Burden of Occupational Accident and Injury in South Nation Nationalities and Peoples Regional State of Ethiopia.

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Toxicology Occupational Medicine

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Burden, occupation, accident, injury, small and medium manufacturer, Employments
Abstract
Background: Burden of occupational accident and injury is the impact of a health problem in an area measured by premature mortality and morbidity. Poor OHS practice is one of huge public health, economic and social problems. There is a dearth of studies describing the burden of OAI. However, this study has determined the burden of occupational accident and injuries in Southern Ethiopia in January 2011 - December 2015.

Method: Retrospective descriptive study design was used to analysis administrative data. All data were available in the database. A total of 215 OAI reports was identified from recorded data base. Reports have been collected from SMSM. All accidents and injure report format were observed. Data entered and cleaned using EPI Info version7 statistical software and were analyzed with SPSS version 20.

Result: In this study revealed an increasing magnitude of OAI over three years of 65% were found. But, next two years data were declining. More OAI occurred in male (83.3 %), probation period (48.8%) and daily laborers (67.4%) and 57.7% during morning and 35.8% evening time. The seven hundred twenty one leave days and Eighteen thousand six hundred ninety nine Ethiopian Birr paid 62 permanents employments. Causes of OAI 20.9% hand tools, 17.2%, falling & slippers, 11.2% collision, 10.2% miss handling, 6.5% relate to transport, 1.4% fire and explosive, 3.3% splinters, only 0.9% work related mistakes. A location of accident and injuries on 6% eye, 33% upper back, 43% lower back of body. A type of OAI 51.6% abrasion, 3.3% ear injury, 0.5% death, 15.3% cuts, 9.8% piercing, 1.4% punctured, 7% fractured and 7.4% dislocation.

Conclusion: The findings of this study revealed an increasing magnitude of OAI were found. Basic educational level, probation period, daily laborers, working during the morning and evening time more injure and accidents. Upper and lower back were highly affected body part. Abrasion, cuts, piercing, fracture and dislocation were observed as a common type of OAI. Therefore, interventions should be on a basic educational level, probation period, and daily laborers, working morning and evening time.

Background
Occupational health is a promotion and maintenance of the highest degree of physical, mental and social well being of workers in all occupations according to the International Labor Organization (ILO) and World Health Organization (WHO). But, most African countries are noted for poor Occupational Health and Safety (OHS) practices, including sub-Saharan countries [1]. Inappropriate OHS practice is one of huge public health, economic and social problems in developing countries. Occupational health complication, work-related injuries and illnesses are multi factorial and remain major problems of public health, frequency requiring the attention of multi-stakeholder’s collaboration.

ILO global estimates, poor OHS in each year, more than 2.3 million deaths at work, 350,000 deaths are due to fatal accidents and almost 2 million deaths are due to fatal work-related diseases, more than 313 million workers are involved in non-fatal occupational accidents causing serious injuries and absences from work [2]. Of those burdens, 80% of the global load of occupational disease and injury (ODI) were from developing countries [3]. And the risks are estimated 20 times higher than in developing countries. In Africa, including Ethiopia, the rates of industrial and occupational injury-related deaths and disabilities are on the rise. Though, the ILO estimates that four per cent (1.2 trillion dollars) of global Gross Domestic Product (GDP) is lost due to Occupational Accidents and Disease (OAD). This is mainly inefficient and unimplemented Occupational Health and Safety Policy (OHSP), lack of training on safety procedures and no continuous monitoring and evaluation employments safety [4].

The current Ethiopian government rapid agricultural lead industrialization development policy has brought a developmental change in the workplace. OHS is the fastest growing program in Ethiopia.

Ideal legal opportunities are available related to occupational health and safety. Of this, Labour proclamation Nu.377/2003, OHSP, Federal democratic republic of Ethiopian constitution article 42/2, ratified ILO convention 155 and convention 161 and occupational Safety and Health Directive are enforcing hazard prevention and promotion of health and protection of the worker against sickness, disease and injury arising out of his/her job by giving the right to reasonable limitation of working hours, recommended employer shall take any necessary measure to safeguard adequately the health and safety [5, 6, 7, 8, 9 and 10]. Minster Of Labor and Social (MOLS) and Regional Labor and Social...
department have implemented Occupational Accident and Injure (OAI) recording and reporting format to gather and analysis occupational accident and work related injuries. But still now have limited information about the burden of OAI in study area and a little attention was given to Small and Medium Scale Manufacture’s (SMSM) including informal sectors and had led to the numerous OHS practices issue. Despite of this, there were limited occupational accident and injure load information in SNNPRS, Ethiopia. Therefore, this finding tries to show the burden of occupational accident and injure due to poor occupational health and safety management system.

