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THE CONSEQUENCES OF SHARING ECONOMY ON OCCUPATIONAL SAFETY AND HEALTH

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Introduction The object of the study is to clarify the effects of 'sharing economy' and 'platform economy' on occupational safety and health. The argument is that these megatrends challenge present ways to guarantee safety and health for workers. Our modern solution for occupational safety and health has been the welfare state. In this context, the government, the employers and the employees have had their own rights and responsibilities. However, the sharing economy and the platforms (such like Uber, Airbnb, TaskRabbit etc.) as an essential part of it, challenge present ways to guarantee safety and health to the workers.

Methods Literature concerning the sharing economy and platform economy are reviewed and effects of these on occupational safety and health are clarified. Level of awareness concerning the risks caused by sharing economy and platforms in various countries in the field of occupational safety and health is discussed. Further steps which are needed are identified.

Results There seem to be many reasons why risks for unemployment, occupational safety and health are rising in the context of sharing economy and platforms. First and foremost, sharing economy may increase uncertainty and unemployment in the working life. Second, there are many changes related to work. Second, platforms are not employers with their responsibilities. Third, employees lack collective power. Fourth, governments lack resources (tax base) and power (platforms are global) to guarantee health and safety. Of course, we have to remember that new technology may also help us to provide safety and health.

Discussion The system which provides security and safety for the citizens is always connected to changes in economic and social context. Now, the balance of needs for safety and health and means to guarantee them is changing. In order to provide safety and health, we have to renew our strategies to provide them. It is evident that we should consider incentives for the platforms to introduce innovations in the field of safety and health. In addition, since the platforms are global, international co-operation is needed.

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INVESTIGATION AND ANALYSIS OF TINNITUS IN NOISE EXPOSED WORKERS

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Introduction Tinnitus leads to hearing loss, sleeping disorder, upset and affects normal life and job performance. It's a vicious circle. It is worse among noise exposed workers. The investigation was conducted in railway transport equipment manufacturing industry aiming on the cause, treatment, prognosis and impact of hearing level of tinnitus. Expecting to present advice and promote occupational health.

Methods A cross-sectional study was conducted among 1034 workers in face-to-face survey in Beijing in 2016. Substances included social statistics data, occupational history, past history and lifestyle. Data were analysed using SPSS21.0.

Result Tinnitus prevalence in the exposed group was 36.6%, higher than that in the control group (18.8%). In the exposed group tinnitus prevalence of workers without PPE was 41.7%, higher than that of workers with PPE (36.2%). Tinnitus prevalence of workers exposed to high dose was 54.0%, higher than that of low dose (34.7%). In both groups health concern rates were 83.7% and 91.1%, while poor consultation rates were 15.8% and 7.2%. No significant differences of prognosis were observed between two groups. In the exposed group hearing loss prevalence in workers with tinnitus was 67.9% higher than that of workers without tinnitus (49.8%).

Discussion For noise exposed workers, without PPE and directly exposed to noise were main causes of tinnitus. A dose-effect relationship was observed. No evidence approved noise exposing could deteriorate the prognosis of tinnitus. Misunderstanding for the principle and efficacy of tinnitus treatments resulted in low consultation rate. Understanding of masking and retraining therapy help patients adapt to tinnitus. Other measures are necessary such as healthy habits, avoiding overwork and ear health care. There is cause-and-effect between tinnitus and hearing loss. It is recommended that employer should supervise strictly, provide double protection for employee exposed to high-dose-noise and restrict exposing time on the basis of national standards.

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THE ANALYSIS OF INDIVIDUAL FACTORS AND NOISE INDUCED HEARING LOSS

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Introduction Noise exposing is the main reason of NIHL. But even exposed to same noise and time effects are totally different, some workers have normal hearing level, some have minor loss and other may have severe loss. So NIHL is complicated and related to not only working environment but also individual and genetic factors. Individual factors include specific character, behaviour and habits. The study discussed individual factors interfering with NIHL and presented advice.

Methods A retrospective cohort study was conducted among noise-exposed-workers in railway-transport-equipment-manufacturing-industry in Beijing in 2016. Occupational history and individual factors were collected. Data were analysed using SPSS with binary logistic regression(backward elimination).

Result Regression equation was $\text{Logit}(P) = -2.349 - 1.349\text{sex} + 2.700\text{age} + 1.994\text{age}^2 + 1.291\text{age}^3 + 0.736\text{infectious-disease} + 0.086\text{nonce-BMI}$. (likelihood-ratio-test, $X^2 = 4.713$ $P < 0.05$).

$\text{age} \odot p = 0.000$ OR=14.876 95% CI: 5.629~39.319
 $\text{age} \oplus p = 0.000$ OR=7.346 95% CI: 4.222~12.780
 $\text{age} \ominus p = 0.000$ OR=3.638 95% CI: 2.056~6.436
 sex, $p = 0.000$; OR=0.260; 95% CI: 0.137~0.492
 infectious-disease $p = 0.003$ OR=2.087 95% CI: 1.291~3.375
 nonce-BMI $p = 0.011$ OR=1.090 95% CI: 1.020~1.165.

