



DEPRESSION IN DIABETIC PATIENTS PRESENTING TO THE EMERGENCY DEPARTMENT IN TRINIDAD AND TOBAGO—A HIDDEN EPIDEMIC

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INTRODUCTION

The World Health Organization (W.H.O) has established that depression is a significant contributor to the global burden of disease with an estimated 350 million people affected by depression worldwide (1). It is projected to be the second highest cause of disability after heart disease by the year 2020 (2). Depression is highly under-recognized and under-diagnosed; for this reason only 30% of patients who have been identified, receive treatment (3). The prevalence of depression amongst patients with co morbid illnesses including Diabetes mellitus, Ischaemic heart disease, hypothyroidism and those with neurological disorders including stroke and epilepsy has been well established. It has also been shown that the more co-morbid conditions a patient has the more likely they are to be depressed (3, 4). A systematic review of the literature estimated that the prevalence of depression in America and European countries was 19.1 % amongst Type 2 diabetic patients. (5).

This study investigated the prevalence of depression amongst diabetic patients presenting to an Emergency department (ED) setting in South West Trinidad as well as investigate whether depression has any effect or relation on glycaemic control in these patients. As previously mentioned the prevalence of depression is highly unrecognized and therefore undertreated (3). Screening for depression has been done in the primary care setting as well as in an Emergency department setting in this country (7, 9). However the previous Emergency department study only included elderly patients (defined as ≥ 65 years of age). The majority of local studies as well as those done in the Caribbean were undertaken in a primary care setting. This study was the first of its kind evaluating the impact of depression on clinical outcomes in Diabetic patients presenting to an Emergency department in a tertiary care setting in Trinidad and Tobago and the Caribbean. Tertiary care emergency departments may be the first medical contact for many of these patients and hence are a good avenue for screening for depression in these patients.

METHODS

The aim of this study was to determine the prevalence of undiagnosed depression amongst diabetic patients presenting to a tertiary care Emergency department. The other objectives were to investigate the impact of depression on these patients with respect to concurrent co morbidities, glycaemic control and compliance to self-care activities.

A cross-sectional study was done at a tertiary care Emergency department in South West Trinidad during the time period October 1st to December 31st 2014. Type 2 Diabetic patients who consented to participate in the study were given self-administered questionnaires pertaining to their diabetes and self-care as well as a self-administered depression module the PHQ-9. Chi-square testing, non-parametric tests and logistic and linear regression modules were used to determine if there were any associations between depression and demographic data, co-existing co morbidities glycaemic control and compliance with self-care regimes.

