

Abstract

Background: Ensuring safe injection practice is one of the greatest challenges for healthcare system in developing countries. **Objectives;** to assess the injection safety practices and safe disposal of waste by evaluating knowledge and practices of Health Care Workers (HCWs) towards injection safety at Fayoum University Hospitals, before and after training program, and to determine the incidence of needle stick injuries (NSI) among HCWs. **Method:** A cross-sectional study was conducted at Fayoum University Hospitals from October 2016 to June 2017. Two hundreds HCWs working in eighteen departments were included. Questionnaire was used to collect information about knowledge, and 395 injection opportunities were observed using a standardized observation check list to detect practices of HCWs towards injection safety before and after training courses. **Results:** Significant change in knowledge of HCWs was detected pre and post training intervention ($p < 0.05$). Regarding the practices, significant improvement nearly in all items of observation checklist ($p < 0.05$) were observed: recap needles were reduced from 21% to 13.2%. The incidence rate of NSI was 27/200 (13.5%). Significant improvement in knowledge in all age groups were observed except those over 30 years ($p <$

0.05). While the only improvement in practices score was observed for age group (less than 25years) ($p=0.01$). The best knowledge and practices mean percentage was obtained from neonatology staff ($p < 0.001$), and the poor knowledge ($p < 0.04$) and practices ($p < 0.02$) mean percentage were from internal medicine staff either pre or post training. **Conclusion:** Interventions with educational training courses are found to be effective in improvement of safety injection practices and so the NSI prevention among HCWs. We need to design and implement more educational programs on safety injection, and increase promotion of safety injection posters.

Key words: injection safety, knowledge ,training, HCWs