

Quality of hypertension care in the family practice center, Aseer Region, Saudi Arabia

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ABSTRACT

Introduction: Hypertension (HTN) is a common health problem in Saudi Arabia. Good control depends on the quality of care, which should be supervised and monitored regularly through clinical audit. **Aims:** The objective of this study was to assess the quality of HTN care at Al-Manhal Family Practice, Aseer Region, Saudi Arabia. **Settings and Design:** This study was conducted in 2009 at Al-Manhal Family Practice, Aseer Region, Saudi Arabia. **Materials and Methods:** Medical records of all hypertensive patients were extracted and reviewed using master sheets. Assessment of processes and outcomes of HTN care were based on the standards of quality assurance manual issued by the Ministry of Health. **Statistical Analysis Used:** Data were entered and analyzed by SPSS, version 15. Relevant statistical tests were used accordingly and the *P*-value was considered significant when it was less than 0.05. **Results:** A total of 295 medical records were reviewed and assessed. Most patients were Saudi, married, and about 50% were educated. Two-hundred and thirty-one records were assessed for processes and outcomes of HTN care. Weight measurement and physical examination were carried out for 99% and 97% of the patients, respectively. For 53% of the patients, blood was checked for glucose and kidney function and a lipid profile was done. More than two-thirds of the patients were overweight and obese while 46% had diabetes. Less than one half of the patients had good control of HTN. **Conclusions:** By most standards, quality of HTN care in Al-Manhal Family Practice was unsatisfactory. Most of the patients had comorbidities and poor HTN control. Essential facilities should be provided to the practice to optimize HTN care and to improve the degree of control.

Key words: Aseer Region, family practice, hypertension, quality

INTRODUCTION

Hypertension (HTN) is a common chronic problem worldwide. Its prevalence differs from one country to another. In Western countries, it affects 28–44% of the population.^[1] In Arab countries, epidemiological studies have revealed a wide range of figures: 26.3% in Kuwait, 32.1% in Qatar, 33% in Oman and 20.1% in Egypt.^[2-5] A recent epidemiological study found that 26% of the adults in the Kingdom of Saudi Arabia had HTN.^[6]

HTN is known to be a strong risk factor for stroke and

coronary heart diseases.^[7,8] In spite of all these facts, a high percentage of victims are unaware that they have HTN, and those who are known to have HTN are not adequately controlled.^[9-11]

In order to manage this common health problem adequately, the Ministry of Health issued the Quality Assurance in Primary Health Care Manual in 1994. This manual has a chapter on the care of hypertensives. The chapter gives details on the criteria for diagnosis, risk factors and standards for ideal HTN care.^[12] Since then, a few reports have discussed the management of HTN at family practices.^[10,13]

The aim of this study was to assess the quality of HTN care at Al-Manhal Family Practice in Aseer Region, Saudi Arabia.

MATERIALS AND METHODS

This study was conducted at Al-Manhal Post-Graduate

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Family Practice Centre, which is in Abha city, the capital of Aseer Region, KSA. This center serves about 18,000 inhabitants through 10 clinics with 10 physicians. The center is provided with supportive services such as X-rays and laboratory. Four family physicians and two nurses are responsible for the care of hypertensive patients. The nurses were trained to manage files and records, to measure vital signs, to give appointments, to call defaulters and to educate the patients. Standards of HTN care that were issued in "Quality Assurance in PHC manual" are followed by the health team.^[12] Outcomes of HTN were assessed as follows: good HTN control if BP <140/90 mmHg or <130/80 in patients with diabetes, good lipid profile if fasting cholesterol and triglyceride were less than 200 mg/dl and 150 mg/dl, respectively, while poor compliance to appointment was defined as not having attended a clinic in the last 6 months.

In order to achieve the objective of this study, the HTN records were reviewed and assessed by the investigator by the end of 2009. A master sheet was used for this purpose and the relevant data (patients demographics, relevant risk factors, physical examination, laboratory investigations, health education and prescribed drugs) were entered and analyzed by using the SPSS, version 15. Appropriate statistical tests were applied accordingly and the *P*-value was considered significant if it was less than 0.05.

RESULTS

The total number of hypertensive patients in Al-Manhal Family Practice was 295; Saudis represented about 93%, and 89% were married as shown in Table 1.

