



Evaluating the Effect of Glucagon-Like Peptide-1 Receptor Agonists on Health Outcomes

Charlie Musslewhite

Introduction

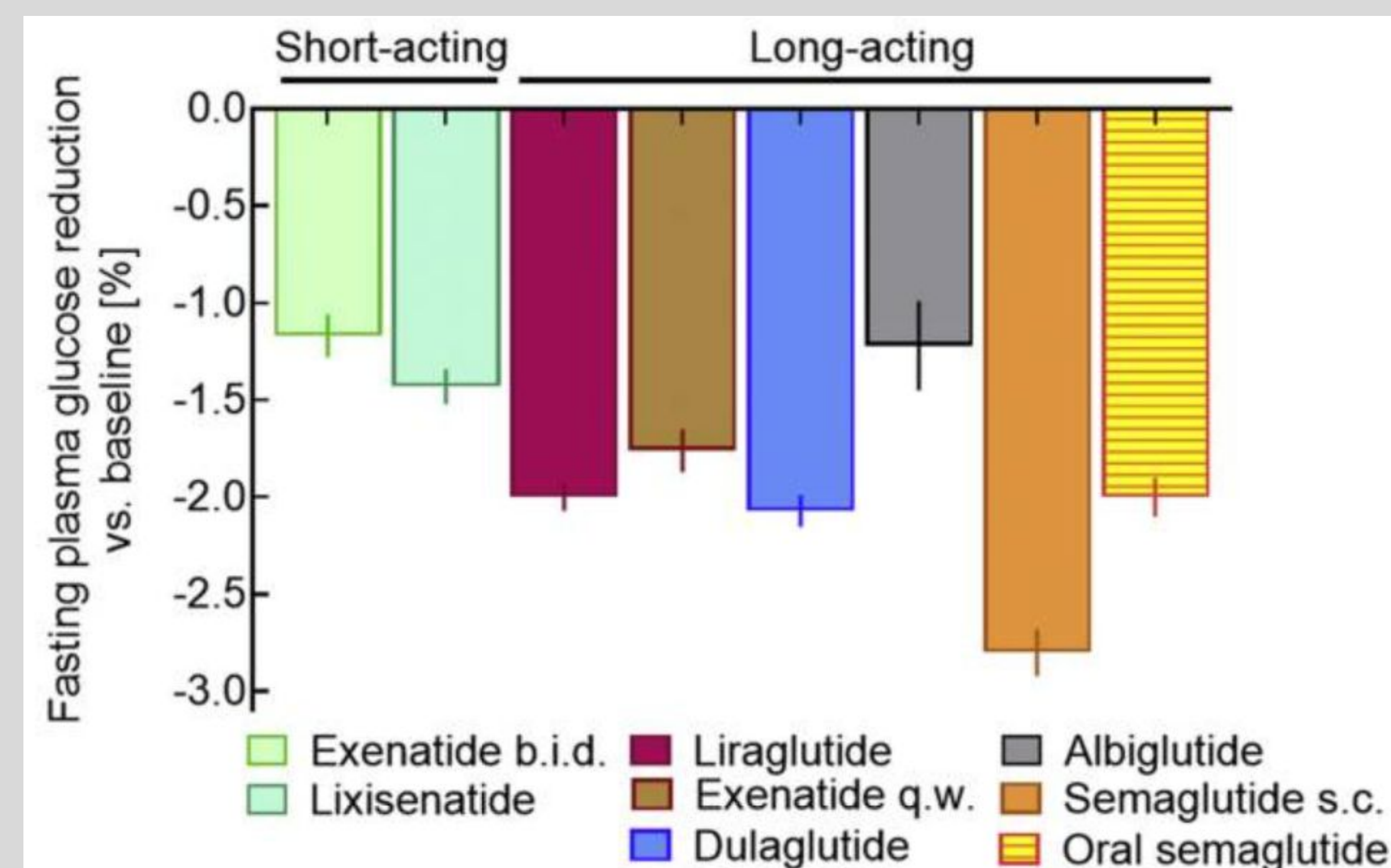
