

Abstract

Surveillance System Evaluation for COVID-19 Vaccine–Associated Adverse Events Following Immunization (AEFI), Sindh Pakistan (2021)

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Abstract

Background: In February 2021, a mass vaccination campaign commenced in Sindh Province in response to the COVID-19 epidemic. An adverse-events-following-immunization surveillance system (AEFI-SS) was established to monitor the adverse events following vaccination.

Objective: We evaluated the AEFI-SS with the aim to identify its strengths and weaknesses and suggest recommendations.

Methods: In May-June 2021, a descriptive evaluation study was conducted in Sindh Province, Pakistan. The Centers for Disease Control and Prevention's (CDC) updated guidelines for evaluation of SS-2001 were followed to measure the qualitative, quantitative, and utility attributes of the AEFI-SS. Key stakeholders were identified based on their involvement in the AEFI-SS and were interviewed. Case investigation proformas for the AEFI were randomly reviewed for data quality, timeliness, and completeness. Sensitivity was calculated. Each attribute was rated as good, fair, or poor based on a scoring legend.

Results: The SS was useful in effectively identifying 7147 cases of AEFIs. Timeliness of all AEFI cases was good and was found to be 100%, as all cases were reported within 24 hours. The World Health Organization (WHO)-approved case definition was used for the identification of AEFI cases and had a simple flow of information. The AEFI-SS was good in data quality and completeness (100%), and data collection tools were filled by trained medical officers. Sensitivity was 100%, and the predictive value positive (PVP) was not calculated due to the absence of a laboratory component. Good representativeness (>80%) of the population was covered by 1004 vaccination centers. The system was found to be stable as resources of the health department government of Sindh were being used. The AEFI-SS was paper based and deficient in a feedback mechanism.

Conclusions: Sindh Province has an appropriate surveillance mechanism for AEFI detection and management for the ongoing COVID-19 vaccination SS. The representativeness can be increased by involvement of the private health sector. Establishment of a feedback mechanism and digital data transformation and integration of the AEFI system with the Expanded Program on Immunization (EPI) are recommended.

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KEYWORDS

surveillance system evaluation; COVID-19 vaccine–associated AEFI

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