Assessment of Factors Related to Hypertensive patients at

*Elzamalik Health Centre, Wad Medani, Gezira State*

*In period from  September 2010 to March 2013*

Dr. Maria Abdullahi Basheir

MBBS; University of Juba (2005)

A Dissertation

Submitted to the University of Gezira in Partial Fulfillment for

the Award of the Requirements for the

Degree of Master Sciences

in

Family Medicine

Department of Community Medicine and Family Medicine

Faculty of Medicine

August, 2013
Assessment of Factors Related to Hypertensive patients at

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**Supervision Committee:**

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Signature</th>
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<tbody>
<tr>
<td>Dr. Osman Hamid Abdulhamid</td>
<td>Main supervisor</td>
<td>..................................</td>
</tr>
<tr>
<td>Dr. Salwa Elsanousi Hussein</td>
<td>Co-supervisor</td>
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Date: August, 2013
Assessment of Factors Related to Hypertensive patients at

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Examination Committee:

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<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Signature</th>
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<tbody>
<tr>
<td>Dr. Osman Hamid Abdulhamid</td>
<td>Chair Person</td>
<td>................................</td>
</tr>
<tr>
<td>Dr. Sakher Badawi Omer</td>
<td>External Examiner</td>
<td>................................</td>
</tr>
<tr>
<td>Dr. Mohammed Elmukhtar Saad Eldin</td>
<td></td>
<td>................................</td>
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Date of Examination: 14, August, 2013
Dedication
To my Mother and Father
To Husband
To my kids
Acknowledgement

I would like to Thanks my leader Dr. Osman Hamid Abdulhamid for guiding and support and helping me in this research.
Assessment of Factors Related to Hypertensive patients at Elzamalik Health Centre, Wad Medani, Gezira State
In period from September 2010 to March 2013

Dr. Maria Abdullahi Basheir

Abstract

The audit of assessment of cardiovascular risk of hypertensive patient is the challenge and most important to improve the quality of health care. The main objective of this study is to assess cardiovascular risk to improve quality and made plan for decreasing morbidity and mortality. And to put plan of action to improve audit assessment to fill the defect gap. The study audited from 2010 to 2013 in Elzamalik health centre, including 89 hypertensive patients. Male 22, female 17, married 39, educated 33 and none educated 6. Data source EMR. Data collection by checklist of cardiovascular risk in hypertensive patients. The results is lower than standard due to deficient in asking patients and failure of recording. DM 20 (51.2%), dyslipdemia 15(38%), IHD 7(17%). Smoking 15(38%), alcohol 3(7%). Physical activity 1(2.5%) BMI measurement 2(5.1%). Peripheral pluses 10(25.6%). Apex beat 13(33.3%) fasting blood glucose 9(23%), total serum cholesterol, trigilsride, LDH, HDL 10 (25%) and ECG 23 (58.9%). So there is gap defect it need more training and put action plan. This audit study of 39 patients, age group 50 -82 years old, male 17, female 22, 33 educated, 6 none educated in Elzamalik in Gezira State, Sudan. The result of this study not met my objective due most of them were deficient in standard due to law training and not proper recording. But proper blood pressure was good due to its importance, to solve this problem we must activate recalling and recording system, more training in family doctors and insure availability of tests in health centre, and reauditing after 6 month for improving.
تقييم العوامل ذات الصلة في أمراض القلب لتحسين نوعية وخطة لخفض معدل المرضى ، مركز صحي الزمالك ، ولاية الجزيرة ، السودان ، سبتمبر 2011- مارس 2013م

ملخص الأطروحة
مراجعة تقييم العوامل المتصلة أمراض القلب المريض من ارتفاع ضغط الدم هو التحدي وأهم لتحسين جودة الرعاية الصحية . الأهداف من هذه الدراسة هو تقييم العوامل ذات الصلة في أمراض القلب لتحسين نوعية وخطة قدمت لخفض معدل المرض ، ووضع خطة عمل لتحسين تقييم التدقيق لملء الفجوة . هذه الدراسة الاستعادية المدققة تشمل الفترة من سبتمبر 2011 – مارس 2013م على مركز صحي الزمالك ، تشمل مرضى ارتفاع ضغط الدم ، 39 مريض ذكر و 22 أنثى ، 17 متزوجين و 39 ، 33 المتعلمين و 6 أميين . مصدر البيانات الملفات الطبية الإلكترونية . جمعت البيانات بواسطة قائمة من العوامل المتصلة بمرضى ارتفاع ضغط الدم . كانت نتائج الدراسة أقل من مستوى بسبب نقص في سؤال المرضى وفشل التسجيل (22%) 20 DM ، 15 38% ضيق الشرايين (71%) . التدخين 15 (38%) ، والكحول 3 (7%) . النشاط البدني 1 (2.5%)(قياس BMI التدخين 15 (38%)، والإيجابيات الطرافة 10 (25.6%) ضربة قمة 13 (33.3%) الصياج السكر في الدم 9 (23%)، الدهون (25%) 10 HDL ورم الرقبة (58.9%) 23. وكانت نتائج هذه الدراسة تعاني من نقص في المستوى القياسي لضعف لذا لا بد أن تكون التسجيلات سليمة ، من أجل حل هذه المشكلة . تفعيل الاستذكار وتسجيل النظام ، المزيد من التدريب في أطباء الأسرة وضمان توفير الاختبارات في المركز الصحي ، ومراجعة التدقيق بعد 6 شهور.
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CHAPTER ONE

