

# Lay Beliefs And Responses Concerning Hypertension And Its Management In Two Culturally Distinct Groups

## Mhlongo, SWP

MBBS, LRCP, MRCS, MSc Med  
(London)

Professor of Family Medicine &  
Primary Health Care

Medunsa

PO Box 222, Medunsa 0204

Phone: (012) 521 4314/4528

Fax: (012) 521 4172

e-mail: ansie@wn.apc.org

Being a project presented in part requirement for the degree of Master of Science in General Practice at United Medical and Dental Schools of Guy's and St. Thomas' Hospital Medical Schools University of London. (September 1992)

### Keywords:

Hypertension, Ethnicity, Lay beliefs, Compliance, Doctors

## Abstract

### Objective:

To determine quantitatively whether there are significant differences in lay beliefs about hypertension and its management between African-Caribbean (A.C.) living in the UK but born in the West Indian Caribbean Islands and white hypertensive patients in the UK.

### Design:

Self-administered postal (and surgery) questionnaire.

### Setting:

Two general practices in the Wembley / North London and Dagenham (Essex) areas.

### Participants:

Male and female patients aged between 35 and 69 years of age registered with the above practices and receiving treatment for hypertension. These were selected from the age/sex/disease registers.

### Interventions:

None

### Main outcome Measures:

African-Caribbean vs. White/Caucasian responses to the 16-item questionnaire and determining statistical significance (the P value). This was done to determine whether or not there are significant differences in lay beliefs between the two ethnic groups i.e. A.C. versus white Caucasian.

### Results:

Out of 525 patients who were sent the 16-item questionnaire, there were 427 responses (238 men, 189 women). This was an 81% response rate. In terms of race, there were 224 white and 203 African-Caribbean respondents. The responses to the questions strongly suggested that there are significant ethnic differences on matters of lay beliefs regarding hypertension and its management. This quantitative study supported the findings and conclusions of a previous (1988) qualitative one by Myfawny Morgan and C.J. Watkins on the same subject.

### Conclusions:

Lay beliefs appear to be extremely important amongst all cultures and it would appear that these do have an impact on how an individual views his or her medical condition and how the doctors manage it. Intercontinental and international encounters appear to be here with us to stay due to a variety of factors e.g. trade, education, sports and wars. It is therefore of utmost importance that medical practitioners bear this in mind in their encounters with patients. An acceptance of this approach by all doctors and health workers may improve compliance.

*S A Fam Pract 2002, 25(2): 16-21*



## Introduction

By far the vast majority (95%) of hypertensive patients attending hospital or general practice clinics suffer from idiopathic (essential) hypertension.<sup>1</sup>

In 1991 the death rate from strokes was 12% of all deaths in England. The UK government had decided to take action aimed at reducing this figure by a factor of 40% by the year 2000. 'During the consultation there was virtually unanimous agreement that the prevention of coronary heart disease and stroke should be included as a key area because reductions in risk factors associated with them - unbalance diet, smoking, raised blood pressure, alcohol misuse and lack of physical activity - would also help to prevent many other diseases'. From the same department of Health summary figure - "It has been estimated that a reduction in mean blood pressure of 5mm Hg could result in a 10% reduction in deaths from coronary heart disease (CHD) and stroke". Prior to this publication other research workers had shown that the risks of strokes and myocardial infarctions increase sharply with diastolic levels of 100mm Hg and above.<sup>2</sup>

Chronic diseases (hypertension included) are the main causes of death amongst the English-speaking Caribbeans, Cerebrovascular and coronary artery diseases head the list in the Caribbean Islands. With regard

to all peoples of African descent i.e. African-Americans, African-Caribbeans, African Latinos (people of African descent in Latin American countries), it has been observed that hypertension leading to end-organ damages and strokes appear to occur at a much earlier age - under the age of 45. Hypertension is the single most important contributor and is the leading health issue in the region as a far more important cause of death in all Caribbean territories than in Canada or the U.S.A.<sup>3</sup>. Table I illustrates the enormity of the problem.

In the United Kingdom a mere "20% of the adult white population have blood pressures above 160/95"<sup>4</sup>

Looking at the figures in Table I, it is quite clear and of concern that hypertension amongst peoples of West Indian descent is prevalent in the younger age groups. This study has focussed on the age group between 35 and 69 all of whom were born in the Caribbean Islands and came to live and work in the U.K. as young adults. Since culturally determined life-styles, beliefs and behaviour probably take more than one generation to change, it is fair to conclude that the Caribbeans in this sample would mirror those in the countries of origin..

In 1988, Myfawny Morgan and C.J. Watkins<sup>4</sup> published their work on lay beliefs and responses on hypertension concerning the same two ethnic

groups in this study. Theirs was a qualitative study through tape-recorded face-to-face interviews. The study concluded that there were notable differences in lay beliefs with regard to hypertension between the two groups.