Methods
Study area and period
This study was conducted in the SNNPRS which is the third largest administrative region of Ethiopia, representing about 20% of the country's population. It is the most diverse region in the country in terms of language, culture, belief and ethnic background. Administratively the region is divided into 18 zones, 1 capital city administration and 7 special Woreda.

South Nation Nationalities People of Regional Labor and Social department (SNNPRLSD) current estimated total of 20,891 SMSM industries. In addition, in the region have two large Industrial Parks in Hawassa and Sidama Zone. In this manufacturing industry have estimated total of 170,741 employments and working according to the Ethiopian Federal Democratic Republic of Ethiopia Labor proclamation. Of those employments, 86,006 were males and 84,735 were females.

Study design:
The retrospective descriptive study design was used to analysis administrative data

Study Sample Size And Sampling Procedure:
All data are available a data set in SNNPRS Bureau of Labor and social department in labor relation main core process. Have a completed total of 215 occupational accidents and injures reports in the data set. Those occupational accidents and injury report have been reported from different SMSM industries between January 2011- December, 2015. The OAI report format was observed from each year’s report. Non-completed data were excluded from analysis. Each organizational report format contains a type of manufacture, employment, socio- demographic status, working condition, occurrence occupational accidents and injuries, work related injuries, location of accident and level of
manufacturing industries. Data processing and analysis: - data entered and cleaned using EPI Info version 3.5.3 statistical software, were analyzed with SPSS version 20. Descriptive statistics were performed to summarize data. Categorical variables, frequency distribution, percentages and figures were used and continuous variables was checked for normality using histograms, box plot or scatter plot, and mean and standard deviation were presented for normality distributed variables.

**Operational Definitions**

**Employment**
A person who is directly involved in the process of production and has an employment relationship with an employer [5].

**Probation period**
A person may be employed for a probation period for the purpose of testing his suitability to posts in which he is expected to be assigned within forty-five (45) consecutive days [5].

**Day laborers**
employments who are working for daily wages, especially as a less skilled laborer

**Occupational accident:** an unexpected and unplanned occurrence on the employments with work and work related event [10]

**Occupational Injure**
An employment who is physically damaged during work time in the workplace and work related occurrence [10].

**Small-scale industry**
any industry that uses power driven machine and engaging 10 or more employments [11]

**Medium scale industry**
any industry that uses power driven machine and engaging 10 or more employments [11]

**Work-related injury**
a condition sustained by a worker in connection with the performance of his or her work [5, 6, 10]

**Results**
Burden of occupation accident and injure among in Small and Medium manufacture industries in SNNPRS. OAI five years secondary data was reviewed. All total of five years completed data was 215 occupational accidents and injuries and report was reviewed to show the burden of occupational accident and injury.

