Original Research Paper

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Community Medicine

ASSESSMENT OF DIABETES AND ANEMIA IN PATIENTS ADMITTED IN RURAL HOSPITAL OF WARDHA DISTRICT

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ABSTRACT Diabetes is a chronic disease that occurs either when there is insufficient insulin production or when the body cannot effectively use the insulin it produces. Anemia is another point of concern affecting the world's population, which represents decrease in red cell mass or hemoglobin contents of blood. This study is to assess Diabetes and Anemia in patients admitted in rural hospital of Wardha District and to find the factors associated with Diabetes and Anemia in patients. A cross sectional study was done in rural hospital of Wardha using a predesigned questionnaire for assessment of diabetes and anemia in the admitted patients. Majority of patient diagnosed with anemia and diabetes were diagnosed recently and were on medications for same. Few diagnosed with diabetes and anemia had any complications related to same.

KEYWORDS : Diabetes, Anemia, Cross Sectional Study

INTRODUCTION:
Diabetes is a chronic disease that occurs either when there is insufficient insulin production or when the body cannot effectively use the insulin it produces. Insulin is a hormone that regulates blood sugar. Diabetes is major cause of blindness, kidney failure, heart attacks, stroke and lower limb amputation.

The global prevalence of diabetes among adults over 18 years of age has risen from 4.7% in 1980 to 8.5% in 2014 (1).During the year 2012 in India the proportional mortality due to diabetes was about 2%, the number of deaths due to diabetes in age group 30-69 was 75,900 in males and 51,700 in females and in age 70+ years about 46,800 in males and 45,600 in females. Mortality was 30.2 per 1lakh population for male and 22.7 per 1 lakh population for women (2).

Almost half of all deaths attributable to high blood glucose occur before the age of 70 years. WHO estimates that diabetes was the seventh leading cause of death in 2016**.** Risk factors of diabetes includes Race, Age (45 or older), family history of diabetes (i.e., parent or sibling diabetes), obesity or overweight, Sedentary lifestyle (3). People are considered prediabetic when there is Impaired Glucose tolerance, Fasting plasma glucose 5.6-6.9 mmol/L (100-125 mg/dl)or 2hr plasma glucose 7.8-11.0 mmol/L (140-199 mg/dL)Diabetes is diagnosed when either plasma glucose in random sample or 2 hours after 75 g glucose ≥ 11.1 mmol/dL (200 mg/dL) or fasting plasma glucose ≥ 7.0 mmol/L (126 mg/dl)(4).

Equivalent to diabetes anemia is another point of concern affecting the world's population , which represents decrease in red cell mass or hemoglobin contents of blood below physiological need as set by tissue oxygen demand, this may alter by age, sex, altitude, addictions like smoking and pregnancy status(5) . Due to heavy menstruation and pregnancy women are much more affected, which leads to impairment of health and well being of women and there is increase risk of maternal and neonatal adverse outcome. This dreadful condition affects half a billion of women of reproductive age groups worldwide. According to Global Nutrition target 2025, Anemia policy by WHO/NMH/NHD/14.4 In 2011 ,29% (496 million) of non pregnant women and 38% (32.4 million) of pregnant women aged 15-49 years were anemic (5) . The prevalence of anemia was highest in South Asia and central and West Africa. While the causes of anemia are variable, it is estimated that half of cases are due to iron deficiency. The causes of anemia may be physiological or pathological. That is whenever blood is lost; there is loss of iron leading to which most cases are due to iron deficiency.

Nutritional anemia is also one of the major causes , it includes Iron deficiency, Vitamin B12 deficiency, Folic acid deficiency.

Our study is directed to assess the anemia and diabetes patients admitted in rural hospital of Wardha.

OBJECTIVES:
1. To assess Diabetes and Anemia in patients admitted in rural hospital of Wardha District
2. To find the factors associated with Diabetes and Anemia in patients

METHODOLOGY:
STUDY SETTING:
Acharya Vinoba Bhave Rural Hospital, Sawangi Meghe - A Rural Hospital

STUDY DESIGN:
Hospital based Cross-Sectional Study

SAMPLE SIZE:
All the patients in Medicine and OBGY ward during study period

DURATION OF STUDY:
June 2019 to September2019

STUDY PARTICIPANTS:
Patients admitted in hospital during study period

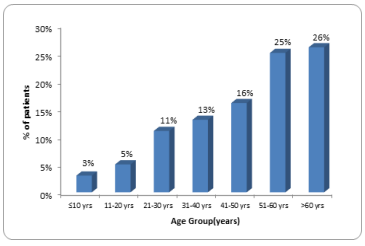
INCLUSION CRITERIA:
Patients with history related to Diabetes and Anemia

EXCLUSION CRITERIA:
Patients not willing to participate in study.

DATA COLLECTION:
A survey was done among the patients admitted in Medicine and OBGY ward to assess Diabetes and Anemia. All the patients with history related to Diabetes and Anemia were included in the study. A predesigned closed ended questionnaire was used for assessment. The purpose of the study was explained to them and confidentiality of the information was assured.

