Background:

Auto-Disable syringes are recommended for immunization because of their greater safety and preventing reuse. In this study, the role of the syringe and needle gauge on the adverse events following Diphtheria, Tetanus toxoids and whole-cell Pertussis immunization was studied.

Methods:

In this study, ١٠٠٠ children from ٢ months to ٦ years of age, eligible for Diphtheria, Tetanus toxoids and whole-cell Pertussis immunization and who referred to ٤ health centers, were randomized into ٢ groups of regular syringe users (the Auto-Disable syringe with a ٢٣ gauge and ٢٥ mm needle) and new syringe users (the disposable syringe with a ٢٤ gauge and ٢٥ mm needle). Adverse events following immunization were evaluated on days ٢, ٤ and ٦ after immunization by visiting the children at their home and examining them.

Results:

The occurrence of the primary endpoint (severe local reaction) was found to be ٢.١% in all the children, ٢.٠% in the children vaccinated with the Auto-Disable syringe and ٢.٢% in the children vaccinated with the new syringe. This difference is not significant (P = ٠.٨١٨). The evaluation of other milder adverse events (secondary endpoints) showed that the syringe type has no effect on the occurrence of these adverse events.

Conclusions:

Syringe types and needle diameter played no role in precipitating the adverse events following immunization of the Diphtheria, Tetanus toxoids and whole-cell Pertussis vaccine.