ORIGINAL ARTICLE

Presenting Clinical Features in Newly Diagnosed Type 2 Diabetic patients in our community

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ABSTRACT

Aim: To determine the clinical features of newly diagnosed diabetic patients in our community.

Methodology: This cross sectional descriptive study was carried out at Jinnah Teaching Hospital (JTH) attached to Jinnah Medical College (JMC), Peshawar on 100 patients. This study included type 2diabetic (T2DM) patients which were diagnosed within last 13 months, age 25 years and above, both genders, and Pakistani Nationals. For each patient data on demographic features like age, gender, main signs and symptoms of type 2 diabetes mellitus (T2DM) were collected. Random blood sugar (RBS), and anthropometric measures like height, weight, and body mass index (BMI) were also recorded. Descriptive statistics were computed in SPSS 20.0. The signs and symptoms at presentation were stratified among age groups and gender to see effect modifiers. Post-stratification Chi-square test was applied. P-value ≤0.05 was considered significant.

Results: Of total 100 newly diagnosed type 2 diabetes mellitus(T2DM) patients, 54(54%) were males and 46(46%) were females. The mean age was 40.7±10.36 years. The overall frequency of co-morbidities was 28%. The common clinical signs and symptoms were dryness of mouth (76%), polyuria and polydipsia (52%), acanthosis nigricans (44%), generalized body aches (28%), loss of tendon reflexes (28%), weight loss (28%), burning feet (27%), obesity (26%), burning micturition (24%), pruritus vulvae (24%) and blurred vision (21%).

Conclusion: Patients with dryness of mouth, polyuria, polydipsia, polyphagia, acanthosis nigricans, generalized body aches, absent distal tendon reflexes (grade 0/4), weight loss, burning feet, obesity, burning micturition, pruritus vulvae and blurred vision should be screened for diabetes mellitus to avoid complications.

Keywords: diabetes mellitus, signs, symptoms, newly diagnosed

INTRODUCTION

Type2 DM (T2DM) is mostly the problem of public health. Incidence is increasing in low-income countries[1]. T2DM) is associated with complications and has effect on the patients. In past, T2DM was supposed a disease of the urban areas. Now it is affecting the middle and low income people[2]. Diagnosis of T2DM is based on measurement of blood glucose levels, oral glucose tolerance test (OGTT), or HbA1c. Cut-off values for these tests have been defined by the American Diabetes Association (ADA) and the World Health Organisation (WHO)[3,4].

METHODOLOGY

This cross sectional descriptive study was carried out at Jinnah Teaching Hospital (JTH) attached to Jinnah Medical College (JMC) Peshawar, on 100 consecutive patients. Sampling was done using non-probability consecutive sampling technique. Approval was taken from ethical review committee of the hospital. A detail history was taken followed by relevant examination. The study population comprised all newly diagnosed T2DM

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patients presented to JTH from November 2018 to December 2019.The patients were diagnosed type 2 diabetes mellitus on basis of American diabetes association criteria; the OGTT at 2 hours blood sugar of ≥200 mg/dl, Fasting ≥126 mg/dl or HbA1cof equal to 6.5% or higher. Patients age 25 years and above, both genders, and Pakistani nationals were included in the study. Data analysis was performed in SPSS version 20.

RESULTS

The detail of results is given in tables 1, 2, 3, 4

Table 1: Age, weight, height, BMI, HbA1c and waist circumference

Variable	Mean ± SD	Range
Age (years)	40.7±10.36	24-65
Weight (Kg)	83.95±16.16	58-120
Height (m)	1.61±0.08	1-2
Body Mass Index (BMI)	32.44±6.93	21-49
HbA1c (%)	9.79±1.42	7-14
Waist circumference (inches)	275.97±54.97	205-411

Table 2: Clinical features in newly diagnosed cases

	Frequency	%age
Generalized body aches	28	28.0
Obesity	26	26.0
Acanthosis nigricans	44	44.0
Polyuria and polydipsia	52	52.0
Polyuria, polydipsia & polyphagia	16	16.0
Polydipsia	18	18.0
Dry mouth	76	76.0
Decreased libido	12	12.0
Burning micturition	24	24.0
Legs wasting	16	16.0
Pruritus vulvae	24	24.0
Weight loss	28	28.0
Absent tendon reflexes (Grade 0/4)	28	28.0
Burning feet	27	27.0
Malaise	10	10.0
Muscle cramps	3	3.0
Vertigo	3	3.0
Blurred vision	21	21.0
Pallor	4	4.0
Snoring	9	9.0
Dehydration	4	4.0
Hearing loss	8	8.0
Bell's palsy	8	8.0
Polyphagia	8	8.0
Numbness	4	4.0

