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Abstract	<p>Each day thousands of workers suffer occupational accidents of varying degrees of severity. Accidents at work render workers incapable of carrying out their day to day activities, either temporarily or permanently, and they also have detrimental effects on family life, the company, and the general public. In order to reduce the occupational accident rate, it is necessary to determine the causes of those accidents. Although there are many different types of accidents, they generally stem from poor working conditions. The purpose of this study was to analyze the influence of working conditions on occupational accidents from data gathered in the VI National Survey of Working Conditions (VI NSWCs) in 2007. This survey utilized a random sample of the active population of Spain. The sample comprised 11,054 people (5917 males and 5137 females). In order to carry out the study, a probabilistic model was built using Bayesian networks. The model included the following variables: hygiene conditions, ergonomic conditions, job demands, physical symptoms, psychological symptoms, and occupational accidents. The study demonstrated that there were strong relationships between hygiene conditions and occupational accidents; it has been shown that poor hygienic conditions duplicate the probability of accident. Physical symptoms increased almost 50% due to poor ergonomic conditions. And finally, high job demands almost duplicated the psychological symptoms. The investigation also showed a high degree of interdependence between physical and psychological symptomatology and the relationship between these and occupational accidents.</p>