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Diabetes-Related Outcomes following Use of Basal-Bolus Insulin Vs Premixed Insulin In a VA Population With Type 2 Diabetes: A Retrospective Chart Review.

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DIABETES-RELATED OUTCOMES FOLLOWING USE OF BASAL-BOLUS INSULIN VS PREMIXED INSULIN IN A VA POPULATION WITH TYPE 2 DIABETES: A Retrospective Chart Review.

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Background

- The complexity of basal bolus insulin (BB) therapy may adversely influence patient compliance.
- Premixed insulin (PM) is simpler and cheaper but is perceived to be less effective in managing diabetes (DM).
- We compared DM-related outcomes between BB and PM insulin regimens among a veteran population with type 2 DM.

Methods

- This is a retrospective chart review that enrolled 140 veterans (70 in each group) with type2 DM.
- Inclusion criteria: Age > 18 years and A1C ≥ 8%.
- Exclusion criteria: Type 1 DM and switching insulin regimen during the follow-up period.
- The included subjects were followed for a year, after starting 70/30 insulin NPH/regular (PM) OR detemir or glargine + aspart, lispro or regular insulin (BB).
- Our primary outcome was change in HbA1c one year of insulin therapy.
- Change in body mass index (BMI) and the rate of hypoglycemia were secondary outcomes
- Data were analyzed using Chi-square/Fisher exact tests and logistic regression.

Variable	Characteristics	Basal Bolus Insulin Group n = 70	Premixed Insulin Group n = 70	P value
Age (years)	-	64.5±10.8	67.0±9.1	0.07
Gender	Female	3 (4.3)	5 (7.1)	0.5
	Male	67 (95.7)	65 (92.9)	
Baseline BMI (kg/m^2)	-	33.0±5.8	32.5±6.1	0.3
Follow-up BMI	-	33.8±5.7	33.0±6.3	0.2
BMI difference	-	0.84±3.1	0.40±2.2	0.2
Baseline BMI Status	Normal (18.5-24.9)	7 (10.0)	7 (10.0)	0.8
	Overweight (25.0-29.9)	14 (20.0)	17 (24.3)	
	Obese (≥30.0)	49 (70.0)	46 (65.7)	
Follow-up BMI Status	Normal (18.5-24.9)	4 (5.7)	5 (7.1)	0.4
	Overweight (25.0-29.9)	15 (21.4)	21 (30.0)	
	Obese (≥30.0)	51 (72.9)	44 (62.9)	
Change in HbA1c	-	-1.9±1.8	-2.1±1.9	0.3
Hypoglycemia	Yes	21 (30.0)	15 (21.4)	0.3
	No	49 (70.0)	55 (78.6)	

Following treatment initiation, there was no statistically significant difference between the BB and PM insulin groups for change in A1c (-1.9±1.8 vs -2.1±1.9%, p = 0.3).

Conclusion

- There were no significant differences in A1c change, rate of hypoglycemia, and change in body mass index in patients treated with either BB or PM insulin among our study population.
- These results suggest that PM insulin is equally effective and safe as BB insulin therapy.
- The use of PM insulin can potentially improve patient compliance and reduce the cost of care.