Table 3: Stratification of clinical features of T2DM by age groups

| Clinical features of T2DM | Age Category (years) | | | |
| | 24-35 | 36-45 | 46 and above | P-value[*] |
	n	N	N	
Generalized body aches	12	12	4	0.087
Obesity	10	10	6	0.6
Acanthosis nigricans	14	22	8	0.002
Polyuria and polydipsia (2Ps)	26	14	12	0.035
Polyuria, polydipsia and polyphagia (3Ps)	0	8	8	0.003
Polydipsia	10	6	2	0.111
Dry mouth	28	28	20	0.025
Decreased libido	8	0	4	0.505
Burning micturition	8	10	6	0.556
Legs wasting	8	4	4	0.132
Pruritus vulvae	10	10	4	0.309
Weight loss	8	10	10	0.309
Absent tendon reflexes (Grade 0/4) distal	10	6	12	0.031
Muscle cramps	0	2	1	0.855
Vertigo	0	2	1	0.278
Blurred vision	13	3	5	0.765
Pallor	0	2	2	0.535
Snoring	4	3	2	0.765
Dehydration	0	2	2	0.359
Hearing loss	4	2	2	0.163
Bell's palsy	4	2	2	0.588
Polyphagia	4	2	2	0.214
Numbness	2	0	2	0.087
Sweating	1	5	3	0.6
Shortness of breath	2	3	1	0.002
Legs aches	12	8	4	0.035

[*] Chi-square test

Table 4: Stratification of clinical features of T2DM by gender

| Clinical feature of T2DM | Gender | | P-value* |
	Male N	Female N	
Generalized body aches	14	14	0.617
Obesity	12	14	0.351
Acanthosis nigricans	20	24	0.129
Polyuria and polydipsia	34	18	0.01
Polyuria, polydipsia and polyphagia (3Ps)	4	12	0.011
Polydipsia	10	8	0.884
Dry mouth	42	42	0.395
Decreased libido	10	2	0.030
Burning micturition	12	12	0.652
Legs wasting	8	8	0.726
Pruritus vulvae	14	10	0.625
Weight loss	14	14	0.617
Absent distal tendon reflexes (grade 0/4)	14	14	0.617
Burning feet	11	16	0.106
Muscle cramps	0	3	0.466
Vertigo	1	2	0.867
Blurred vision	11	10	0.870
Pallor	2	2	0.922
Snoring	5	4	0.870
Dehydration	2	2	0.214
Hearing loss	6	2	0.214
Bell's palsy	6	2	0.813
Polyphagia	4	4	0.060
Numbness	4	0	0.045
Sweating	2	7	0.521
Shortness of breath	4	2	0.153
Legs aches	16	8	0.617

*Chi-square test

DISCUSSION

Our results showed that males were more than females.The overall frequency of co-morbidities in newly diagnosed T2DM patients was 28%. Most common co-morbid disease was hypertension (16%). The common clinical signs and symptoms in newly diagnosed type 2 diabetic cases were dry mouth, polyuria, polydipsia, polyphagia, acanthosis nigricans, generalized body aches,absent distal tendon reflexes (grade 0/4), weight loss,burning feet, obesity, burning micturition, Pruritus vulvae and blurred vision. More males than females in our study may be due to that males are more financially independent than females and hence present more for routine medical check-up and treatment. The other reason may be more prevalence of T2DM in males in our population. But our sample is small and may not be representative of real population. During the whole life the sex hormones affect behavior and can have effects on lifestyle, social values, and on psychologicalhealth. A study conducted by Drivsholm et al[6] on symptoms, signs and complications in newly diagnosed T2DM patients. The common signs and symptoms were thirst, frequent urination, unintended weight loss, fatigue, confusion, visual disturbances and cramp in calves. These symptoms are in consistent to our study. In another study by Mayega et al.[7] on clinical presentation of newly

diagnosed diabetes patients reported that the common features were frequent passing of urine, frequent drinking/thirst, general body weakness, blurred vision, frequent eating, excessive sweating, joint pains, numbness of l

CONCLUSION

Patients with dry mouth, polyuria, polydipsia, polyphagia, acanthosis nigricans, generalized body aches, absent distal tendon reflexes (grade 0/4), weight loss, burning feet, obesity, burning micturition, pruritus vulvae and blurred vision should be screened for diabetes mellitus to avoid complications.

REFERENCES

1. Cho N, Shaw J, Karuranga S, Huang Y et al. IDF Diabetes Atlas: Global estimates of diabetes prevalence for 2017 and projections for 2045. Diabetes Res Clin Pract. 2018;138:271-81.
2. Roglic G, Unwin N, Bennett PH et al. The burden of mortality attributable to diabetes: realistic estimates for the year 2000. Diabetes Care. 2005;28(9):2130-5.
3. American Diabetes Association: Standards of medical care in diabetes-2013. Diabetes Care. 2013, 36(Suppl 1):S11-66. doi: 10.2337/dc2313-S2011.
4. Aamir AH, Ul-Haq Z, Mahar SA et al. Diabetes Prevalence Survey of Pakistan (DPS-PAK): prevalence of type 2 diabetes mellitus and prediabetes using HbA1c: a population-based survey from Pakistan. Br Med J Open. 2019;9(2):e025300.
5. Geary N. Counterpoint: physiologists should not distinguish "sex" and "gender". Am J Physiol Regul Integr Comp Physiol. 2010;298(6):R1702-R4
6. Drivsholm T, de Fine Olivarius N, Nielsen ABS et al. Symptoms, signs and complications in newly diagnosed type 2 diabetic patients, and their relationship to glycaemia, blood pressure and weight. Diabetol. 2005;48(2):210-4.
7. Mayega RW, Rutebemberwa E. Clinical presentation of newly diagnosed diabetes patients in a rural district hospital in Eastern Uganda. Afric Health Sci. 2018;18(3):707-19