Introduction and Background:
Clinic audit monitor the use of particular interventions, or the care received by patient, against agreed standard. It is a quality improvement process that aims to improve patient care and outcomes. Are selected and evaluated against explicit criteria and where necessary changes are implemented at an individual, team or service level. A clinical audit aimed to enhance a general practitioner awareness of recommended management for patient. Effective clinical audit is important for health professionals, health service manager patient and public. It can support

High blood pressure affect more than one in 3 adults world wide it lead to fatal heart attacks, debilitating stroke and chronic heart and kidney disease. WHO suggest one out of three person have high blood pressure and yet have of them did not known their condition. For this achieving adequate pressure control in patients is the priority for any health system.

A clinical audit can support health professionals ensuring that their patients are receiving the best possible care. It can also inform health managers about new investment that may need
to support health profession. So this study to provide the benefit of clinical audit in general practice improving management of hypertension as the major cause of cardiovascular disease.

Cardiovascular risks can be defined as a probability of developing cardiovascular diseases within a certain period of time (5 – 10 years). It consist of 18% of hypertensive patient so audit of cardiovascular risk of hypertension gives opportunity to assess absolute risk, modifying risk factor and proper treatment of hypertension.
Justification:
Any hypertensive patient need proper history of cardiovascular diseases including risk factors life style modification physical examination including repeated blood measurement apex beat examination blood investigation for lipid profile and fasting blood sugar and 12 lead electrocardiogram.
CHAPTER TWO

General objectives:
To assess cardiovascular risk factors in hypertensive patient and to assess the effectiveness of quality improvement plan aimed at primary health care centre to decrease the mortality and morbidity and control to improve our practice. And to put plan of action to improve audit assessment to fill the gap effect.

Indicators of care:
The following are discussed with all cardiovascular risk of hypertensive patient:
- History of diabetes
- History of dyslipidemia
- History of ischemic heart disease.
- History of smoking
- History of alcohol intake.
- History of physical activity
- Proper blood pressure measurement
- BMI measurement
- Peripheral pulses examination
- Apex beat examination
- Fasting blood glucose
- Serum total control
- Serum triglyceride
- Serum LDL
- Serum HDL
- ECG

Criteria of care:

All of the patients of cardiovascular risk of hypertension must do:

- History of diabetes
- History of dyslipidemia
- History of ischemic heart disease.
- History of smoking
- History of alcohol intake.
- History of physical activity
- Proper blood pressure measurement
- BMI measurement
- Peripheral pulses examination
- Apex beat examination
- Fasting blood glucose
- Serum total control
- Serum triglyceride
- Serum LDL
- Serum HDL
- ECG
**Standard:**

Standard of all cardiovascular risk factor of hypertension is 70%.
CHAPTER THREE
Methodology

Study design:

Audit study:
Study period from September 2010 to March 2013.

Study area: Elzamalik health centre which located in Gezira state in Sudan.

Study population
The population of hypertension patients who have regular follow – up in Elzamalik health centre.

Sample size:
The sample consist of all 39 patients

Data sources:
EMR

Data collection:
By checklist of cardiovascular risk in hypertension.

Methods:
In March 2013 a general practitioner trainee in Gezira family medicine project who work in Elzamlik health centre in Gezira State in Sudan decided to audit the management of cardiovascular risk in hypertensive patients who attend the above mention clinic.
Data analysis technique:

SPSS (Statistical Package and Social Sciences)
CHAPTER FOUR

Results

This result of 39 patients. Male 17, female 22

Age group 50 – 82.