Discussion Individual factors interfering with NIHL were age, sex, infectious-disease and nonce-BMI based on analysis. The risk was arranged in order from high to low. Age was highly related to NIHL though hearing threshold had been revised by age and sex, risk was 3.638~14.876 times of reference group. Aging-hearing-loss and NIHL are too similar in audiogram, deafness classification and symptom to distinguish. So did infectious-disease, such as mumps, measles, epidemic-cerebrospinal-meningitis, rubella, chicken-pox and zoster, *et al.* Nonce-BMI was mildly related to NIHL, risk was 1.090 times. No evidence approved smoking drinking and length-of-service concerned with NIHL, which differed from other researches and should dig further. Good habits are important for occupational health as well as protective measure. It is necessary for employer to do exercising, keep from infectious diseases, maintain reasonable BMI, stop smoking and limit drinking

544 PSYCHOSOCIAL CONSEQUENCES OF DEMONETISATION IN INDIA ON TEA GARDEN WORKERS: A QUALITATIVE STUDY IN 3 DISTRICTS OF WEST BENGAL

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Introduction The existence of a parallel cash-based economy is a major economic and political issues in India. The Government of India in a bid to curb corruption had notified ₹500 and ₹1000 as illegal tender on 8th November, 2016, and asked citizens to deposit the demonetised notes constituting 86% of total money in circulation. Commentators have indicated several hardships of common people including delayed or non-payment of wages, job loss. The tea- industry which employed 1.1 million individuals is thought to be majorly affected. However, there is no study which has assessed the psycho social consequences of demonetisation of tea garden workers (TGW's).

Methods Focus Group discussions (FGD) have been carried out with TGW's of 3 districts- Jalpaiguri, Alipurduar, and Coochbehar. In depth interviews (IDI) have been conducted with district and labour administration (4), tea garden managers (3), TGW's (6), Tea garden doctors (3), psychosocial counsellor (2), bank manger (1), worker's union (1). Semi-structured topic guide would cover- experiences of demonetisation, job satisfaction, self esteem, insecurity, absenteeism, physical discomfort, addiction. An iterative approach would be taken modifying the topic guide during the course of the study. Data would be analysed based on the general guidelines of grounded theory. Multi step data analysis includes data reduction, coding and identification of dominant themes. Ethics approval has been acquired.

Results So far interaction has identified some negative psychosocial consequences due to fear of less productivity in coming seasons, drop in prices and wages and loss of job, uncertain future and migration. However, the complete results of the study will be available by 30th August 2017.

Discussion The results of the study will provide evidence on the psycho-social consequences of TGW's in relation to the job-insecurity and economic loss, if any, due to demonetisation, may contribute in future policy formulation.

566 EVALUATION OF QUALITY OF LIFE AND ANNOYANCE IN THE CONTEXT OF LIFE MONZA PROJECT

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Introduction The LIFE MONZA (*Methodologies fOr Noise low emission Zones introduction And management*) project aims to assess a methodology for the management of the Noise Low Emission Zones (LEZ), that are urban areas subject to traffic restrictions. The impacts of noise pollution will be analysed in the pilot area of the Municipality of Monza, partner of the project together with the Higher Institute for Environmental Protection and Research (ISPRA), the University of Florence and a private company. A relevant objective of the project concern the analysis of the effects of the introduction of the Noise LEZ on the people's well-being conditions, through the use of proper health indicators.

Methods After an analysis of the literature, we have proposed the use of the WHOQOL-Bref questionnaire for the evaluation of quality of life (QOL), that is the only tool that has a specific environmental domain. The limit of the physical space available in the general LIFE questionnaire has led us to select five main questions to be administered. Since annoyance is set of subjective feelings, its detection is normally carried out through questionnaires, but none of them is an authoritative and validated one. Consequently, we have developed a survey instrument of four questions.

Result The administration pre-post (before and after the interventions) of the nine multiple-choice questions described above and, optionally, of the WHOQOL-Bref would provide a comparable objective score of the residents' QOL and an estimate of the potential role of the structural changes on it.

Discussion The project intend to update the state of the art about the evaluation of QOL and annoyance. There is a wide literature regarding QOL evaluation as well as related tools of investigation. The scientific production regarding annoyance is more limited but the recent increasing of publications about this issue underlines its topicality and the need for further researches.

661 ERGONOMIC DESIGN INTERVENTION TO AMELIORATE EXPOSURE TO VIBRATION DURING USE OF HAND-HELD VIBRATING TOOL FOR STONE-POLISHING ACTIVITIES IN UNORGANISED SECTOR

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Introduction Use of hand-held vibrating tools like drill machines, polishing machines etc. are very common in unorganised sectors where users recurrently encounter occupational vibration. Vibrational energy is transmitted from the vibrating hand-tool to human body primarily through hand-arm and affects from early fatigue to irreversible hand injuries. In the present research, design modification of a hand-held stone-polishing tool was done from ergonomics and industrial design perspective to reduce transmission of vibration and improving usability.