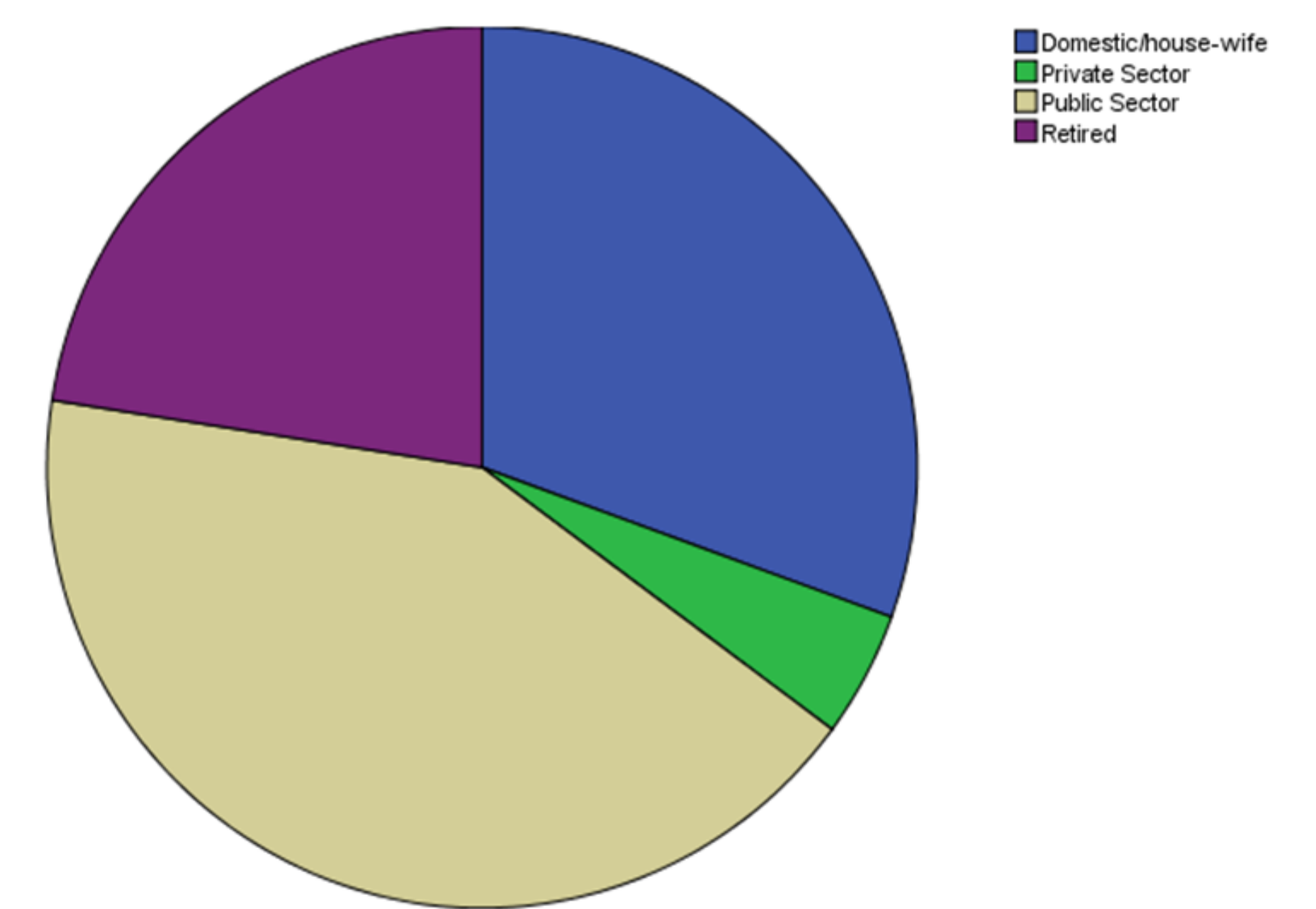
RESULTS

Results: The prevalence of depression in this subset of patients was found to be 46.2%. The patients were categorized according to their level of depression as follows: 35.1% had mild depression, 9.5% moderate depression and 1.5% had moderately severe depression. Males and females had similar prevalence. The majority of patients were of Indo Trinidadian descent (69.7%), married (61.8%) and worked in the public sector (42.3%).

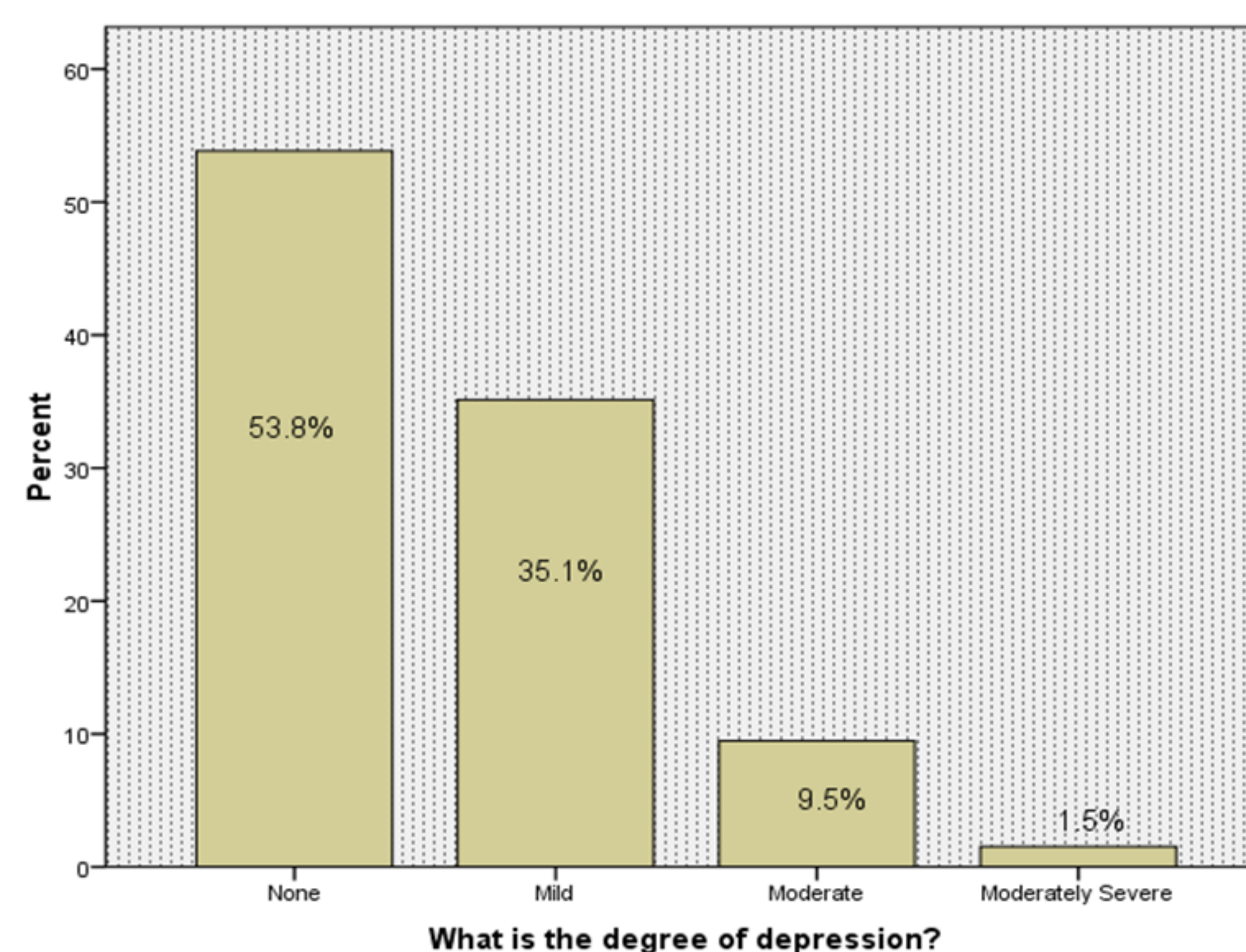
The factors independently associated with depression were highest level of education achieved ($p=0.003$), co-existing heart disease ($p=0.048$) and presence of myocardial infarction ($p=0.040$). The more co morbidities a diabetic patient had, the more likely they were to be depressed ($p=0.010$).

There was also a significant association between depression and glycaemic control. Patients who were depressed were more likely to have higher HbA1c% values and therefore poorer glycaemic control ($p<0.0001$). Patients who were depressed were less likely to adhere to meal plans ($p=0.015$) and exercise regimes ($p=0.028$).

