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### RESEARCH ARTICLE

## IS THE HBA1C TEST DONE FOR DIABETIC PATIENTS BEFORE THE FOLLOW UP VISIT AT WAZARAT HEALTH CENTER?

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#### Manuscript History

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#### Key words:-

HBA1C, DM , FOLLOW UP VISITS

#### Abstract

**Background:** HbA1c (Glycosylated hemoglobin) level corresponds closely with the person's average glucose levels for the previous four to eight weeks. Measuring these levels provides a long range prospective on how well glucose levels are being controlled. So , for the importance of HbA1c , we want to make sure that this test is being done within a week prior to the fallow up visit for all diabetic patient in AL- Wazarat health center. And ,this in turn will reflect how effective our system in correspondence with medical care given.

**Objectives:** To ensure that HbA1c test done for the follow up of diabetic patients within a week before the visit.

**Methods:** The sample was obtained from the data center in Alwazarat health center at Riyadh Military Hospital and included all CDC patients who attended the clinics on the period of 27-11-2010 to 30-11-2010 (4 days) total number of 258 patients.

A retrospective search was conducted through the laboratory system and pharmacy system by using the patient's hospital number. The indicator that was seen is whether the HbA1c test done within 10 days prior to the fallow up visit or not.

**Results:** The results of our sample of 258 patients are the following :

61 pts were excluded as they aren't diabetic 197 pts diabetic :HbA1c done within 10 days prior to fallow up visit in 107 of the diabetic pts (54.3%). HbA1c not done within 10 days prior to fallow up visit in 90 of the diabetic pts (45.7%)

**Conclusion:** We found in our audit that the HbA1c was not done within at least 10 days prior to the visit in about 45.7% of diabetic patients who were following the clinics in the four days period. This results actually reflects that there is a problem in the pattern of HbA1c request.

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#### Introduction:-

Diabetes Mellitus (DM) is a group of metabolic diseases characterized by hyperglycemia resulting from defects in insulin secretion, insulin action, or both. The chronic hyperglycemia of diabetes is associated with long-term damage, dysfunction, and failure of various organs, especially the eyes, kidneys, nerves, heart and blood vessels. Several pathogenic processes are involved in the development of diabetes. Long term complications of diabetes include retinopathy with potential loss of vision; nephropathy leading to renal failure; autonomic neuropathy causing

gastrointestinal, genitourinary and cardiovascular symptoms and sexual dysfunction. Patients with diabetes have an increased incidence of atherosclerotic cardiovascular, peripheral arterial and cerebrovascular disease. The prevalence of diabetes varies throughout the world, but increasing because of changes in lifestyle. According to the estimates of World Health Organization (WHO), around 100 million people suffer from diabetes.<sup>1,2</sup> The Kingdom of Saudi Arabia (KSA) is a rapidly developing country. During the past three decades the potential surge in socioeconomic growth has considerably influenced the lifestyle of the people. A recent community-based national epidemiological health survey in KSA has found the overall prevalence of DM as 23.7%<sup>3</sup> which is alarming for health care providers.

People with diabetes should receive medical care from a physician-coordinated team. These teams may include physicians, nurse practitioners, physician's assistants, nurses, dietitians, pharmacists, and mental health professionals with the expertise and a special interest in diabetes. It is essential in this collaborative and integrated team approach that individuals with diabetes assume an active role in their care. There is strong evidence to suggest that a close correlation exists between good glucose control and improved clinical outcomes in hospitalized diabetic patients and in the outpatient setting.<sup>4-6</sup> Also, the target levels of good glucose could not be achieved in the diabetic outpatients who attend both at private and government hospitals.<sup>7</sup> Patients cared for by physicians in the diabetes clinic receive better quality of diabetes care than patients cared for by physicians in the general medical clinic.<sup>8</sup> However, another component of care is a community care. A meta-analysis of randomized controlled trials found that the unstructured care in the community is associated with poorer follow up, worse glycaemic control, and greater mortality than in hospital care.<sup>9</sup> In fact, most of the diabetic patients are not optimally managed despite the availability and efficacy of interventions for the control of glycemia, blood pressure, and hyperlipidemia.<sup>10,11</sup> There are barriers to effective care in the medical system, physician, and patient levels.<sup>12</sup> All three elements of medical care, the medical system, the actions (or inactions) of physicians and other providers, as well as the behavior of patients (and their families and communities), play a critical role in achieving the overall goal of optimal diabetes control.<sup>13</sup> Treatment and preventive care in persons with diabetes, particularly towards the care of vascular complications of Type 2 diabetes which causes high morbidity, hospitalization and mortality, is the cornerstone of management of these patients. To monitor these patients, American Diabetes Association (ADA) has suggested the guidelines for classification, diagnosis and screening of diabetes.<sup>14</sup> Even though the ADA guidelines for desired HbA1c values, lipid and BP values, and screening procedures have been widely distributed, these goals often are not met in the primary care setting where most diabetic patients receive their diabetes care.<sup>15,16</sup> This audit was carried out to assess the effectiveness of diabetes care system in chronic diseases clinics (CDC) of AL-WAZARAT health center in the form of the pattern of HbA1c request, and to make sure that it had been done within at least ten days prior to follow up visits. And, this in turn will reflect how effective our system in correspondence with medical care given.