The aim of this study was to determine whether Afro-Caribbean hypertensives hold beliefs that can be shown to be different from those held by White hypertensives on the subject of Hypertension and its management.

## Methods

A questionnaire was constructed and sent in a pilot study to 40 patients (20 Afro-Caribbean and 20 white patients). The letter "S" was written on the top right of the questionnaire if this was sent to an Afro-Caribbean. For the White patients the letter "N" was used. The patients were aged between 35 and 69 in the pilot study. A record of all the patients in the pilot was kept so that they were later excluded from the main study. 31 questionnaires were returned, 23 by post and 8 by hand 77.5% response. A striking feature as regards the questionnaire was that the patients had little or no difficulty in ticking their own responses. From this, we may assume construct validity of the questionnaire. Out of the 16 questions, 14 were constructed or modified from a previous study ((Morgan and Watkins). This was further support of the validity of the questionnaire. Further, on simply going through the questionnaire the questions appeared valid (face validity).

## Data analysis

With the help of a statistician the following formula was used to calculate the sample size in order to demonstrate if significant differences

**Table I:** Prevalence of blood pressure in excess of 160/95 mm Hg in three Caribbean populations.

Country	Age	Prevalent Percentage	
		Male	Female
St. Kitts	40 - 49	28	45
Trinidad	45 - 54	30	24
Jamaica	45 - 54	19	34



**Table II: Obesity**

Ethnic group	Obesity/ Yes	Obesity / No	N.R. (Non response)	Percentage Obesity / Yes
African Caribbeans	51	151	0	25,2%
Whites	105	118	1	52.6%
(p<0.001)				

**Table III: Meaning of Hypertension**

Ethnic group	Hypertension/ Yes the same as high blood pressure	Hypertension Not the same as blood pressure	Don't Know	N.R. (Non response)	Percentage Yes Blood pressure
African Caribbeans	116	25	56	6	58.9%
Whites	99	48	72	4	44.2%
(p<0.05)					

**Table IV: Being able to tell if blood pressure is raised**

Ethnic group	Head pains not meaning raised BP	Head pains a symptom that BP is raised	N.R. (Non response)	Percentage Yes raised BP for head pains
African Caribbeans	50	153	0	75.4%
Whites	179	45	0	20.1%
(p<0.001)				

**Table V: Worries about high blood pressure**

Ethnic group	Worry a lot	Worry a little	Not Worried at all	N.R. (Non response)	Percentage not at all
African Caribbeans	96	70	32	5	15.8%
Whites	36	93	90	5	40.2%
(p<0.001)					

between the two groups exist, which are important:

No. of patients per racial group required

$$\frac{15.68 \times P (1 - P)}{(P_1 - P_2)^2}$$

where P<sub>1</sub> = Proportion of Afro-Caribbean (AC) who report

and P<sub>2</sub> = Proportion of Whites who report the same symptom

$$P = \frac{P_1 - P_2}{P_1 + P_2}$$

Assuming P<sub>1</sub> - P<sub>2</sub> = 0.15 (i.e. a 15% difference);

Applying the above formula it was estimated that at least 200 patients per group were required.

To test whether there were differences between the two cultural group's responses to the questionnaire, the chi-square calculation was applied throughout to demonstrate the significance of the differences.

## Results

Regardless of race, age, gender, housing and employment status, the respondents admitted to stress and worry as important in the causation of their high blood pressure. Significant differences were however shown in a number of questions:

**Obesity (see Table II)**  
52.6% of the whites admitted to obesity as a factor in the causation of their high blood pressure whereas only 25.2% of the African-Caribbeans made the admission (p<0.001).

**Meaning of hypertension (see Table III)**  
An association was found between the understanding of the term hypertension and ethnic group (p=0.008)



**Table VI:** Feeling "hot" as a symptom of raised blood pressure

Ethnic group	Not feeling hot meaning normal BP	Feeling hot meaning raised BP	N.R. (Non response)	Percentage positive
African Caribbeans	193	10	0	4.9%
Whites	134	90	0	40.2%
(p<0.001)				

**Table VII:** Libido and drug therapy

Ethnic group	No effect on sex life	Reduced destroyed sex life	N.R. (Non response)	Percentage admitting destroyed of reduced sex life
African Caribbeans	122	80	1	39.6%
Whites	188	34	2	15.3%
(p<0.001)				

**Table VIII:** Other remedies

Ethnic group	No to other remedies	Yes to other remedies	N.R. (Non response)	Percentage Yes other remedies
African Caribbeans	122	81	0	49.9%
Whites	184	36	4	16.1%
(p<0.001)				

with African-Caribbeans being more likely to agree that hypertension was the same as high blood pressure ( $p < 0.05$ ).