**Socio-demographic Characteristic**
A total of 215 occupational accident and injury report was reported from small and Medium scale manufacturing industries. Work related occupational accident and injury report documents were reviewed for administrative documented. Of those, 83.3% were male’s employments. The mean age with a standard deviation of the employment was 31.2 ± 10.12. Near to half, 44.7% and 43.3%, of them belonged to the age group of between 18–29 and 30–41 years respectively. One - tenths, 9.8% were at between 42–53 year age groups. More than one- third of, 35.8% were unable to read and write. Almost one third of, 34% were grade one up to grad six levels. Only, 16.7% were grade seven - twelve completed. Only, 7.9% were graduated by TVET (Technical and Vocational Education and Training) and 5.6% were diploma and above. Regarding to service years near to half, 48.8% were probation period employments. Near to one- tenth of, 9.78% occupational accident work related disease occurred after probation period between 45 days up to 11 months and 29 days. According employments service years only, 5.1%, and 6.5%, of employments had between 1-5 year and 6-10 service years respectively. More than one fifth of, 16.6% between 11–15 service years. Only, 4.2% employments were served more than fifteen years. Employments categorized according to job titles and working condition near to three - fourth, 67.4% were daily laborers. One- third of, 32.6% were permanently employments. Based on occupational classification, 28.4% agricultural department, 26.5% Industrial department and 39.5%, were Industries daily operators respectively. According to monthly salary more than half, 63.7% had a monthly salary less or equal 600 Ethiopian Birr. Near to one -third of, 31.2% had a monthly salary between 601–1650 Ethiopian Birr. Only, 2.8% had between 1651–3200 and 2.3% were above 3201 Ethiopian Birr (Table 1).
| Characteristics        | Category                  | Number | Present |
|------------------------|---------------------------|--------|---------|
| Sex                    | Male                      | 179    | 83.3    |
|                        | Female                    | 36     | 16.7    |
| Age                    | 18–29                     | 96     | 44.7    |
|                        | 30–41                     | 93     | 43.3    |
|                        | 42–53                     | 21     | 9.8     |
|                        | More than 54              | 5      | 2.3     |
| Educational level      | Reading and writing (basic skills) | 77         | 35.8    |
|                        | One – sex grads           | 73     | 34      |
|                        | Seven- twelve grads       | 36     | 16.7    |
|                        | TVET certificate           | 17     | 7.9     |
|                        | Diploma and Above         | 9      | 5.6     |
| Service years          | Probation period          | 105    | 48.8    |
|                        | 45 days- 11 months and 29 days | 21        | 9.78    |
|                        | 1 year- 5 year            | 11     | 5.1     |
|                        | 6 year-10 years           | 14     | 6.5     |
|                        | 11 years-15 years         | 25     | 16.6    |
|                        | More than 16 years        | 8      | 4.2     |
| Job titles of employments | Day laborers              | 145    | 67.4    |
|                        | Permanent                 | 70     | 32.6    |
| Occupational classification | Agricultural worker      | 61     | 28.4    |
|                        | Industry, transport department | 57          | 26.5    |
|                        | Industries daily operators | 85    | 39.5    |
|                        | Others                    | 12     | 5.6     |
| Monthly salary         | Less or equal 600 Ethiopian Birr | 137      | 63.7    |
|                        | 601-1650 Ethiopian Birr   | 67     | 31.2    |
|                        | 1651-3200 Ethiopian Birr  | 6      | 2.8     |
|                        | Above 3201 Ethiopian Birr | 5      | 2.3     |

Burden Of Occupational Accident And Work Related Injuries

From last five years data set of occupational accident and injury data shows that near to one- fifth of, 16.7% accidents occurred in 2011, one- fourth of, 25.1% in 2012, near to one- third of, 30.7% in 2013, one- fifth of, 20% in 2014 and 7.4% in 2015 years respectively. This means an increasing magnitude of occupational accident and injure over three years (16.7%- 30.7%) interval between 2010–2013 increases by 65%. But, next two years data were declined by 30.7% of occupational accident and injury. Of that accident more than half, 57.7% accidents and injuries occurred at morning time. Only 6.5% of occurred afternoon and almost near to one- third of, 35.8% had occurred during evening time. The seven hundred twenty one (721) leave days were given due to occupational accidents and injure for only, 62 permanents employments. On this one-fourth of, 28.8% were permanently employments. Near to three- fourth of, 71.2% employments had not given leave days. Day laborers were excluded from leave day due to occupational accidents and injury related illness. Eighteen thousand six hundred ninety nine Birr and twenty- four cent (18699.24) paid for leave days due to
occupational accidents and injury. Of those, 29.9% had paid a monthly salary for employments due to occupational accidents and injuries (Table: 2)

Table 2
Occupation accident occasion and work related disease.

| Characteristics                  | Category                        | Number | Present |
|----------------------------------|---------------------------------|--------|---------|
| Years of accident occurred       | 2011.00                         | 36     | 16.7    |
|                                  | 2012.00                         | 54     | 25.1    |
|                                  | 2013.00                         | 66     | 30.7    |
|                                  | 2014.00                         | 43     | 20.0    |
|                                  | 2015.00                         | 16     | 7.4     |
| Time of accident                 | Morning                         | 124    | 57.7    |
|                                  | Afternoon                       | 14     | 6.5     |
|                                  | Evening                         | 77     | 35.8    |
| Number of leave days             | Permanents (721 days)           | 62     | 28.8    |
|                                  | Not given (Daily laborers)      | 153    | 71.2    |
| Salary paid for leave days       | Salary paid (18699.24 Birr)     | 60     | 29.9    |
|                                  | Nat paid                        | 155    | 70.1    |

