The lancet-related NSIs may be eliminated to zero incidence using a SED lancet with effective sharp injury protection and reuse prevention features" An et al (2018).

Abstract:

BACKGROUND: Lancet-related needlestick injuries (NSIs) occur steadily in clinical practices. Safety-engineered devices (SEDs) can systematically reduce NSIs. However, the use of SEDs is not active and no study to guide the implementation of SEDs was known in South Korea. The lancet-related NSIs may be eliminated to zero incidence using a SED lancet with effective sharp injury protection and reuse prevention features.

MATERIALS AND METHODS: We implemented a SED lancet by replacing a conventional prick lancet in a tertiary hospital in a sequential approach. A spot test of the new SED was conducted for 1 month to check the acceptability in practice and a questionnaire survey was obtained from the healthcare workers (HCWs). A pilot implementation of the SED lancet in 2 wards was made for 1 year. Based on these preliminary interventions, a hospital-wide full implementation of the SED lancet was launched. The incidence of NSIs and cost expenditure before and after the intervention were compared.

RESULTS: There were 29 cases of conventional prick lancet-related NSIs for 3 years before the full implementation of SED lancet. The proportion of prick lancet-related NSIs among yearly all kinds of NSIs during two years before the pilot study was average 11.7% (22/188). Pre-interventional baseline incidence of all kinds of NSIs was 7.01 per 100 HCW-years. After the full implementation of SED lancet, the lancet-related NSIs became zero in the 2nd year (P = 0.001). The average direct cost of 18,393 US dollars (USD) per year from device and post-exposure medical care before the intervention rose to 20,701 USD in the 2nd year of the intervention. The incremental cost-effectiveness ratio was 210 USD per injury avoided.

CONCLUSION: The implementation of a SED lancet could eliminate the lancet-related NSIs to zero incidence. The cost increase incurred by the use of SED lancet was tolerable.

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An, H.S., Ko, S., Bang, J.H. and Park, S.W. (2018) Elimination of Lancet-Related Needlestick Injuries Using a Safety-Engineered Lancet: Experience in a Hospital. Infection & Chemotherapy. 50(4), p.319-327.

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