



ASSOCIATION ANALYSIS OF DIABETES TREATMENT, GLYCEMIC CONTROL, AND COMPLICATIONS AMONG T2DM PATIENTS IN THE UNITED STATES

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OBJECTIVES

- Given the approval of different anti-diabetes medications, the objectives of this study were:
- To explore the trend of antidiabetic medications utilization
 - To determine the association between antidiabetic medication use, glycemic control, and complications in T2DM patients in the United States.

METHODS

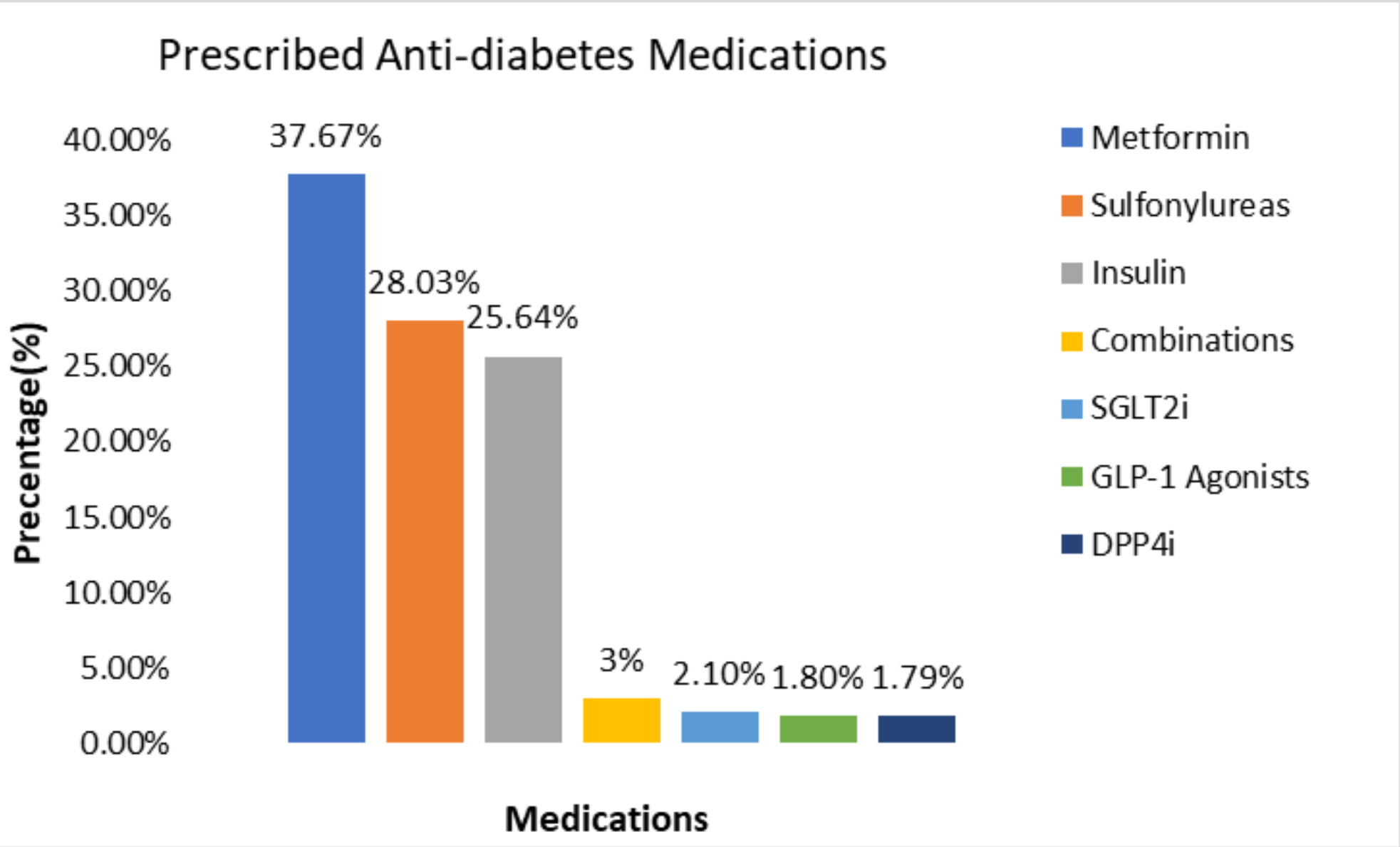
- A Cross-sectional study using the National health and nutrition examination survey (NHANES) database.
- All type 2 diabetes patients who were on antidiabetic medications and interviewed from 2013 to 2018
- The primary outcome was glycemic control and antidiabetic medication utilization
- Kidney disease and retinopathy were evaluated as diabetes-related complications.
- Logistic regression was conducted to determine the association between antidiabetics and glycemic control

RESULTS

- Metformin was the most prescribed medication (38%) followed by sulfonylureas (28%).
- Patients on metformin (21.97%) had good glycemic control.
- Glycemic control did not vary in terms of age while patients of Hispanic origin had higher mean values of HbA1C
- Binary logistic regression found that the likelihood of controlled diabetes was lower in sulfonylurea users 0.319 [95%:0.201-0.506] and insulin users 0.194[0.122-0.308].
- The risk of retinopathy reduced by 30% among females, AOR: 0.675[95%CI 0.485-0.939].
- Patients on sulfonylurea 2.505[95%CI 1.558-4.028] and insulin 5.137[3.227-8.18] had higher odds of retinopathy.

Table 1: Glycemic Control across different anti-diabetes medications

Anti-diabetes Medications	Glycemic control		
	Controlled DM	Uncontrolled DM	Total
Metformin	205 (21.97)	85(9.11)	290(31.1)
Sulfonylureas	144(15.4)	136(14.6)	280(30)
Insulin	105(11.25)	175(18.7)	280(30)
DPP4i	5(0.5)	4(0.4)	9(0.9)
GLP-1 agonists	12(1.2)	13(1.3)	25(2.6)
SGLT2i	13(1.3)	11(1.1)	24(2.5)
Combinations	16(1.6)	9(0.9)	25(2.6)
Total	500(53.6)	433(46.4)	933(100)
Pearson Chi2 = 65.19, Prob = 0.0000			



DISCUSSION & CONCLUSION

- Metformin was the most prescribed medication among type 2 diabetes patients which is comparable with other studies[3].
- The overall level of diabetes control was found to be low
- Sulfonylureas and insulin increased the risk of uncontrolled diabetes and complications.
- It is imperative to optimize anti-diabetes therapy to achieve reasonable level of glycemic control and to minimize complications

REFERENCES

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