Cause of occupational accidents and work related injuries last five years
Base in OAI report format last five years causes were reported from SMSM manufacturing center to Regional Labor and Social department SNNPRS Ethiopia. Of that reported cause one- tenth, 10.7% of accident causes by machines. More than one- fifth of, 20.9% hand tools related event. Near to, 17.2% accident causes by falling & slippers. More than one- tenth 11.2%, caused by collision with different object, one- tenth of, 10.2% miss handling, 6.5% relate to transport, 1.4% fire and explosive, 3.3% splinters, only, 0.9% work related mistakes of workers. Some causes, 1.5% are caused by electricity, animals and acid and hot substance. But, 13.5% belongings were reported as other cause (Fig. 1)

Location of injuries occur due to occupational accidents and injuries last five years.
The above graph shows a location of accident and injuries occurred in different body part. Of this only, 6% of occupational injuries occurred on a body part of the eye. One third of, 33% had occurred an upper back of the body. Near to half, 43% accident and injuries occurred lower back part of the body. Only, 6% were occurred others part (parts of the head except the eye and ear). Almost, 5% were occurred on central body parts. Near to, 5% of injuries occurred an others part of the body not stated (Graph 1).

Type of Accidents due to occupational accident last five years
Graph 2: Type of Accidents due to occupational accident last five years report from Labor and Social department in South Nation Nationalities and people regional State Ethiopia
Above graph two shows a type of accidents and injuries occurred on the employments result of work and work. Of this, more than half of, 51.6% were abrasion, 3.3% were ear injury. Only 0.5%, of death was reported in last five year report. Near to one-fifth of, 15.3% were cuts different part of the body’s. Near to one-tenth of, 9.8% was piercing. Only, 1.4% was punctured. Near to 7% and 7.4% were fractured and dislocated respectively. Few of, 2.8% were eye-Injury and 1% was reported as others body of employments who were injured different type of body parts (Graph 2)

Discussion
My study was aimed to give a baseline data for the study area and similar region in the country while as we know that an employments, everywhere face chemical, physical, biological, mechanical, ergonomically and psychosocial hazards. Therefore, the burden of occupational disease and illness is the impact of a health problem in an area measured by premature mortality and morbidity. This study attempted to assess the burden of occupational accident and injury in SNNPRS, Ethiopia

In this study, the magnitude of male employments was, 83.3% who were occurred occupational accident and injure due to their working condition. In line this finding, Bureau of labor statics United State of America two years statically reports show 92.5% were male’s employments [12]. Others similar study shows that status, occupational injuries among male workers were higher than female workers [13]. A study done in the U.S. Bureau of Labor Statistics prevalence of fatal injury was 92.5%, this means women experienced a higher proportion of fatal injuries due to exposure to harmful substances and environments relative to men [14]. Male incurred a higher proportion of incident and injuries from work and work related occupation like abrasion, ear-injury, cuts, Piercing, Punctured, Fractured, dislocation, eye-injury and even death of employments as the result of falls, slips, and trips; and contact with objects and equipment

Another key finding was educational level, 35.8% were attended basic educational levels like reading and writing and, 35.8% attended grade one up to grade six levels respectively. Skills and educational levels are gradually rising in the product, quality of work and makes profitable. But, in this finding low level of education was observed and increased occupational accident and injury. Less skilled employments were highly involved in small and medium manufacturing industries in the study area.
Low skill levels more occupational accident and injuries were occurring. In this education level, employments may not read and easily understood procedure of work, not obeyed occupational health and safety policy rule and guideline of safety manuals. Even, in this levels employments may not well awarded about occupational accident and injury. As a result of those, they are employing unfavorable working condition and working environment without using personal protective equipment’s. In this fact employer highly instruct them to use personal protective equipment, give continues on job training, supervise them to follow work rule procedure and encourage improved employment educational levels.

