Abstract:

Objectives: User experience was compared between a new pre-fillable 2.25 mL glass syringe equipped with an ultra-thin-wall (UTW) 8 mm stacked needle and a marketed BD Neopak™ syringe equipped with a special-thin-wall (STW) 12.7 mm stacked needle.

Methods: Participants simulated subcutaneous injections with both syringes alone (formative Human Factors study) and in combination with a needlestick-prevention device (validation Human Factors study).

Results: Usability results of both studies showed higher success rates for delivering the full dose of 2 mL viscous solution (30 cP) with the 8mmUTW syringe than with the 12.7mmSTW one (63% vs. 42% in the formative study). The use of the 8mmUTW syringe demonstrated also better ease of use and acceptance results and 72% of formative study participants preferred this new syringe over the current one when delivering the viscous solution. Using a shorter needle also showed a benefit in decreasing the injection-related anxiety. Besides, in the case of a non-recommended injection technique, the calculated risk of accidental intramuscular injection is reduced by 2 to 13 times with the 8mmUTW syringe.

Conclusion: Altogether, the results obtained demonstrated an improvement of the user experience with this new syringe compared to the current one in the manual delivery of 2 mL viscous solutions.

Reference: