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# Real-World Data Comparing the Effectiveness of Injectable vs Oral Semaglutide- Association of British Clinical Diabetologist (ABCD) National Audit

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## Introduction

- GLP1a (Glucagon like peptide 1 agonists) is widely used in the management of people with type 2 diabetes.
- Semaglutide is the only GLP-1a available in both injectable and oral formulations.
- Oral semaglutide has demonstrated similar efficacy in HbA1c reduction and weight reduction compared to injectable liraglutide [1].
- Real-world data comparing the effectiveness between oral vs injectable semaglutide is limited. [2,3,4].
- This study compared outcomes between the two preparations in a real-world setting.

## Methods

- Multi-center retrospective observational study from ABCD national audit registry.
- Data collected from 10 centers across United Kingdom from 2019 till 2024.
- Data was analyzed by STATA 18, using linear regression analysis with key variables including age and baseline HbA1c.

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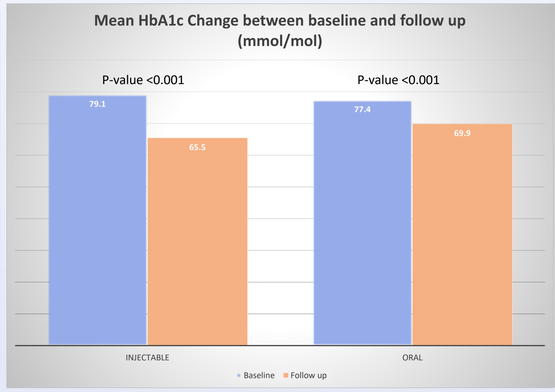
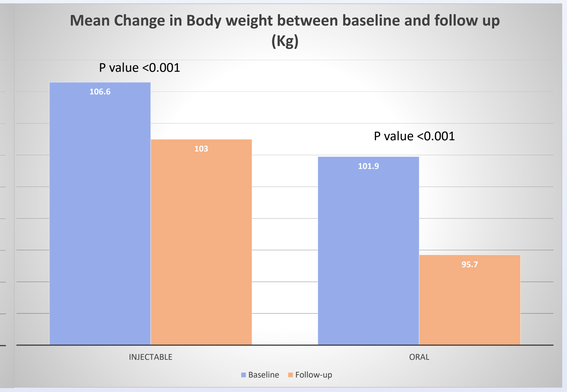
## Results

- 1484 people were on injectable semaglutide group (49.2% female, mean age 58.9 +/- 10.9 years) and 636 people on oral semaglutide group (40.2% female with mean age 58.9 +/- 12.7 years)
- The mean follow-up time was 413+/-342 days in oral group and 180 days in injectable group.
- The injectable semaglutide showed statistically significant greater reduction in HbA1c and total cholesterol compared to oral group.
- The results are summarized in the table 1.0 as below.

| | Injectable Semaglutide group | | | Oral Semaglutide Group | | | Mean difference of change in variables between two groups +/-Standard Deviation (SD) (p-value) |
|---|---|---|---|---|---|---|---|
| | Mean Baseline +/- Standard deviation (SD) | Mean Follow-up +/- Standard deviation (SD) | Mean difference between baseline and follow-up +/- Standard deviation (SD) (p-value) | Mean Baseline +/- Standard deviation (SD) | Mean Follow-up +/- Standard deviation (SD) | Mean difference between baseline and follow-up +/- Standard deviation (SD) (p-value) | |
| **HbA1c (mmol/mol)** | 79.1 +/- 18.8 | 65.5 +/- 16.4 | -13.3 +/- 17.8 **(<0.001)** | 77.4 +/- 18.6 | 69.9 +/- 19.2 | -8 +/- 19.4 **(<0.001)** | -4.07 +/- 1.2 **(<0.01)** |
| **Weight (Kg)** | 107.9 +/- 23.9 | 103 +/- 23.5 | -4.7 +/- 7.6 **(<0.001)** | 101.9 +/- 22.5 | 95.7 +/- 21.7 | -4.7 +/ -8.7 **(<0.001)** | 0.42 +/-0.5 (0.4) |
| **BMI (kg/m2)** | 37 +/- 7.4 | 36.1+/-7.1 | -1.5 +/- 2.1 **(<0.001)** | 35.01 +/- 7.0 | 32.9 +/-6.8 | -1.7 +/- 3.1 **(<0.001)** | 0.34 +/- 0.2(0.06) |
| **ALT (IU/L)** | 30.6 +/-18.7 | 28 +/-16.3 | -2.4 +/- 15.1 **(<0.001)** | 27.4 +/- 14.7 | 24.8 +/- 14.0 | -2 +/- 11.7 **(0.002)** | -0.52 +/- 1.1 (0.63) |
| **Total Cholesterol (mmol/L)** | 4.4 +/- 1.2 | 4 +/- 1.0 | -0.4 +/- 0.9 **(<0.001)** | 4.4 +/- 1.3 | 4.1 +/- 1.2 | -0.2 +/- 1.0 **(0.004)** | -0.1 +/- 0.1 (0.14) |
| **Triglyceride (mmol/L)** | 2.9 +/- 2.4 | 2.4 +/- 1.7 | -0.5+/- 2.0 **(<0.001)** | 3.2 +/- 4.0 | 2.6 +/- 2.9 | -0.6 +/- 2.9 **(0.002)** | 0.2 +/- 2.4 (0.37) |

Table 1. showing the mean baseline and follow-up data of injectable and oral semaglutide and mean differences of post-intervention variables between injectable and oral semaglutide groups (negative values mean injectable is superior to oral)




## Conclusion

- Both oral and injectable Semaglutide groups experienced a reduction in HbA1c in UK real-world setting.
- Injectable Semaglutide was associated with a greater HbA1c reduction.
- These findings support personalized treatment choices based on individual preferences and ability to comply to oral ingestion instructions to ensure optimal absorption of oral formulation.

## References

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