Evaluating methods for the management, use and decontamination of needleless connectors: a qualitative inquiry

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Needleless connectors are essential devices to ensure safe, needle-free connection between vascular access devices and syringes/infusions. This study aimed to explore nurses’ attitudes, techniques, and practices around the care and maintenance of the needleless connectors in their clinical practice, to inform future implementation research.

Methods:
Qualitative inquiry was conducted through seven focus groups of 4-6 participants each in Cancer and Surgical units of a large tertiary referral hospital in Queensland, Australia (January-March 2019). Sampling was purposive, with nurses who had participated in recent clinical trial of needleless connector decontamination invited to participate in study. Focus groups were facilitated by two independent senior clinical nurse researchers. Discussions were recorded and transcribed; content analysis and thematic analysis (guided by Braun and Clarke’s Six Phases) was conducted.

Purpose:
Needleless connectors are essential devices to ensure safe, needle-free connection between vascular access devices and syringes/infusions. This study aimed to explore nurses’ attitudes, techniques, and practices around the care and maintenance of the needleless connectors in their clinical practice, to inform future implementation research.

Results:
Seven focus groups were conducted (n=30 participants); duration of discussions was 16-20 minutes. More females (n=27, 90%) participated than males (n=3, 10%) and the years of experience ranged from 0 to >20 years. Thematic and content analysis derived six major themes: ‘safety and utility’, ‘terminology and technological understanding’, ‘clinical practice determinants’, ‘decontamination and infection’, ‘education and culture’, and ‘research and innovation’ (Figure 1).

Overall, participants had positive attitudes regarding needleless connector use in relation to patient and staff safety, however inconsistencies in understanding and application of practices and products were apparent. There were differences in products and practices, based on location of care delivery or training, however most participants acknowledged the importance of infection prevention and decontamination.

Conclusions:
The findings of this study demonstrated positive nursing staff attitudes towards needleless connector use and decontamination, however beliefs and practice were at times ill-informed. There is a need to standardise education of best practice, based on high level evidence, to ensure staff confidence and improved quality of care.