#### **Pains in the head or headaches (see Table IV)**

The association of pains in the head / headache with high blood pressure appears to be very strong amongst the African-Caribbeans ( $p < 0.001$ ).

#### **Worries and concerns about blood pressure (see Table V)**

In the study there are significantly more African-Caribbeans who appeared to be constantly worried about their blood pressure than their white counterparts ( $p < 0.001$ ).

#### **Body heat and blood pressure (see Table VI)**

The study suggests that significantly

more whites associate body heat and temperature with raised blood pressure ( $p < 0.001$ ).

#### **Libido & drug therapy (see Table VII)**

There appears to be more African-Caribbeans who admit that their sex life was affected by anti-hypertensive medication ( $p < 0.001$ ).

#### **Other remedies (see Table VIII)**

More African-Caribbeans appear to be taking other additional remedies for the management of their blood pressure when compared with Whites ( $p < 0.001$ ).

## **Discussion**

Bias in this study may have arisen because of the way in which the questions were asked. Respondents may have ticked those answers in the questionnaire perceived to be what the doctors and practices wanted – i.e. those that were socially and culturally acceptable. Although the respondents were told that the exercise was anonymous, there was an apparent contradiction in that their addresses and names had to be known for mailing purposes and for follow-up of non-responders by the practice nurse. However, the response rate in this study was 81% and statisticians accept that questionnaire response rates above 70% sharply reduce bias.

There is a recognised need to set up priorities in relation to the control of hypertension and the reduction or elimination of risk factors. The potential workload for doctors and other health professionals are immense and the education required ought to be universal / non selective - in the community and at medical schools. Behavioural Science and Biomedicine have to be on par in the doctor's interaction with his/her patients. Continuing education and the awareness of the latest and up-to-



date literature should be the aim of every practising physician. The Coronary Prevention Group and British Heart Foundation regularly publish guidelines for general practitioners. These guidelines are derived from the Dundee Coronary Risk Disc. Randall and colleagues concluded on the basis of information derived from the Risk Disc "that guidelines may help to make the best use of resources within specific age-sex groups about sound protocols for unifactorial risk assessment and modification remain essential".<sup>5</sup>

In going through the questionnaire, striking features, which appear to correlate with culture and ethnicity, were noted. The quantitative method used in the analysis of this study not only confirms Morgan and Watkins' qualitative study, but also seems to go beyond. They studied sixty (60) subjects: 30 African-Caribbean and 30 Whites. The subjects in this study numbered 427, i.e. a seven-fold increase.

As regards stress, tension and worry, there appeared to be more African-Caribbeans who admitted suffering these symptoms than Whites. "The stress from direct racist abuse, and indirect structural discrimination also have an impact on health. Less directly, threatening taunts prey on mental well being". Is it possible that our baroreceptors tune in to a higher blood pressure under these conditions and sustain it thereafter? We do not have conclusive scientific evidence that stress is a cause of hypertension. At the same time however, there is currently no way medical scientists can conclusively prove that stress does not cause high blood pressure. This lay perception and belief about blood pressure ought not to be dismissed out of hand.

On the subject of obesity, the results would seem to suggest that White hypertensive patients found it easier

to admit that obesity was the cause of their hypertension. It may be that culturally and socially, African-Caribbeans are less concerned about public attitudes and images about this 'undesirable' appearance.

From the study, it would appear that African-Caribbeans do rely on somatic cues to 'determine' whether or not their blood pressure is elevated: for example 'pains in the head and headache'. On the other hand the only somatic presentation admitted by Whites was 'feeling hot' - this meant that blood pressure was raised as far as they were concerned.

Concerning the side effects of medication for hypertension, 80 African-Caribbeans admitted that their sex-lives were adversely affected. Only 34 Whites admitted to this adverse effect. It may be that African-Caribbeans feel less inhibited about the subject of sex or there may be a pharmacological action of the anti-hypertensive drugs which selectively and adversely affect libido amongst the African-Caribbeans.

On the thorny subject of compliance (co-operation), the results in this study seem to suggest that Whites are more compliant with medication. What are the possible reasons for this difference in compliance?

- a) African Caribbeans, as the study suggests, with statistical backing, will take prescribed medication when they believe their blood pressure to be high. A significant number claimed they could tell if their blood pressure was up, i.e. they experience stress, head pains and crawling sensations in the head.
- b) It is also probable that the African-Caribbeans wish to feel that they are in control of their illness - they wish to have an in-put, hence the use of herbal and other 'bush' remedies. It may also be their perception that these remedies do

not have any deleterious effects but do really control their hypertension.

## Relevance and Implications of study to South Africa

South Africa is going through a painful transitional period as a direct result of colonialism, imperialism and apartheid. The long histories of these three episodes have had a direct influence on social, economic and cultural development with a heavy emphasis on ethnic separation. Since two studies (qualitative and quantitative) in the United Kingdom have found major ethnic differences in lay beliefs on hypertension, it would not be surprising, that in the case of South Africa, these major differences would be more pronounced. Such a study is long overdue and would be of benefit to the doctors caring for hypertensive patients in a multicultural setting.

## Conclusions

For general practitioners / family practitioners and hospital physicians alike, the practical conclusions of this study is as follows. The patient's lay beliefs and perceptions about hypertension (or indeed any other medical condition) must always be taken into account. This would allow both the doctor and the patient to learn about each other's approaches to health matters.

With regard to morbidity and mortality, it is just possible that these could be reduced if concordance (compliance) were improved. This study would seem to suggest that an understanding of the patient's view might improve concordance. Traditionally, doctors have been more at home with passive patients, much to the disadvantage of both the doctor and the patient. In encounters with even passive patients, doctors must seek their views on diagnosis and treatment. Since most patients are referred to



hospital for a second opinion, the hospital consultant and his/her team ought not to change or increase anti-hypertensive therapy without an examination of the patient's lay beliefs. Hospital teams must pay attention to referral letters from family practitioners. The patient may simply not be taking the medication at all, or may be on 'other remedies'. An

examination of these multi-factorial lay beliefs and perception variables would pay off in the end by reducing morbidity due to the complications of hypertension.

### Acknowledgements

I would like to thank Graham Calvert (my project supervisor) for his

patience, help, and sacrifice in terms of the time and effort he devoted to this project. My thanks are also due to Nicky Britten who gave me active encouragement, valuable and pertinent literature on the project. I also wish to thank my wife (Maria Mhlongo) who not only stood by me through those M.Sc years but also typed this dissertation.

### References

1. Rubenstein D, Wayne D. Hypertension. In: Lecture Notes on Clinical Medicine. 2nd Ed. Blackwell Scientific Publication.
2. Rose G. Cardiovascular Disease In: Holland, WW, Detels R, and Knox G, editors. Oxford Textbook of Public Health.
3. Ethnic Factors in Health and Disease: Edited by JK Cruickshank and DG
4. Myfawny Morgan and Watkins CJ. Managing Hypertension: beliefs and responses to medication among cultural groups. (Sociology of health & Illness: Vol 10 No. 4 1988 ISS 0141, 1989.
5. Randall T, Muir J, Mant D. Choosing the preventive workload in general practice. BMJ 1992 July 25;305:227-31.
6. Ethnic Factors in Health and Disease: Edited by JK Cruickshank and DG Beever 1989. Published London: Wright. Chapter on: Sociology of race and health, by Maggie Pearson.

## Industry News

### SUPPRESSIVE USE OF VALACYCLOVIR SIGNIFICANTLY REDUCES GENITAL HERPES OUTBREAKS

New research presented at the 41st Annual Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC) held in Chicago, Illinois, in December suggests that managing recurrent genital herpes with ZELITREX® (valacyclovir HCl) for suppressive therapy – treating daily before symptoms ever appear – is significantly more effective at reducing the number of genital herpes recurrences or “outbreaks” than treating with ZELITREX for episodic therapy – treating as outbreaks occur.

Study results from a year-long, randomised, open-label trial of 80 otherwise healthy adults with a history of four to nine outbreaks of genital herpes per year found that suppressive therapy with 500 mg of ZELITREX once a day for recurrent genital herpes greatly reduced the number of

genital herpes outbreaks by nearly 80 percent (78.1%) compared to episodic therapy with 500mg of ZELITREX twice a day for five days.

The mean number of days between outbreaks was 53 for patients on episodic therapy versus 179.8 for patients on suppressive therapy, thereby providing patients on suppressive therapy with significant relief from the disease. During the study, patients on suppressive therapy experienced a mean of 1.6 recurrences of genital herpes outbreaks versus 7.3 recurrences for those on episodic therapy.

“Recurrent outbreaks can sometimes affect both a patient's physical and emotional health, making the reduction in frequency of outbreaks important to those patients,” says lead

study author Kenneth H. Fife, M.D., Ph.D., Professor of Medicine, Microbiology & Immunology and Pathology, at the Indiana University School of Medicine.

GlaxoSmithKline, one of the world's leading research-based pharmaceutical and healthcare companies, is committed to improving the quality of human life by enabling people to do more, feel better and live longer.

ZELITREX is a registered trademark of the GlaxoSmithKline group of companies.

For further information, please contact:

Lorna Skhosana, Communications Manager, GlaxoSmithKline, Tel (011) 313-6116, Fax (011) 313 6592