

USAGE OF VILDAGLIPTIN AMONG PATIENTS WITH TYPE 2 DIABETES MELLITUS ATTENDING PUBLIC PRIMARY HEALTH CARE CLINIC IN KUALA SELANGOR DISTRICT, SELANGOR



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Introduction

- Prevalence of patients with Type 2 Diabetes Mellitus (T2DM) are increasing; from 13.4% in 2015 to 18.3% in 2019¹
- Concurrently, the HbA1c level findings from the latest National Diabetes Registry are also mainly in the uncontrolled group; with 7.9% to 8.1% respectively²
- Although various studies worldwide demonstrated 0.8% to 1% HbA1c reduction with usage of Vildagliptin, local data audited from several primary care clinics in Kuala Selangor district showed different pattern in real-world patients, to some extent the efficacy of Vildagliptin is conflicting.
- Limited data is available looking into usage of Vildagliptin among type 2 Diabetes Mellitus in suburban area like Kuala Selangor, in which their main residents are among low socioeconomic and low educational group.
- Thus, this study aimed to assess real-life effect of Vildagliptin therapy in reducing Hba1c levels, treatment patterns, and reason for initiating it.

Methods

Study Type and Design	Retrospective cross-sectional study
Study Period	October 2022 until December 2022.
Study Participant	<p>Patients with T2DM on Vildagliptin therapy starting from 2016 until 2021 (noted that Vildagliptin was started in 2016 in Kuala Selangor district).</p> <ul style="list-style-type: none"> Inclusion: Age more than 18 years old, active case within 1 year of study period, patients on Vildagliptin therapy during study period Exclusion: patients with Diabetes Mellitus type 1, patients with incomplete data files
Sample Size	145 patient
Data Collection	Pharmacy Information System (PHIS) and manual records.
Outcomes measure	Usage of Vildagliptin among patients with T2DM attending public primary healthcare clinics in Kuala Selangor District. Besides that, reasons for starting treatment, treatment patterns, demographic and medical characteristic among patients with T2DM receiving Vildagliptin were assessed together with trend of HbA1c among patients on Vildagliptin therapy pre-post treatment.
Data Analysis	Data was analyzed using the SPSS 23.0 version.

Discussion

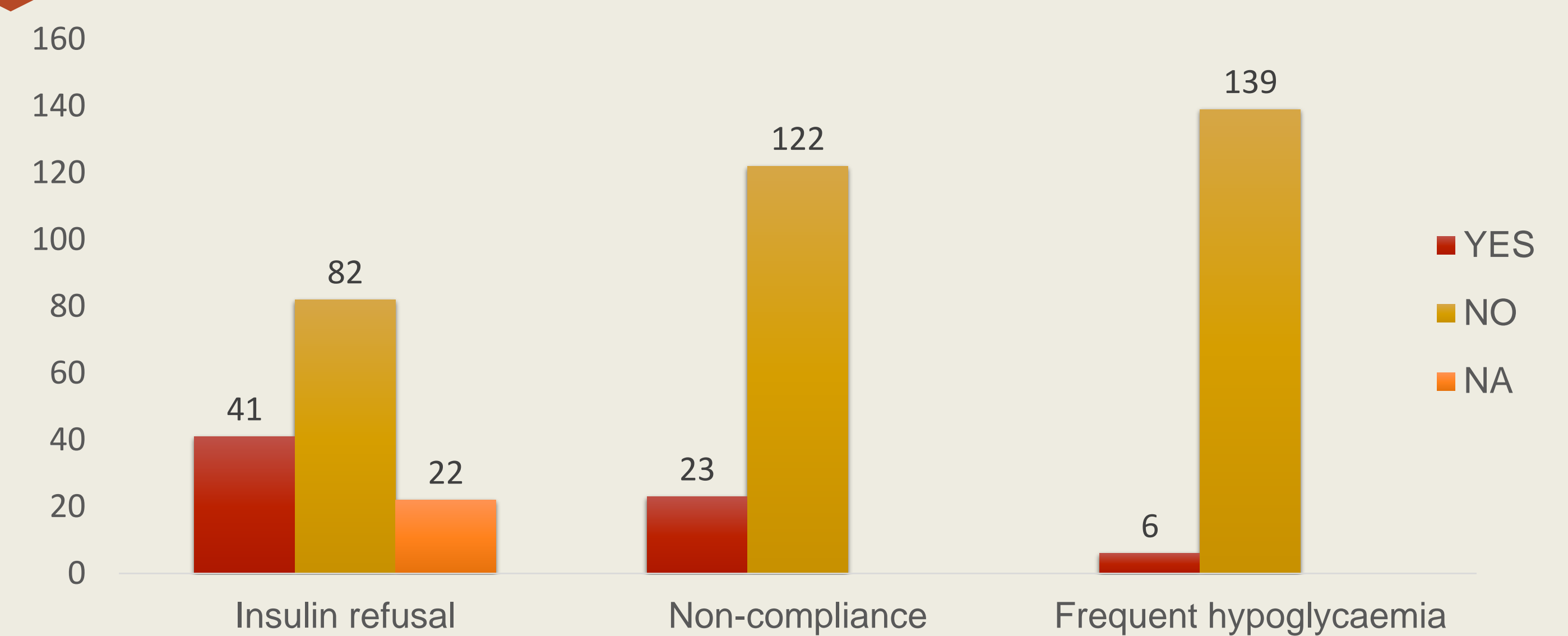
- In total, 145 patients were on Vildagliptin therapy throughout the study period. Demographic data showed that there were **85 females (58.6%), 60 males (41.4%)** with mean age of **61.9 (±10.2SD)**.
- Overall mean HbA1c was improved after Vildagliptin initiation post 6 months of therapy; **0.5 (pre-8.57, post 8.07)**.
- Group of patient with **dual therapy (Metformin plus Vildagliptin)** showed better HbA1c reduction with means differences of **0.82%** compare to other combinations of therapy or vildagliptin alone.
- Reasons for initiation were **insulin refusal n=41, 28.3%, frequent hypoglycemia n=6, 4.1%** and **non-compliance n=23, 15.9%**.
- Statistically, no significant association was found between demographic, medical background, and reason for Vildagliptin initiation variables and HbA1c reduction.