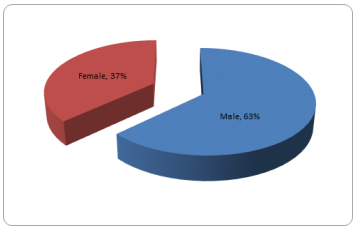
STUDY ANALYSIS:
Analysis was done using MS Excel and descriptive statistics were used

RESULTS
Graph 1: Age wise distribution of admitted patients



[Graph no.1] Suggests that out of all the patients in study 26% were in the age group of > 60 years and 25% were 51 – 60 years of age i.e. majority of patients were more than 50 yrs of age.

Graph 2: Gender wise distribution of patients



[Graph no.2] suggests that majority population was of (63%) males and 37% were females.

Table 1: Assessment of diabetes in admitted patients

Diabetes	No of patients	Percentage
Have diabetes or prediabetes		
Yes	29	29
No	71	71
How long ago they were first diagnosed		
<1 yr	21	21
1-3 yrs	3	3
3-5 yrs	0	0
5-10 yrs	1	1
>10 yrs	4	4
How many took medicine for diabetes		
Yes	19	19
No	10	10
How many were on Insulin		
Yes	1	1
No	28	28
How well their blood sugars been controlled		
<100	0	0
100-150	20	20
150-200	7	7
>200	2	2
Diabetic patients affected from eye disease		
Yes	6	6
No	23	23
Laser treatment for eyes		
Yes	0	0
No	29	29
Diabetic patients with numb feet		
Yes	9	9
No	20	20

[Table no.1]shows that during diabetes assessment of all the patients in study 29%(out of 100) patients were diabetic and 71% were diagnosed within 1 year, 19 patients were on Oral hypoglycemic agents and 1 was on insulin, 20 patients had blood sugar level of 100-150 mg/dL. Only 6 patients had eye problems but none had any intervention done, 9 patients had numb feet.

Table 2: Assessment of Anemia in admitted patients

Anemia	No of patients	Percentage
Patients with anemia, or low Hb count		
Yes	28	28
No	72	72
How long ago they were first diagnosed		
<1 yr	21	21
1-3 yrs	3	3
3-5 yrs	0	0
5-10 yrs	1	1
>10 yrs	3	3
Patients on medication for anemia		
Yes	19	19
No	9	9
Patients with the history of Black Stools		
Yes	1	1
No	27	27
Patients with the history bright red blood in stool		
Yes	1	1
No	27	27
Patients with the history blood in urine		
Yes	1	1
No	27	27
Female patients who still Menstruate		
Yes	9	9
No	17	17
Patients with Family H/O Anemia		
Yes	0	0
No	28	28

[Table no. 2]As per study 28 patients found anemic out of which 21 were diagnosed as anemic from last 1 year and out of them 19 were on medications. It shows the assessment of anemia in admitted patients which suggests most of the anemic patients were diagnosed within 1 year and more than half of diagnosed were on medications. Out of all the anemic patient only 1 gave history black stools, 1 gave history of bright red blood in stool.

DISCUSSION:
This study was conducted in the rural hospital of Wardha district (AVBRH) , for the assessment of diabetes and anemia in the admitted patients by pre designed questionnaire. The cross sectio nal study of diabetic and anemic patients. Significant findings in our study were 1. Majority of diabetic patients were diagnosed within 1 year and most of the diagnosed patients were on oral hypoglycemic agents (65%) and 1 patient was on insulin. 2. More than half of diabetic patients (68%) on OHA were managed adequately with blood glucose level within 100-150 mg/dL. 3. Similarly most of the anemic patients were diagnosed within 1year (75%) and were on medication (67%). 4. 6 (20%) patients had eye problems due to diabetes but none of them seek medical help and 9 patients out of 29 (31%) had complaints of numb feet.

A similar study to get the knowledge and to know the awareness about diabetes in rural and urban India done by The ICMR study India suggests that most common organ affected by diabetes is feet (54%) and eyes(in 52.3%) and knowledge about the diabetes related eye complications was about (73.5%) (6) to which our study suggests that the number of patients associated with diabetes associated limb involvement is 31% and diabetes associated eye disease is 20%.

Another study done to relation of anemia with the complications of diabetes by department off endocrinology and metabolism, Shanghai clinical centre for diabetes suggest that early control of diabetes can decrease both micro and macro vascular complication(7). In our study majority of the patients have started treatment and only few have diabetes related complications.
Study which was conducted in Kuwait shows high prevalence of

anemia in diabetic patients, particularly in those with diabetic complications. This study also shows relation of diabetes with anemia and results shows prompt treatment to reduce morbidity in diabetes health care centers to include anemia investigation and management within their diabetes treatment protocols (8).

study which was performed in south india shows that symptoms like fatigue and weakness should not be ignored in the old age peoples as it can point towards presence of anemia in these patients(9).

CONCLUSION:

The study shows that majority of patient diagnosed with diabetes were diagnosed within last 1 year. Majority of them are on medication and few were on insulin. Majority patient had their glucose level controlled within normal range. There are very less no. of patient with retinopathy and neuropathy as they are on medication. Micro and macro vascular complication is less. Majority of patients diagnosed with anemia during assessment of anemia in admitted patients were diagnosed within last 1 year. More than half of diagnosed were on medications.

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