

## **Preventing accidents in the offshore Oil and Gas industry: An interrupted time series analysis**

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### **Background:**

Oil and Gas industry suffers from high accident rates because of the dangerous working conditions. Eastern Mediterranean countries have an immature Oil and Gas industry and therefore it is crucial for preventing accidents in this early stage to implement internationally proven successful policies. The aim of this study was to investigate whether the accident prevention policies implemented by Norwegian government in

2001 were effective in reducing accident rates in the offshore Oil and Gas industry.

**Methods:**

Data on the number of accidents, dates and type of facility (fixed or movable) for the years 1999-2006 were obtained from the Norwegian Petroleum Safety Authority (PSA). The effectiveness of the policy to reduce accident rates was estimated in interrupted time series analysis with post-intervention period the 1st of January 2001. Poisson regression was used to model the number of accident per months.

**Results:**

The dataset had 96 months with a median number of accidents per month 6.5 (IQR: 4-10) for fixed facilities and 5.0 (IQR: 3-9) for movable facilities. The analysis suggested that there was a reduction in accident rates for fixed and movable facilities. Following the policy, there was a reduction in accidents of 45% for fixed facilities (rate ratio (RR) 0.55; 95% confidence interval (CI) 0.47-0.64), while for movable facilities there was a decrease of 67% (RR 0.33; 95% CI 0.28-0.39).

**Conclusions:**

The policies implemented by Norwegian government in 2001 were effective in reducing the accident rates for fixed and movable facilities. The immature Oil and Gas industry of the Eastern Mediterranean countries will be benefited from studying and adopting some of the policies implemented by Norwegian government.

**Key messages:**

- Norwegian policies for accident prevention in the offshore Oil and Gas industry were successful.
- Oil and Gas industry of Eastern Mediterranean countries should adopt proven successful policies to prevent accidents.