Results

1 Table 1: Trend of HbA1c among patients on Vildagliptin therapy pre-post treatment (n = 145). *OGLD includes metformin, sulfonylureas(SU), vildagliptin

Variables	Mean HbA1c (pre)	Mean HbA1c (post 6 month)
Vildagliptin alone (n=21)	8.57 (±2.51SD)	8.07 (n=17, ±2.42SD) 0.57
Vildagliptin + Metformin (n=63)	8.97 (±2.54SD)	8.15 (n=58, ±1.99 SD) 0.82
Vildagliptin + Metformin + SU (n=60)	7.88 (±1.24SD)	7.55 (n=56, ±1.59 SD) 0.33
Insulin + OGLD* (n=78)	9.25 (±2.49SD)	8.52 (n=73, ±2.04SD) 0.73
OGLD* without insulin (n=66)	7.54 (±1.03SD)	7.08 (n=58, ±1.36SD) 0.46

2 Figure 1: Reason for initiation of Vildagliptin (n=145)



3 Table 2: The association between sociodemographic and clinical characteristics of patients on Vildagliptin and mean HbA1c difference.

Variables	n (%)	df	p-value	
Gender	Male	60 (41.4)	2	0.981
	Female	85 (58.6)		
Age	18-59	54 (37.2)	2	0.683
	> 60	91 (62.8)		
Body Mass Index (BMI)	18.5- 24.9	34 (23.4)	4	0.735
	25.0- 30.0	64 (44.1)		
	>30.0	47 (32.4)		
Ethnicity	Malay	109 (75.2)	4	0.435
	Chinese	16 (11)		
	Indian	20 (13.8)		
Duration of DM	<5	21 (14.5)	4	0.665
	5-10	47 (32.4)		
	>10	77 (53.1)		
Polypharmacy	Yes	137 (94.5)	2	0.2
	No	8 (5.5)		
Numbers of OGLD	1	21 (14.5)	4	0.857
	2	64 (44.1)		
	3	60 (41.4)		
Insulin usage	Yes	79 (54.5)	2	0.562
	No	66 (45.5)		
Presence of comorbidities	Yes	145(100)	0	
	No	0 (0.0)		
Renal impairment	Yes	110 (75.9)	2	0.253
	No	35 (24.1)		
Stroke	Yes	1 (0.7)	2	0.685
	No	144 (99.3)		
Heart disease	Yes	17 (11.7)	2	0.184
	No	128 (88.3)		
Obesity	Yes	50 (34.5)	2	0.797
	No	95 (65.5)		
Hypertension	Yes	137 (94.5)	2	0.939
	No	8 (5.5)		
Hyperlipidaemia	Yes	139 (95.9)	2	0.115
	No	6 (4.1)		

Conclusion

Usage of Vildagliptin should be emphasized to all patients regardless of their background. We suggest adding Vildagliptin as a second line agent after Metformin as it showed greater HbA1c reduction compared to other combinations of therapy or vildagliptin alone.

References

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