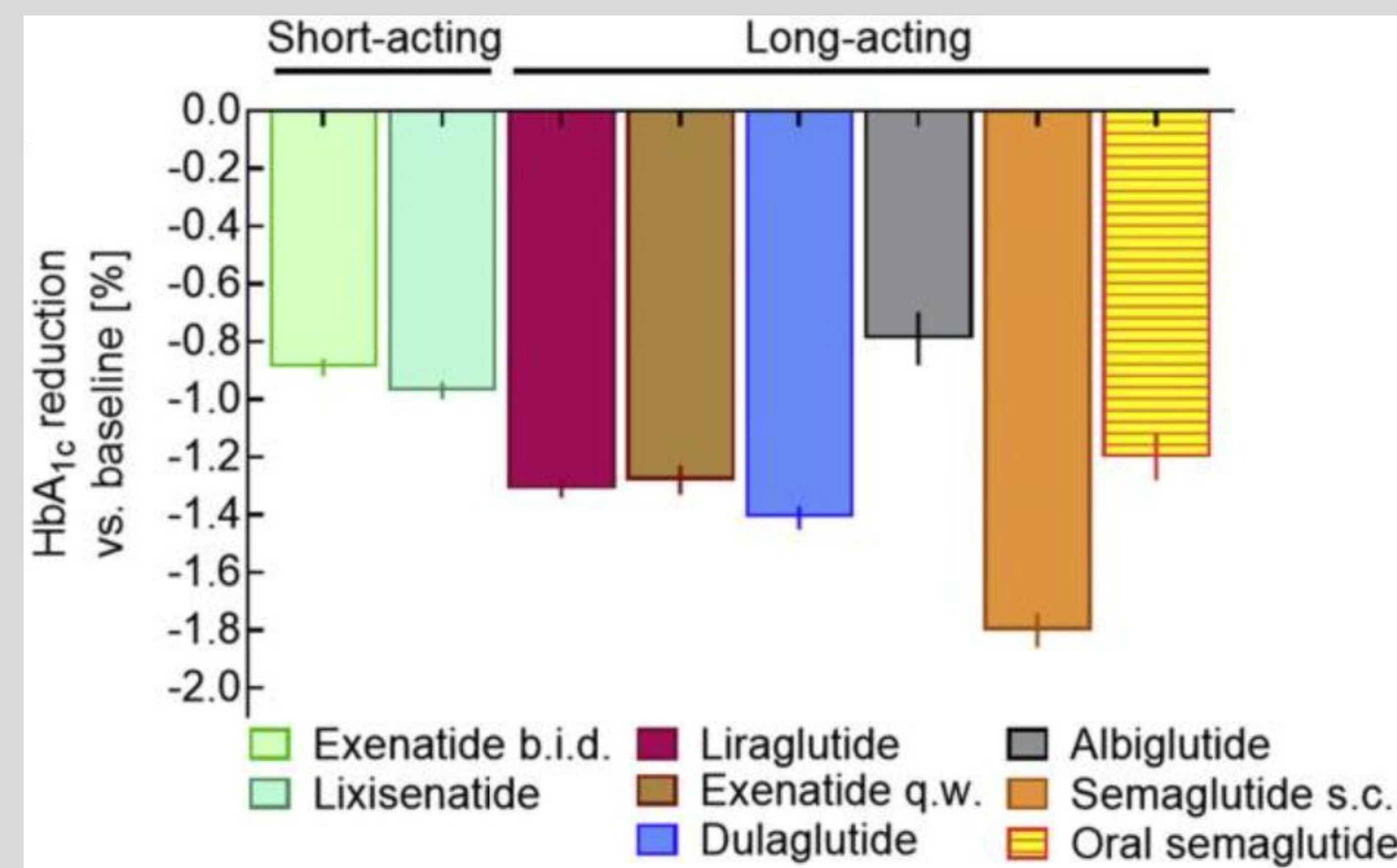
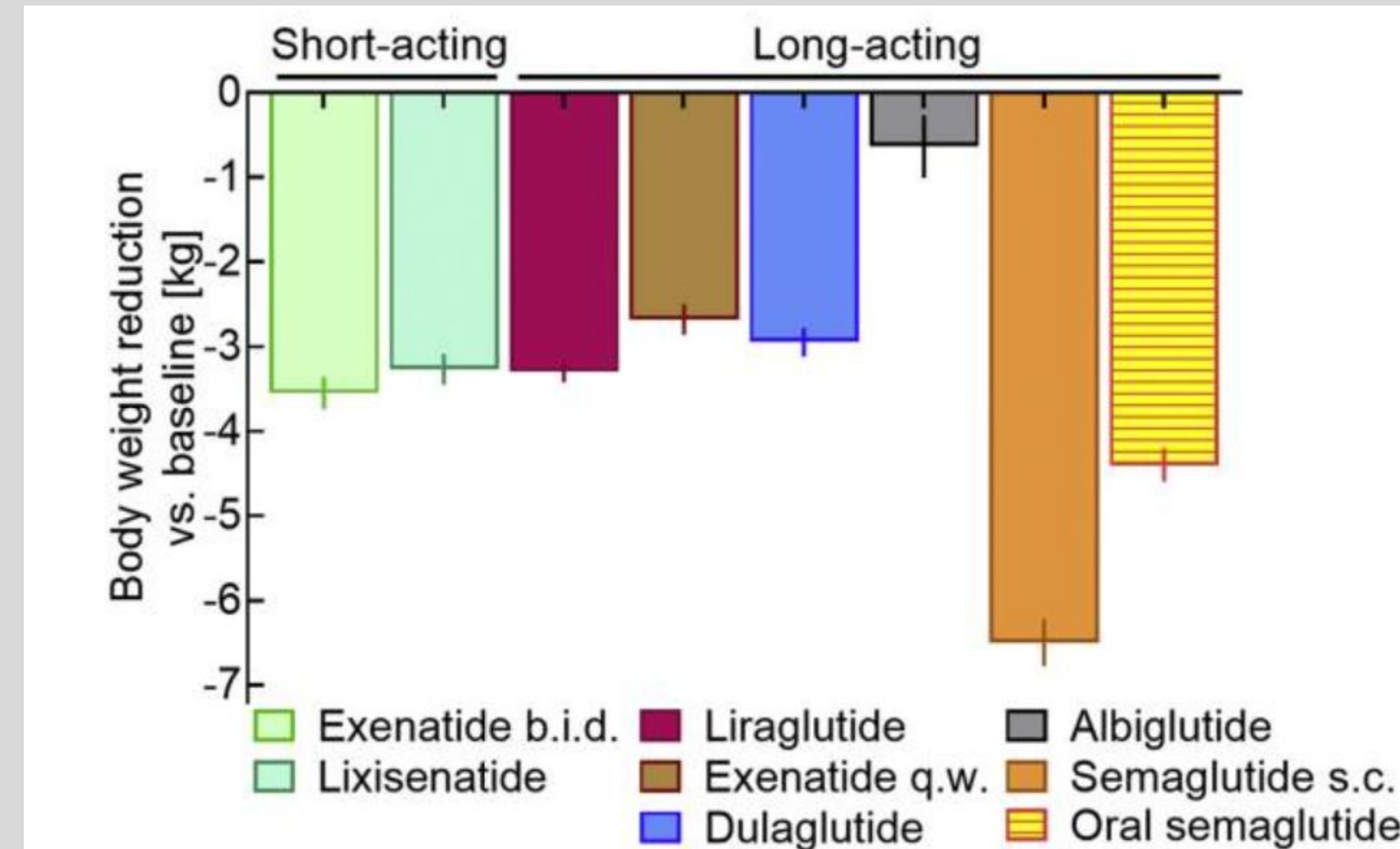
- Obesity and type-2 diabetes mellitus are widespread issues affecting almost half of all Americans today^{6, 12}
- GLP-1s, first approved for treatment of type-2 diabetes mellitus are also commonly used to treat obesity
- GLP-1s regulate appetite and glycemic control

