SAFETY AND EFFECTIVENESS OF MORNING VERSUS EVENING ADMINISTRATION OF ONCE-DAILY INSULIN DETEMIR IN PEOPLE WITH TYPE 2 DIABETES: OUTCOMES FROM THE ACHIEVE STUDY

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Achieve, a 24-week observational study in 28 countries, evaluated insulin analogue safety and effectiveness in 66,726 people with type 2 diabetes. This subanalysis investigated outcomes associated with morning (n=2794) or evening administration (bed-time; n=8043) of once-daily insulin detemir ± oral glucose-lowering drugs. People taking detemir with lunch or dinner were not included. Baseline characteristics differed somewhat, mean (SD) age for morning and evening groups being 56.8 (12.1) and 54.2 (11.2) years, diabetes duration 9.4 (7.0) and 8.0 (5.6) years, and baseline HbA\(_1c\) 9.2±1.7 and 9.4±1.6 %, respectively. After 24 weeks, HbA\(_1c\) change from baseline was –1.6±1.7 (morning) and –2.0±1.5 % (evening) (both \(p<0.001\)). Insulin detemir was associated with significant improvements in fasting and postprandial glucose control in both groups (\(p<0.001\)), with no clinically meaningful differences, although pre-breakfast fasting blood glucose reduction was numerically greater with evening administration [–3.9 (3.1) vs. –3.5 (3.7) mmol/l]. Body weight changed by –0.0±3.6 kg (morning) and –0.4±4.0 kg (evening) at 24 weeks. Major hypoglycaemia was uncommon in the 4 weeks before study end (morning 0.00, evening 0.00 events/person-year). Nocturnal hypoglycaemia decreased in both groups in the 4 weeks before endpoint vs. the same period before baseline: 0.26 vs. 0.58 (morning) and 0.36 vs. 0.59 (evening) events/person-year (both \(p<0.001\)). Insulin detemir was associated with significant improvement in quality-of-life parameters including anxiety, self-care, activity and mobility in both groups (\(p<0.001\)). These findings suggest that both morning and evening administration of once-daily insulin detemir provide safe and effective diabetes control in people with type 2 diabetes.