### Method:-

The sample was obtained from the data center in Alwazarat health center at Riyadh Military Hospital and included all CDC patients who attended the clinics on the period of 27-11-2010 to 30-11-2010 (4 days) total number of 258 patients.

A retrospective search was conducted through the laboratory system and pharmacy system by using the patient's hospital number. The indicator that was seen is, whether the HbA1c test done within 10 days prior to the follow up visit or not.

### Results:-

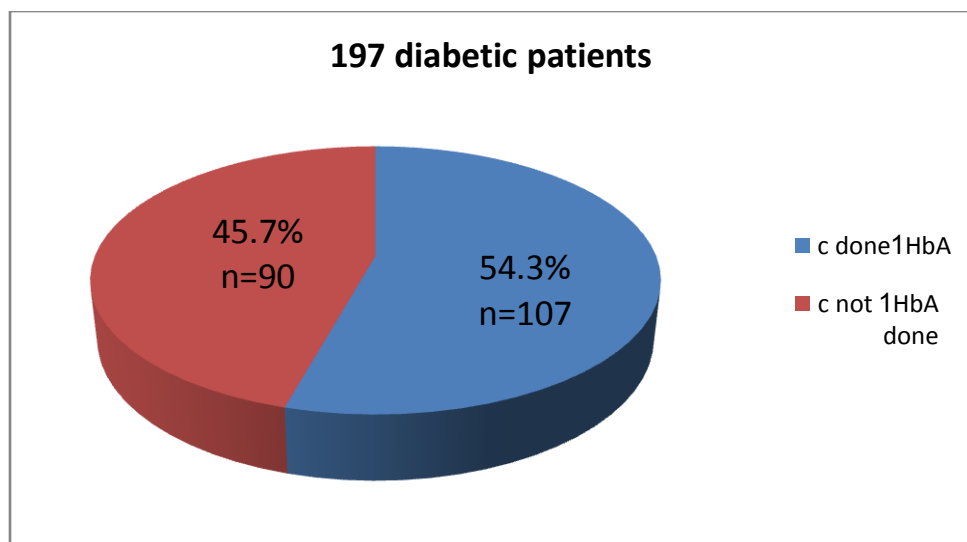
The results of our sample of 258 patients are the following :

-- 61 patients were excluded as they aren't diabetic

--197 patients diabetic:

HbA1c done within 10 days prior to follow up visit in 107 of the diabetic patients .(54.3%)

HbA1c not done within 10 days prior to follow up visit in 90 of the diabetic patients .(45.7%)



### Discussion:-

HbA1c (Glycosylated hemoglobin) level corresponds closely with the person's average glucose levels for the previous four to eight weeks. Measuring these levels provides a long range prospective on how well glucose levels are being controlled. So , for the importance of HbA1c test ,we conducted this retrospective audit to make sure that it is done prior to fallow up visit for all diabetic patients who are registered and enrolled in the system of chronic disease clinics. And that in turn will determine the future plan in the form of stepping up or down in the management. And eventually a better outcome in reaching the goal of glycemic control.

We found in our audit that the HbA1c was not done within at least 10 days prior to the visit in about 45.7% of diabetic patients who were following the clinics in the four days period. This results actually reflects that there is a problem in the pattern of HbA1c request. We can discuss this defect at three levels. First , the physician, we found that some patient are controlled and still the HbA1c was done more than three times per year where as some patients not controlled and the HbA1c was not done regularly according to the guidelines. Second, the patients, may be one of the most important reason for this defect as they were not fallowing regularly or forgetting to do their lab work before each visit. Third possible reason, is the system of the clinics as there is no reminder system or separate appointment for the lab work or there is no clear explanation to the patient when to come to do the lab work and the importance of that for the next visit to be effective.

In our study , we faced some limitations , the search was conducts tow weeks after Eid holiday. Another limitation the study conducted on four days only which might be short period of time.

### Recommendations:-

- ❖ Stress on the importance of HbA1c test and other lab test to be done and explanation to patient that it determine the future planning of the management.
- ❖ To give the patient separate appointment for lab tests.
- ❖ To establish a reminder massages for the patients to do their labs.

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