Methods

- Search Engines: PubMed, EBSCOhost and Google Scholar
- Search terms: GLP-1 RA and other variations, Semaglutide, Liraglutide, Tirzepatide, Retatrutide, weight loss, HbA1c, Cancer, Adverse Effects,

Positive Health Outcomes

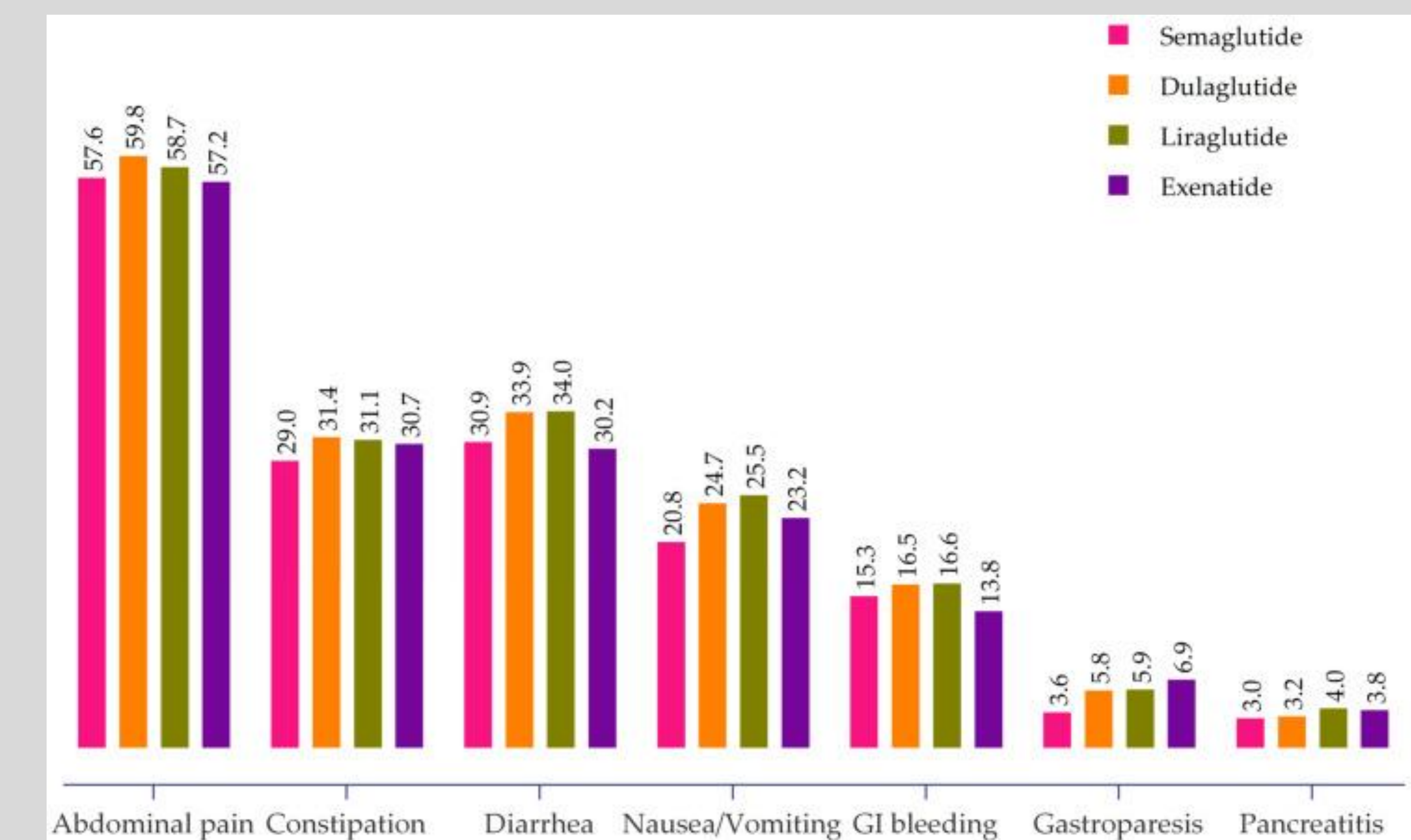
- Significant weight loss^{2, 7, 9-11, 13, 15}
- Fasting plasma glucose and HbA1c improvements^{10, 11,}
- Substantially lowered risk of all-cause death¹⁴
- Effective for weight loss in people without type-2 diabetes mellitus⁹



(Nauck et al., 2020)

Negative Health Outcomes

- Nausea and adverse gastrointestinal effects are common^{1, 4, 8, 9, 13, 15}
- Increased risk of thyroid and colorectal cancer^{5, 16}
- Rapid reversal of weight loss when stopping treatment^{2, 3}



(Aldhaleei et al., 2024)

Conclusion

- GLP-1s are extremely effective in the treatment of both obesity and type-2 diabetes mellitus
- Significant improvements in weight and blood sugar are shown
- Some adverse effects seen in most users
- Effects require maintaining usage

References