Another key finding was probation period employments accident and injury. The main purpose of a probationary period is to provide a period of time whereby a new employee establishes by conduct, performance and attendance, fitness for a permanent appointment in that particular post. The employments who were serving during probation period were highly exposed to occupational accidents and injury as compared to permanent employments. The magnitudes of probation period, 48.8% employments were exposed to occupational accidents and injury. According to Ethiopian labor proclamation 377/2003, the maximum probationary period is only 45 days. As my understanding this probation period is very short because employment cannot survive working condition and working environment. During in this period employee is not suited to a particular position; termination of employment within the probationary period is quite often a quick, suitable and lawful outcome. In this short probation period employments may not focus on occupational health and safety police and culture. Employments use their full potential to fit given work only. This Ethiopian legally ground of the probation period is very short as compeer other similar countries (15, 16). Even, this period employments may not survive working environment

One important finding of this study was the identification daily laborers rates of occupational accident and injuries. The proportion of daily laborers occupational accident and injure was found to be 67.4%. This finding indicated that a large percentage was found as compared to permanent employment rates (32.6%). According to the labor proclamation, contract of employment shall be demand formed where a person agrees directly or indirectly to perform work for and under the authority of an
employer for a definite or indefinite period [5]. In this study occupational accident and injury rate was higher because of the employer may not formulation contract employment. In this reason employments may not get safety training and safety materials according labor proclamation. The administrative data source report was used to determine and describe the burden and distribution of occupational accident and injury in southern Ethiopia between 2010-2015 years. The findings of this study revealed an increasing magnitude of occupational accident and injury over three years (16.7%- 30.7%) interval between 2010-2013 after three years data was declined (20% – 7.4%). Over the three years period increases by 65% occupational accident and injury cases was founded in this study. But, last two years data showed minimization of accident and injuries. Possible explanation may be in last two year’s reports may not be complete. Even if in this year’s data may be under reporting, poor data copulation and recording system and miss reporting system was observed.

In this study, duration of working time was identified. For men and women and across all young age groups, there was an elevated risk of work-related injury or illness in the evening, night and early morning periods in all administrative data sources. At morning time, 57.7%, evening time 35.8% and afternoon, 6.5% occupational accident and injuries were occurring. Most of the accidents occurred between 9:00 AM and 12 AM at morning time, and the lowest number of accidents happened between 3:00 PM and 9:00 PM during the afternoon. In the line this study done in Kermanshah 77% accidents occurred in the morning shift [17]. Like in previous study [18], most accidents occur in the morning, with injuries, focusing on the lower and upper part of the backbone, and in the presence or absence of general use safety equipment. Possible explanation may be during morning time most of employments start their work without checking machine process, without using personal protective equipment’s and tries to use full potential. Also, may assented daily laborers without safety orientation.

Another key finding was number of leave days and amount salary paid due to occupational accidents and injury. Among those proportions of, 28.8% were Permanents employments. The economic impact was estimated seven hundred twenty one leave days was given due to occupant injured and accident and eighteen thousand six hundred ninety nine Ethiopian Birr paid for leave days due to occupational
accidents and injury. This finding is shown only direct cost of employment and employer. In line this study economic loss due to accidents and unsafe working conditions 1.25 trillion USD per year, which is equal to 4% of global GDP was lost [19]. Not only this, but also employment bears the greatest costs, including pain and suffering, and loss of capacity to work. Estimation of my finding is only permanent employment. Do no considered daily laborers leave day and injure day salary because of considering as daily laborers. Employers may recognize daily employments have no labor relation according Ethiopian labor proclamation and considering safety practice are not implemented on day laborers. But, the legal ground of labor proclamation 377/2003 article 92 sub article 2 imposed employer to take appropriate steps to ensure that employments were properly instructed and notified concerning the hazards of their respective occupation and the precautions necessary to avoid accident and injury to health, ensure that directive are given and also assign safety officer, establish an occupational health and safety committee [5 and 10].

Another finding was a cause of occupational accidents and work related injuries. Any industrial, manufacturing sectors shall take appropriate pre-execution to insure that all the processes of work shall not be a source of cause of physical, chemical/biological ergonomically and psychological hazards. A major factors related to occupational accident and injuries were found from this study, 20.9% hand tools, 10.7% a machine, 17.2%, falling and slippers, 11.2% collision with objects and 10.2% miss handling and 13.5% were reported as other. Possible interpretation may be during working period employments may not recognize work related environmental hazards and poor occupational health and safety culture. A reason may be a lack of safety training, lack of awareness, not using personal protective equipment’s, lack of occupational health and safety police in manufacturing industries and some may be personal factors like substance abuse and other factors.