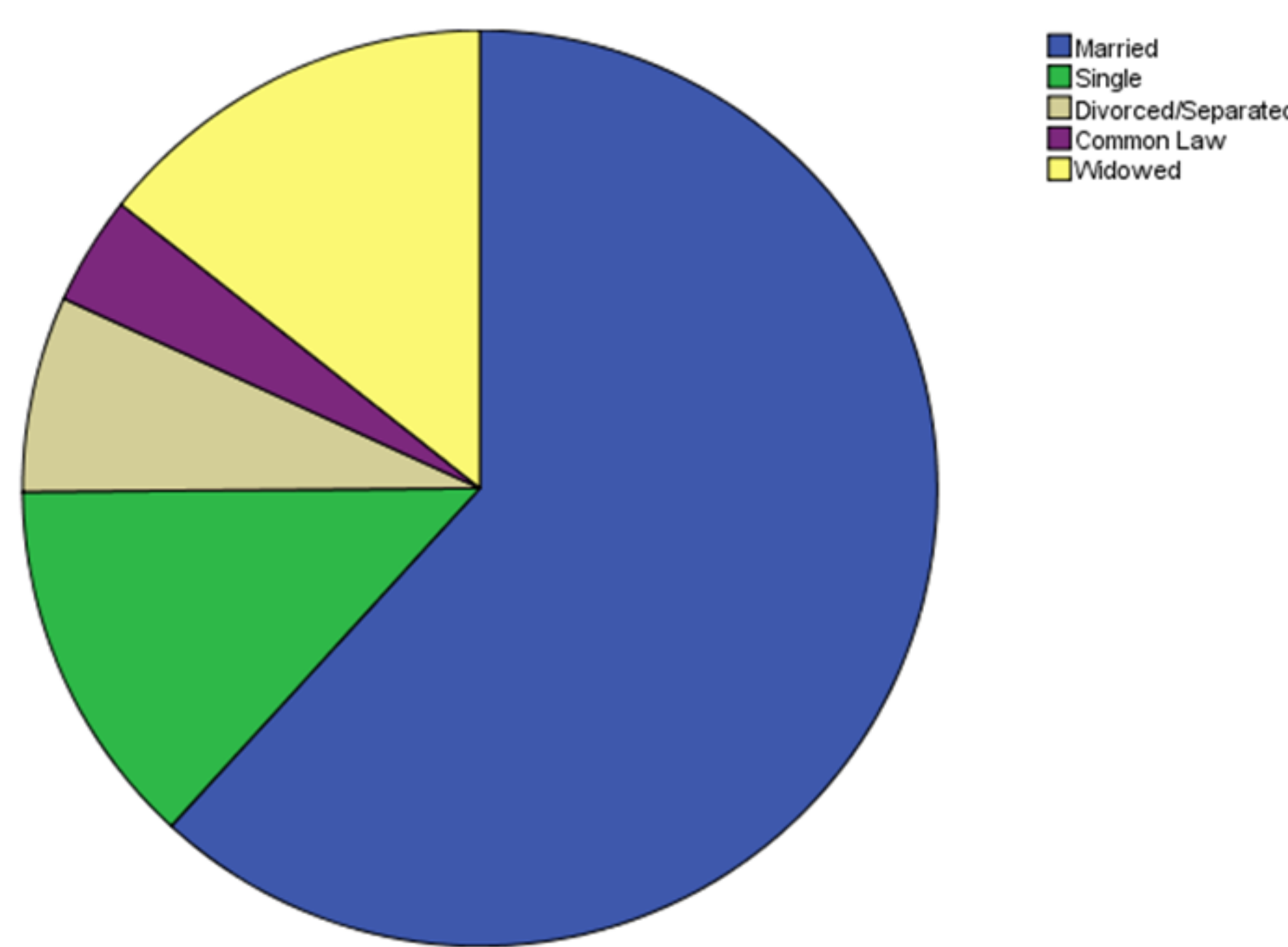
Occupation of Patient



What is the degree of depression?



Marital Status



Demographics	Total 390	Overall % (of population)	Not Depressed (%)	Depressed (%)	P value*
	N=390		53.8	46.2	
Gender	Male Female	191 (49.0) 199 (51.0)	107 (56.0) 103 (51.8)	84 (44.0) 96 (48.2)	0.399
Ethnicity	African East Indian Chinese/ Mixed	114 (29.2) 272 (69.7) 4 (1.1)	69 (60.5) 140 (51.5) 1 (25.0)	45 (39.5) 132 (48.5) 3 (75.0)	0.162
Marital status	Married Single Divorced/separated Common Law Widowed	241 (61.8) 52 (13.1) 27 (6.9) 15 (3.8) 56 (14.4)	139 (57.7) 28 (54.9) 10 (37.0) 8 (53.3) 25 (43.9)	102 (42.3) 23 (45.1) 17 (63.0) 7 (46.7) 31.9(56.1)	0.170
Occupation	Domestic Private Sector Public Sector Retired	27 (30.5) 18 (4.6) 165 (42.3) 88 (22.3)	58 (48.7) 9 (50.0) 95 (57.6) 48 (54.5)	61 (51.3) 9 (50.0) 70 (42.4) 40 (45.5)	0.003
HbA1c%	Normal < 6.5 Abnormal ≥ 6.5	241 (61.8) 149 (38.2)	176 (73.0) 34 (22.8)	65 (27.0) 115 (77.2)	<0.0001

CONCLUSION

Depression in diabetic patients as well as patients with chronic illnesses is still highly under-recognized and undertreated. In diabetic patients this has serious implications as depression can lead to poor glycaemic control as well as the development of complications and increased overall morbidity and mortality in these patients. It is therefore important that we institute screening programs to detect depression in these patients and institute the appropriate management in order to curb these outcomes. This would require a multidisciplinary approach and would require a dedicated team effort. The prevalence of Diabetes in Trinidad and Tobago is quite significant. This study highlights the need for development of protocols in our tertiary centres to address this important health concern.

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