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Original Research Article

The Assessment of Perceived Risk of Chemical-related Illness Among Inhabitant Community Adjacent to an Industrial Unit

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ABSTRACT

The perceived risk is assessed in order to conduct subjective evaluation of individual or community of probability of occurrence of accidents, crashes, and way of exposure to the related consequences. Although such estimation may not comply with what it occurs in real situation since this part is totally related to psychological aspect and at the same time it should be incorporated in planning for risk management. With respect to literacy, cultural, and gender levels and beliefs in communities, perception of the probable risk may be followed by some fluctuations. It has been tried in the present project to explore effect of factor of fear of disease on perceived possible risk among the people who live at neighborhood of MDF Manufacturing Companies. To analyze the rate of effect of fear of disease on the perceived possible risk at region and their relationship with demographic attributes including age, gender, education, having children, and employment in factory, the questionnaire with close-end questions of Likert spectrum type was administered. Data were analyzed by SPSS (v.16) and two-sample t-test and Pearson's correlation coefficient and linear regression with ($p<0.05$). Based on the results, out of total respondents 228 persons (79.2%) were males and 60 one (20.8%) were females and among

these respondents 180 members (62.5%) had children. The maximum average age (30-40years) and the highest educational level belonged to high school diploma with 125 members (43.4%) and the maximum annual expenses were estimated (50-100 million Rials).
Keywords: Perceived Risk Assessment, Fear from disease, Perceive risk, Pollution, MDF Industries

Introduction

The field and goal of communication for possible risk is efficient dialogue between all of effective and affective persons in implementation of this project [10]. Various techniques of communications for possible risk may reduce environmental adverse effects and lead to improve level of trust among the interest group, rising reliability, and proper planning for decrease of ecologic destruction and pollutions as well as enhancing level of public health[13]. Analysis on the perceived risk assessment in local community regarding risk is deemed as requisite for communication for the possible risk perception thereby one can reduce environmental destruction by change in behavior of the interest [9]. The main subject is perception of possible risk or public opinion in discussion about risk paradigm and perception of possible risk is intended to execute subjective assessment by individual and community toward probability of occurrence of accidents, crashes, and way of confrontation to the given [8]. However, such an estimation may not comply with what it takes place in reality [5].This part of subject that is totally related to psychological aspect should be embedded into planning for risk management Perception of possible risk may be accompanied to several fluctuations with regard to level of literacy (education), culture, gender, and beliefs in communities [7] This study deals with analysis on perception of the probable risk or public opinion of risks and adverse effects of MDF1 Factories on surrounding natural biologic and human environment. [12]. MDF products are derived from composition of some materials such as primary soft wood along with an aldehyde resin coatin[20].The space of MDF manufacturing factories includes a mixture of wood dust and haze, free formaldehyde[14]., and also particulates that store and convey formaldehyde and resinous fibers and their derivatives by adsorption mechanism[16].And these materials cause serious pollution in ambience due to contents of chemical compounds including phenol urea and phenol form, aldehyde extender[15]., and types of aldehydes and hardener substances. Given these manufacturing companies produce waste materials from this product at scale of tons per day so vulnerability of adjacent communities to such industries should be examined [18]. Formaldehyde is disseminated in air, products, and foods at very low quantity and it is used in industries of woods, construction, and paper production and it may create disorder in respiratory tracts, lung, throat, and eye[19]. The symptoms of high- level exposure to formaldehyde include allergy and burning of eye and nose and discharge of tear, coughing, and spasm in larynx. Similarly, it may be assumed as an allergen for skin that causes inflammation and irritation in skin. Likewise, aldehyde has been characterized as a carcinogen by US Environmental Protection Unit and Cancer Research Institute and it is identified as carcinogen at rank 2A [2]. High dosage of this material is led to more severe disorders, cancer, comma, and sometimes death. Formaldehyde is easily synthetized in environment therefore it may not remain in water for long period [22].The maximum level of formaldehyde existing in air is synthetized over day and night. Formic acid and carbon monoxide are the products from synthesis of formaldehyde [3].

[1] - Medium Density Fiberboard