tumor, and kidney sickness. On a similar note, one in every three American citizens will suffer from hypertension in their lifetime. Thus, restricting one's sodium consumption is intense because around 75 percent of sodium in American citizens' weight control plans originates from processed foods, because they contain artificial salt additives (Guild et al., 2013).

Conclusion

Salt consumption has been connected to hypertension, and obviously, it is a danger for coronary illness. A few populaces of individuals are extremely sodium sensitive, which means when they eat sodium they hold liquid and their pulse rises. Surveys show that if everyone can reduce sodium in his eating regimen, the rates of coronary illness in the United States would go path down but with our present 'diet' generation, it is exceptionally hard to remove sodium (Schmidlin, Sebastian & Morris, 2007). A piece of bread might have 250 mg of sodium alone for example. Unless one returns to an eating regimen where he or she undertakes cooking with no outside help and is responsible for the amount of salt and avoids processed foods or canned diet, it is indeed difficult to achieve that proposal (Leeuw & Kroon, 2013).

Salt has been utilized for many years as an additive, and some nourishment creators use it as an enhancer because it is less expensive (Leeuw & Kroon, 2013). It is more costly to use different herbs and flavors to improve diet taste as compared to the utilization of salt to achieve

desired taste. It is, therefore, important for individuals to reconsider the amount of sodium intake in their body as a way of preventing unnecessary conditions that may compromise their healthy life (Gu, et al., 2010).

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