

## Exploring the effects of nutritional therapy and lifestyle changes in people with chronic disease

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### Introduction

Modern chronic diseases such as type-2 diabetes, high blood pressure, coronary heart disease, and cancer are on the increase [1-3]. By definition chronic diseases cannot be cured [4] however, they are preventable but once diagnosed any intervention to treat them are mainly to manage the symptoms.

It is widely recognised that changes in our lifestyle and diet over recent decades have contributed to the increase in chronic diseases. For example, a WHO discussion document refers to the increase as epidemic and suggests that because of changes in dietary and lifestyle patterns, chronic diseases such as diabetes, cardiovascular disease, hypertension, stroke, and some cancers, are leading causes of disability and premature death. Increased rates of disability and death will over-burden the already over-stretched health and social services [3]. The WHO consultation document [3] discusses and emphasises the important role of lifestyle choices including nutrition and diet in preventing, intervening, and managing chronic disease.

In this paper, the effects of behaviour modification on managing and treating hypertension through a couple of case studies are provided and discussed.

### Discussion

One of the main issues facing society is the accessibility to the information super highway (internet) [5]. The problem facing individuals and professionals is that too much information can do as much harm as too little information. For example, self-medicating and self-educating has become a new trend. Without some knowledge or basic training in a subject it would be difficult to distinguish a reliable source from an unreliable one, it would also be difficult to distinguish appropriate and relevant information from irrelevant information [5]. Thus, problems are likely to arise when poor quality information is used to self-treat health problems [5].

Food and nutrition, in many cultures is much more than satisfying the palate and hunger; foods are consumed on the basis of their functionality and benefits. However, with the advancement of technology scientific research at the molecular level has further emphasised the importance of nutrition and firmly established 'functional foods' to complement conventional medicine, e.g. see list of current research [6]. In other words, food or nutrition is seen as a single *independent* correlate of health to be manipulated.

The problem is that often, lifestyle, diet, and nutrition are either used interchangeably, or in isolation as though there is no interconnectivity. For example, lifestyle is much more than just dietary patterns. Socio-economic background, family history, social environment, attitudes and perceptions, beliefs and culture influence lifestyle which in turn affects the dietary pattern. Therefore, dietary recommendations made in isolation and based on a short consultation are ineffective.

## Prevention strategies

The literature suggests that nutrition and dietary patterns influence the incidence and prevalence of chronic diseases, e.g. [7-9]. Dietary patterns are governed by socio-economic, socio-environment and cultural factors, individual characteristics, access to information and resources, and so on. Socio-economic and socio-environmental factors are much more complex to modify, requiring government intervention through health, social and food policies. At an individual level, lifestyle changes are possible either as a result of a health professional prescription or a personal decision, e.g. to change one's eating habits. However, any dietary changes must coincide with, a change in other factors e.g. physical activity, attitudes and perceptions, in order to induce a desired effect and maintain it. The following two examples are chosen to demonstrate the effective of nutritional therapy and lifestyle intervention at different stages of the disease. The first case intervention was introduced at the onset and the disease was well established in the second case. For anonymity some of the cases' characteristics have been altered and will be referred to as case X and case Y.

### 1. Case X

A 54 year old female, presented with the onset of high blood pressure (BP) her BP measured 150/100 mmHg. According to her medical records the case's average BP was 120/80 mmHg. The case had been going through some emotional turmoil and finding it hard to cope. The case expressed a wish for alternative intervention rather than medication and within 2/3 weeks the case was referred to the author for nutritional therapy. The case was given an initial consultation of an hour (most clinics spend fifteen minutes sometimes stretching to half an hour). Based on an extensive consultation including the case's history there were two immediate issues to focus on: 1. appropriate changes to diet, and 2. restoring the patient's wellbeing, through introducing coping mechanisms. In order to maximise the effects of dietary change it is essential to counteract the adverse effects of life events, e.g. emotional turmoil. Based on the case's dietary history her diet was modified to a low sodium, high potassium, high fibre, low sugar and high calcium and magnesium diet. The new dietary regime was prescribed in conjunction with some physical activities and basic meditation and relaxation, such as breathing techniques, and Yoga. The follow up visit was scheduled in two weeks and since the case had her own BP measuring equipment she was advised to keep a daily record her BP.

At the follow up visit, the results of BP measurement showed a gradual decrease leading to normal BP in over two weeks. The case was followed up for a month and since then intermittently. The case's BP continued to be maintained at its normal level.

## 2. Case Y

Case Y was a 72 year old female referral with chronic hypertension who was on anti hypertension medication (one tablet per day). Similarly with case X, initial consultation visits were long enough for the case to feel comfortable to freely identify the sources of pressure in her life. Dietary and lifestyle changes were prescribed. However, since the case was unable to measure her BP daily she was regularly followed up over a period of two months. By the end of the observation the case's BP had significantly decreased. In consultation with the case and her GP the case's medication was halved. Due to the case's wish to stop medication, and in consultation with her GP the case's medication was halved again to one-quarter of its original dose and stopped medication altogether. The case was then followed up intermittently for two years after the initial period of treatment. Over this period the case had become much more active taking part in more strenuous activities such as climbing and hill walking. Her overall mental and physical wellbeing appeared to be significantly improved. At the time of writing the Case was still off medications and was still continuing with her activities.

## Conclusion

Chronic disease by definition is a long-lasting condition (three months or more) which cannot be cured [4]. Once a chronic disease has been diagnosed the aim of intervention and treatments is to manage the symptoms. As mentioned earlier, chronic disease is the leading cause of death and disability placing undue burden on already over-stretched health services globally [3, 10]. Furthermore, as discussed in the introduction, it is acknowledged that lifestyles and dietary patterns may be responsible for the increasing trend in chronic disease, but also may hold the key to effective solutions. As demonstrated by the case examples, it is possible to prevent chronic disease with early intervention, and treat the late stage of the disease with appropriate nutritional therapy and lifestyle changes.

The case report is intended to raise some relevant issues to stimulate a debate and more research in this area. It is hoped that this paper will provide the impetus for further research using a multidisciplinary and multi-agency approach to study design, in order to assess the benefits of holistic 'change' in patients with chronic diseases. Clearly, there are implications for patients and health services not only in terms of intervention but more importantly in terms of prevention. In other words, it is likely that by preventing chronic diseases we can reduce the risk of disability, ongoing treatment, and death.

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