

## عنوان مقاله:

Analyzing Resilience in Chemical Industry: A Cross-Sectional in a Process Industry

## محل انتشار:

مجله انسان، محیط زیست و ارتقاء سلامت، دوره 8، شماره 1 (سال: 1400)

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## خلاصه مقاله:

Background: This study aimed at developing and using a semi-quantitative method for analyzing safety resilience in the chemical industry. This cross-sectional, descriptive-analytical study was carried out in ۲۰۱۸-۲۰۲۰. Methods: This cross-sectional, descriptive-analytical study aimed to develop a semi-quantitative method for analyzing resilience based on the Delphi method including ۱۸ experts in chemical and process engineering as well as the health, safety and environment (HSE) engineering. Results: The development of the semi-quantitative method for analyzing safety resilience took place after three rounds of the Delphi study. In this Delphi study, all the members of the experts' panel approved the three components of preparedness, likelihood, and severity with an ۸۰% acceptance level. The results of the field study revealed ۱۳۱ hazardous elements. The maximum and minimum values of resilience were found to be ۵۰۰ and ۱۰۰ belonging to failure in utility and failure in the distributed control system, respectively. Conclusion: The developed semi-quantitative method has acceptable reliability for the analysis of safety resilience in the chemical industry. Therefore, the analysis in the chemical industry can be considered an effective, necessary decision-making instrument for predicting and preventing dangers threatening the process, manpower, and nature of the chemical industry.

## کلمات کلیدی:

Resilience, Safety, Chemical industry, Delphi method

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