Files of patients who attended at least one visit (231 of the 295 files) were assessed for the processes of HTN care. Physical examination was carried out for most of the HTN patients while laboratory investigations were performed for 53%. Regarding prescribed drugs, most of the patients were on Aspirin and ACE inhibitors, one half were on Beta blockers, while one quarter used diuretics [Table 2].

Table 3 shows some common morbidities and outcomes among HTN patients. More than two-thirds were obese or overweight, 46% suffered from diabetes, while one half had dyslipidaemia.

According to the average of the last three readings, the average of the two available readings or the only available reading, good control was achieved in one-third of the HTN patients.

DISCUSSION

This audit revealed that compliance to appointment by

Table 1: Demographic characteristics of hypertensive patients at Al-Manhal Family Practice, 2009

Characteristics	N = 295 (%)
Age	60 ± 10 years
Sex	
Male	159 (54)
Female	136 (46)
Nationality	
Saudi	274 (93)
Non-Saudi	19 (7)
Marital status	
Married	261 (89)
Single/widow/divorced	34 (11)
Education status	
Educated	159 (54)
Illiterate	136 (46)
Job	
Teacher	29 (10)
Housewife	94 (32)
Retired	65 (22)
Governmental work	38 (13)
Others	69 (24)
Smoking status	
Smoker	9 (3)*
Non-smoker	286 (97)
Duration of HTN (mean) [®]	10 years
Positive family history of CHD	15 (5)
Associated comorbidities	
Diabetes**	136 (46)
Bronchial asthma	20 (7)

CHD, coronary heart disease *All smokers were male (*P* = 0.00) [®]Females had a longer duration of HTN compared with males (10.6 years vs. 8.7 years) (*P* = 0.03)

Table 2: Processes of HTN care at Al-Manhal Family Practice, 2009

Elements	N = 231 (%)
Measuring weight and BMI	229/231 (99)
Measuring blood pressure	231 (100)
Clinical physical examination*	224 (97)
Measuring blood glucose	122 (53)
Measuring creatinine	121 (53)
Measuring cholesterol and TG	122 (53)
Urine analysis	119 (52)
Eye examination	70 (30)
ECG	118 (51)
Giving relevant health education (diet, exercise, risk of HTN)	231 (100)
Pharmacological therapy [®]	N = 231
ACE inhibitors	189 (82)
Beta blockers	122 (53)
Diuretics	58 (25%)
Calcium channel blockers	7 (3)
ARBs	7 (3)
Aspirin	230 (99)
Lipid lowering agents**	30 (13)

*Clinical examination was carried out more for females than for males (*P* = 0.07)

**Males were prescribed lipid lowering agents more frequently than females (*P* = 0.03) [®]Females used more than one HTN drug compared with males (*P* = 0.08)

hypertensive patients was lower than the national target (20%).^[12] This finding is similar to that reported by Al-

Table 3: Outcomes of HTN care at Al-Manhal Family Practice, 2009

Elements	N (%)
Blood pressure control*	N = 231
Good (SBP <140/90 mmHg)	35%
Poor control (≥140/90 mmHg)	65%
Body weight**	N = 229
Normal (BMI = 18.5–24.9)	14 (6)
Overweight (BMI = 25 to <30)	77 (26)
Grade-1 obesity (BMI = 30–34.9)	63 (21)
Grade-2 obesity (BMI = 35–39.9)	47 (16)
Grade-3 obesity (BMI ≥40)	28 (10)
Cholesterol level	N = 122
<200 mg/dl	80 (66)
≥200 mg/dl	42 (34)
Triglyceride level	N = 122
<150 mg/dl	60 (49)
≥150 mg/dl	62 (51)
Complications	N = 231
Stroke	6 (2.5)
Cardiovascular disease	2 (0.9)
Nephropathy	4 (1.8)
Retinopathy	8 (3.6)
Peripheral vascular disease	9 (3.4)
Number of visits	N = 295
1–3	93 (32)
4–6	123 (42)
>6	13 (4)
No visit at all	64 (22)
Mean	3.9
Median	4

*Females had low mean diastolic blood pressure compared with males (82 mmHg vs. 88 mmHg) ($P = 0.02$) **Females had high body mass index compared with males (35.7 kg/m² vs. 31 kg/m²) ($P = 0.01$)

Humrani *et al.* performed 10 years ago from the same region.^[13] In order to improve compliance with appointment, the recall system in our practice should be activated to find out the underlying reasons for this high rate of defaulter.

