

# The Blood Pressure Lowering Qualities of a Trauma-Focussed Cognitive Behavioural Therapy Approach

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**Abstract:** *Background:* High blood pressure is a serious condition which can make suffers vulnerable to developing conditions such as stroke. Even though research identifies that there can be a link between developing high blood pressure and psychological factors there is little research available to establish how psychological treatment can help sufferers. Instead most of the studies focus on physical interventions and lifestyle changes.

*Objective:* This article aims to share a novel and interesting case example which indicated a potential link between trauma-focussed cognitive behavioural therapy, symptoms of PTSD, and a reduction in high blood pressure.

*Method:* The client was provided with trauma focussed CBT specifically used to target her trauma of an accident which she suffered. The techniques in therapy utilised were, psychoeducation of the therapy model, relaxation therapy, re-living of the trauma, imagery rescripting and systematic desensitization. Following therapy the client recovered from all of her post trauma symptoms and even though her blood pressure was not specifically targeted in treatment, she experienced a corresponding reduction in her blood pressure following treatment.

*Conclusion:* Discussion is centred around how this provides opportunities for researchers to investigate whether there is a causal link between the use of psychological approaches in the reduction in blood pressure level. Further research , for example correlational studies is recommended in this field.

**Keywords:** Trauma-focussed, blood pressure, cognitive behavioural therapy.

## 1. INTRODUCTION

High blood pressure is a common condition that can affect anyone. The dangerous side effects of having high blood pressure, include higher risk of heart attacks, strokes and dementia, as well as many other conditions [1, 2]. As such, the treatment and prevention of high blood pressure is a high priority for the National Health Service and its patients. High blood pressure is often seen as a physiological problem that requires a form of physical treatment or lifestyle changes, such as a change in diet or exercise [3]. It is rarely considered whether a form of psychological therapy might also be able to benefit some individuals. The blood pressure raising qualities of stress and anxiety are well know [4], yet there is little link made between these findings and a form of treatment designed to reduce these factors. This article aims to describe the possible blood pressure lowering qualities of Trauma-focussed Cognitive Behavioural Therapy [5], by referencing a case from the author's clinic. It should be noted that the author's do not advocate a solely psychological approach to reducing blood pressure, but are illustrating from this case study that there is a possibility that lifestyle changes paired with cognitive changes can produce better outcomes for clients.

Stress is often linked to an increase in blood pressure due to the release of various hormones

(adrenaline and cortisol), which prepare the body for action and cause the heart to beat faster and stronger [6]. The stress process raises an individual's blood pressure, although this is usually short lived and will return to pre-stress levels. However, various studies have found that chronic or constant stress is correlated with permanently raised blood pressure [7-9], which does not in fact return to pre-stress levels. This is usually explained by the idea that stress causes behaviours which are linked to high blood pressure, such as smoking or over-eating.

In addition to the above, more recently, [10] found a correlation between early traumatic events and elevated blood pressure in adulthood. The authors found that individuals who had experienced multiple traumatic events during childhood, from emotional and sexual abuse, to neglect, were correlated to an almost 10-point difference in systolic blood pressure. An increase of this magnitude puts these individuals at a higher risk of hypertension, coronary artery disease and other diseases associated with high blood pressure. Given the findings that psychological factors can contribute to the development of high blood pressure, it seems prudent for researchers to explore this further.

## 2. CASE PRESENTATION

### 2.1. Psychological Intervention

This article aims to share a novel and interesting case example which indicated a potential link between

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trauma-focussed cognitive behavioural therapy, symptoms of PTSD, and a reduction in high blood pressure

The case will provide an account of a 35-year-old lady who had a three-year history of PTSD symptoms and high blood pressure following a road traffic accident. For the purposes of anonymity, she will be called Katie