One important finding was observed. Location of injury and illness due to occupational work and work related. Among of those back pain is a common health problem in the workplace and some workers are expected to experience symptoms of back pain during their working life. The prevalence rate of lower and upper back pain found to be, 33% and 43% respectively. This finding inline argument study done World day for safety and health at work in 28 April 2015 Upper and lower back bone
musculoskeletal disorders represent 40 per cent of global occupational and work-related injuries and diseases [2]. In South-eastern part of Ethiopia study done 43.9% [21]. Possible interpretation may be more of factory employments were daily laborers due to this reason employer may not give safety device, non-availability workplace safety regulation material, lack of safety training and employment may not obey obligation according Ethiopian labor proclamation 377/2003 [5, 10].

In this study only, 6% eye injury was reported last five years. This is in line with studies done in Uganda 6% [22] and inconstant within Ethiopia in Gondar town 8.2% and in Arbaminch town 35.7% [23 and 24]. The lowest rate of eye injury was reported on this finding. This may be reported only online injury and accident during work site. Under reporting, miss recording system may be present in the manufacturing sector. Even if after reporting hard cup document may not be linked to databases.

Types of accidents and injuries occurred due to occupational accident and work related injuries. Among of those, highest rate of abrasion was absorbed due to work and work related environment. In this finding magnitude of abrasion was, 51.6%. This finding is higher than that of study done in Bahir Dar town 42.6%, [24], in Arbaminch town 39.6% [23], In Gondar town 16.8% [22]. But, in similarly setting in Amhara Regional labor department report point toward that level of abrasion was, 62.5%, this is indicated almost similar status in this finding [25]. And followed by 15.3% cuts, 9.8% piercing, 7.4%, dislocation and 7% fracture. Only, 0.5% death was reported. Ethiopian Federal, Democratic and Republic Minster of Labor and Social department and Regional labor department Administrative data shows abrasions, cuts, burns, puncture, and fracture were the common status of injury and accident types among manufacturing industry workers. From this study lowest death report was reported. This death report shows only on site death report, this may not include home and hospital death

Limitations
In this study have limitations, lack of hospital admission result and medical cost, lack instrumental measurement result, environmental determinant factors and social- demographic characteristic like marital status

Conclusion
The findings of this study revealed an increasing magnitude of occupational accident and injuries over
the three years increases by 65% of occupational accident and injure were found. After three years last two years report shows decline. From this study basic education level, probation period, daily laborers, working during the morning and evening time higher injure and accidents were observed. Upper and lower back body were highly affected body part. Abrasion, cuts, piercing, fracture and dislocation were observed common type of occupational accident and injury. Seven hundred twenty one leave days and Eighteen thousand six hundred ninety nine Birr paid for leave days due to occupational accidents and injury. Therefore, interventions should be on a basic educational level, probation period, and daily laborers, working during the morning and evening time. In addition to developing safety culture on the work place, delivery, continuous health and safety training and on job safety orientation and safety device.

Abbreviations

| Abbreviation | Description |
|--------------|-------------|
| ILO          | International Labor Organization |
| WHO          | World Health Organization |
| OHS          | Occupational Health and Safety |
| ODI          | Occupational Disease and Injure |
| GDP          | Gross Domestic Product |
| OAD          | Occupational Accident and Disease |
| OHSP         | Occupational Health and Safety Policy |
| MOLS         | Minster Of Labor and Social |
| RLS          | Regional Labor and Social |
| OAI          | Occupational Accident and Injure |
| SMSM         | Small and Medium Scale Manufactures |
| SNNPRS       | South Nation Nationalities and People Regional State |
| SNNPRSLSD    | South Nation Nationalities and People Regional State Labor and Social Department |
| TVET         | Technical and Vocational Education and Training |

Declarations

Ethics Approval And Consent To Participate

The study protocol and permits were obtained from the SNNPRS Bureau of Labor and social department from labor relation core process unit of occupational health and safety case team.

Consent For Publication

Not applicable, no individual detail is presented.

Availability Of Data And Materials

All relevant data are available within the manuscript and selected relevant administrative datasets analyzed during the current study available from the corresponding author.

Competing interests

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Figures
Figure 1 shows Cause of occupational accidents and work related injuries last five years.

Figure 2 shows Location of injuries occur due to occupational accidents and injuries last five years.
Figure 3

Type of Accidents due to occupational accident last five years