Recording of sociodemographics was complete, which reflected the dedication by which the nurses carried out this task in our practice.

Demographic characteristics of patients were found to be similar to those reported from other regions in Saudi Arabia.^[9,10,13]

Measurement of vital signs, conducting physical examination and referring patients to hospital were satisfactory as compared with the measurement of lipids and electrolytes, which were performed for approximately 50% of the patients. These findings agreed with those observed in previous studies in Aseer Region and in Kuwait.^[13,14] In order to overcome this deficiency, our practice should be provided with good laboratory facilities to be able to carry out an annual check-up as recommended in the Saudi Hypertension Management guidelines.^[15] An annual eye examination is recommended for all hypertensive patients.^[12] However, less than one-third had had

fundoscopy. This low figure indicates that coordination between primary centers and general hospitals was still a huge barrier for caring for chronic diseases as reported in the previous studies from Aseer Region.^[16–18] To overcome this obstacle, an effective referral system and coordination with general hospitals is mandatory.

Health education is considered the cornerstone of management, particularly for hypertensive patients. In our practice, all patients were instructed on many aspects of HTN, such as diet therapy and exercise. This high figure indicates the efforts made by the health team.

Regarding drugs prescribed for hypertensive patients, it was found that more than one-third of the patients were on two drugs or more (35.6%). Combined ACE inhibitors and Beta blockers were prescribed for 28% of the patients. In a study from Oman, it was reported that 70% of the patients were given one drug while 27% used two drugs.^[14] Al-Rukban *et al.* reported that one drug, two drugs and three or more drugs were prescribed for 57%, 26.6% and 10% of the patients, respectively, in the Riyadh region of Saudi Arabia.^[9]

Most of the patients (82%) were on ACE inhibitors, whereas it was 29% in Kuwait and 25% in Oman.^[14,19] This trend of prescribing could be explained by the high percentage of diabetics and uncontrolled HTN patients in our practice.

Aspirin was prescribed for 99% of the patients. This high figure could be explained by the fact that physicians and patients in the Saudi community had become aware of the benefits of Aspirin in preventing coronary artery diseases and stroke in such high risk patients.

Hypertension is known to be associated with chronic morbidities and complications. In this study, 46% were found to be obese and had diabetes while dyslipidaemia was found among 34–51% of the hypertensive patients. These figures are comparable to those reported by Al-Tuwijiri *et al.* (38.4% for diabetes, 50.4% for obesity and 19.6% for dyslipidaemia).^[10]

These health problems are known to increase the risk of developing coronary heart diseases and stroke, which indicate that there should be holistic, comprehensive and multidisciplinary approaches toward the care of HTN patients in order to provide them with the highest quality of care. Good control is one of the main objectives of HTN care. However, only one-third of the patients had achieved such control. This figure is lower than what was reported from Riyadh (40–50%),^[10] from Aseer Region (63%),^[13] from Oman (41%)^[19] and from Kuwait (44.4–58.4%),^[14] but better than that reported from USA (31%),^[11] from Pakistan (29.7–34.7%)^[20] and from the central region of Saudi Arabia (25%).^[9]

Poor HTN control could be caused by poor compliance to lifestyles or medications. It could be due to the effects of the associated morbidities such as diabetes and obesity or could be due to non-compliance of the physicians to the current guidelines on the management of HTN.^[21-23] In spite of the underlying reasons, we recommend further studies to explore the definite causes.

CONCLUSIONS

This study revealed that the rate of defaulter was high, which indicated an ineffective recall system. A high percentage of patients did not have annual check-ups because of the lack of laboratory facilities and poor coordination with hospitals. The majority of HTN patients had poorly controlled HTN.

RECOMMENDATIONS

Recall system in the Al-Manhal Family Practice should be activated to reduce the default rate among HTN patients. Providing primary health care centres with laboratory facilities and good coordination with the concerned hospitals are priorities for giving HTN patients the required annual check-up. Further studies are needed to explore the real reasons for poor control among HTN patients.

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