Katie was involved in a serious motorcycle accident which resulted in her suffering from psychological consequences namely, recurring nightmares of the accident, situational anxiety in respect to car and pedestrian travel, sleep disturbance and social withdrawal on account of these symptoms [11]. Trauma Focussed Cognitive behavioural therapy was utilised in order to treat Katie. According to this model, two core cognitive abnormalities exist in people with a diagnosis of Post Traumatic Stress Disorder. First, people with chronic PTSD show idiosyncratic personal meanings (appraisals) of the trauma and/or its sequelae that lead to a sense of serious current threat. Second, the nature of the trauma memory maps onto the occurrence of re-experiencing symptoms in the individual. It is further proposed that the idiosyncratic appraisals motivate a series of dysfunctional behaviours (such as safety-seeking behaviour's) and cognitive strategies (such as thought suppression and rumination) that are intended to reduce the sense of current threat, but maintain the problem by preventing change in the appraisals and trauma memory, and/or lead to increases in symptoms. Trauma focussed CBT addresses the cognitive abnormalities and maintaining behaviours in an individualized, but focused, way.

The work was begun by talking about the Trauma-Focussed Approach to therapy and what her therapy goals were.. She was then introduced to relaxation therapy, namely progressive muscular relaxation prior to commencing work on re-living of the trauma, which allowed Katie to work through some of the emotions she was feeling about the event and the corresponding consequences in her life. As her therapy progressed, Katie had been noting small improvements in her well-being and social interaction, as well as improvements in her sleep habits and a reduction in her nightmares. However, Katie's blood pressure was not specifically targeted during treatment.

Coincidentally, half-way through her treatment, Katie reported that she was required to attend hospital due to an ear infection. Whilst at the hospital, Katie had her

blood pressure taken and found it to be the lowest it had been since her accident, almost three years ago. In fact, it was the first time that it was within normal limits following the accident in spite of using blood pressure reducing tablets for the past three years. In fact, Katie was prescribed two types of medications for her blood pressure because her first prescription could not reduce it within non-clinically significant levels and unfortunately neither was it reduced even after using two medications. The medications that she was prescribed were: Amlodopine 10mg and Indapamide 2.5mg.

## 2.2. Outcome of Therapy

By session seven all of Katie's post trauma symptoms as detailed above had ceased and Katie's blood pressure remained within normal levels. Katie reported that when she commenced therapy her blood pressure reading was between 170-180 over 90-95. By the seventh session it had reduced to 112/80 and has remained at this level to the current day. She reported that she was back to her pre-accident state. Katie's subjective impression was that her improvement in her symptoms was due to the therapy she received as she had suffered with them for the past three years. It was not until she completed therapy that her blood pressure was reduced to normal limits. Prior to receiving psychological therapy, she reported that even though she was in receipt of two medications for a few years her blood pressure levels remained in the clinically significant range. At a follow up communication, Katie reported that she has decided to remain on her blood pressure tablets in spite of improvement in her blood pressure on account of the fact that she remains in a very stressful job so there may be potential for her blood pressure rise again.

Katie was funded for 12 therapy sessions However, by the time she achieved therapy goals she had received a total of 8 therapy sessions. Of these sessions, Katie received 3 follow up sessions over a period of 4 months, which confirmed that her progress had been maintained over time.

## 3. CONCLUSIONS

This case study discovered a possible link between trauma focussed therapy and a reduction in high blood pressure. Although this case study was based on one client and may have limited generalisability, the results does concur with the findings of [10] which indicate that high blood pressure can be correlated with trauma.

The client received benefit within just eight sessions of therapy, that is eight hours worth of psychological treatment. Whereas she had previously received three years worth of taking two types of medications for her blood pressure which did not yield any benefit to her. Current figures reveal that treating high blood pressure costs the NHS £850 million pounds per year [12]. Had Katie been treated for her trauma much sooner, she may have experienced a reduction in her blood pressure levels much sooner. This result could have implications for the cost-benefit of using psychological approaches to reduce the use of blood pressure lowering medication to treat high blood pressure.

In spite of this finding however there is limited research available into the blood pressure reducing qualities of psychological approaches. It should be examined in larger studies whether talking-therapies can be used in tandem with lifestyle changes to improve outcomes for clients. Research in this area would give us a much greater understanding of the psychological basis of high blood pressure as well as more effective and efficient forms of treatment.

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