Married: 39. 100% of total patient

Educated: 33 84.6% of total patient

None educated: 6 15.3% of total patient
## Cardiovascular risks of hypertension

<table>
<thead>
<tr>
<th>Risk factor</th>
<th>No of patients</th>
<th>Percentage (%)</th>
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<tbody>
<tr>
<td>History of DM</td>
<td>20</td>
<td>51.28</td>
</tr>
<tr>
<td>History of hyperlipidemia</td>
<td>15</td>
<td>38.46</td>
</tr>
<tr>
<td>History of I.H.D</td>
<td>7</td>
<td>17.94</td>
</tr>
<tr>
<td>History of smoking</td>
<td>15</td>
<td>38.46</td>
</tr>
<tr>
<td>History of alcohol intake</td>
<td>3</td>
<td>7.6</td>
</tr>
<tr>
<td>Physical activity</td>
<td>1</td>
<td>2.56</td>
</tr>
<tr>
<td>Proper BP measurement</td>
<td>39</td>
<td>100%</td>
</tr>
<tr>
<td>BMI measurement</td>
<td>2</td>
<td>5.12</td>
</tr>
<tr>
<td>Peripheral pulses</td>
<td>10</td>
<td>25.64</td>
</tr>
<tr>
<td>Apex heart</td>
<td>13</td>
<td>33.3</td>
</tr>
<tr>
<td>Fasting blood glucose</td>
<td>9</td>
<td>23</td>
</tr>
<tr>
<td>Serum total cholesterol</td>
<td>10</td>
<td>25.6</td>
</tr>
<tr>
<td>Serum triglyceride</td>
<td>10</td>
<td>25.6</td>
</tr>
<tr>
<td>Serum LDL</td>
<td>10</td>
<td>25.6</td>
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<tr>
<td>Serum HDL</td>
<td>10</td>
<td>25.6</td>
</tr>
<tr>
<td>ECG</td>
<td>23</td>
<td>58.9</td>
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</tbody>
</table>
Cardiovascular risks of hypertension
CHAPTER FIVE

Discussion

The study showed that the cardio vascular risk factors of hypertension showed the following

- Diabetes millets (51.2%) the percentage is low due to failure of record.
- In dyslipidemia is (38.4%) the percentage is low due to failure of recording.
- In IHD (17.9%) the percentage is low due to failure of recording.
- In smoking (38.4%) the percentage is low due to failure of recording.
- Alcohol intake is (7.6%) the percentage is low due to failure of recording.
- In physical activity (2.5%) the percentage is low due to failure of recording.
- In case of BMI (5.1%) the percentage is low due to failure of recording.
- And about peripheral pulses (25.6%) the percentage is low due to recording.
- Apex beat (33/3%) the percentage is low due to failure of recording.
- About fasting blood glucose is (23%) the percentage is low due to failure of recording

- About lipid profile (25%) the percentage is low due to failure of recording.

- About ECG (58.9%) the percentage is low due to failure of recording.
Conclusion:

This audit study of 39 patients, age group 50 - 82 years old, male 17, female 22, 33 educated, 6 none educated in Elzamalik in Gezira State, Sudan, The result of this study not met my objective due most of them were deficient in standard due to law training and not proper recording. But proper Blood pressure measurement was good due to its importance, to solve this problem we must activate recalling and recording system, more training in family doctors and insure availability of tests in health centre.
Recommendations:

1- More training for family doctors
2- Insuring availability of test in health centre.
3- Activation of recording and recalling system
4- Special day for chronic diseases (DM, HTN) in a week
5- Close contact doctor and patient (Telephone)
6- Reauditing after 6 months.
**Clinical audit action plan:**

<table>
<thead>
<tr>
<th>Project title</th>
<th>Audit to assess the cardiovascular risk in hypertensive patient</th>
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<table>
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<tr>
<th>Action plan lead</th>
<th>Dr. Maria Abdullahi</th>
<th>Register of Family medicine</th>
<th>Contact: Elzamalik Health Centre Tel. 0912664655</th>
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<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Action plan</th>
<th>Action by date</th>
<th>Register responsible</th>
<th>Comment</th>
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<tr>
<td>1- Activation of recalling and recording system.</td>
<td>Staff and computerist and Minister of Health</td>
<td>Next year</td>
<td>Maria Abdullahi</td>
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<tr>
<td>2- close contact doctor with patient</td>
<td>Staff</td>
<td>Next year</td>
<td>Maria abdullahi</td>
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<tr>
<td>3- special clinic once per weeks for chronic disease.</td>
<td>Arrange with staff and minister</td>
<td>Next year</td>
<td>Maria Abdullahi</td>
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<td>4- Reauditing</td>
<td>Minister of health, staff authorities</td>
<td>6 months</td>
<td>Maria Abdullahi</td>
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References

Hypertension fact sheet, Department of Sustainable of Healthy Environments, September 2011.


A clinical audit of assessment of cardiovascular risk in hypertensive patient in Elzamalik health centre.

I.D ......................................................

File No: ..............................................

Age: ........................................ Year: .........................

Sex: Male ( ) Female ( )

Education: literate ( ) illiterate ( )

Marital status: single ( ) married ( )

The following are discussed with all cardiovascular risk of hypertensive patient:
- History of diabetes
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