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Profiling of Morbidity Pattern among Industrial Workers Admitted in Social Security Hospital, Lahore

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ABSTRACT
Industries however stay one of the greatest possessions for the sparing development of any nation of the world. A ton of critical studies have been made by the department of health however much stays to be carried out with respect to a lot of people fold potential and known perils for the modern specialists. To determine the morbidity pattern among industrial workers admitted in hospital. 2) To study occupational health safety practices in different industries.3) To study socio demographic determinants of morbidity pattern among industrial workers. A cross-sectional study was conducted among the Industrial Workers admitted in a Social Security Hospital in Lahore. An anonymous survey with100 participants by convenient sampling was conducted. Data was analyzed by using SPSS 21. Among 100 participants, 99were male and one was female. Out of 100, 34 were skilled laborers while 26 were workers with heavy machinery. Seventy-Eight were those whose factory had safety policies. Forty-Nine percent were not provided with safety devices by the factory. Seventy-eight percent had no periodic health examination.13% had fracture and 11%had hernia. Thirty-five among 100 thought that their illness is related to their work. Safety work practices were found to be very poor as practices were either not provided by the employer or the workers were not aware of it, resulting in increase of morbidity of the workers. The health education and safety trainings were missing from most of work places.
KEYWORDS: *Occupational health, Morbidity, Industry, Laborer, Safety practices*

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INTRODUCTION

Work-related hazards lead to as well as give rise to this rapid passing away of mil on the people throughout the world & cause not well wellness as well as disablement of vast sums a lot more on a yearly basis. The burden of condition by picked work-related possibility aspects figure to 1.5% dangers on the world-wide burden in terms of DALY. The planet wellness survey 2002 areas work-related possibility because the tenth leading cause of morbidity and fatality. Almost twenty-two. 5 mil DALY and 699, 000 deaths usually are because of these kinds of possibility aspects. Based on the survey, do the job linked traumas lead to virtually 310, 000 deaths on a yearly basis, and virtually 146, 000 deaths usually are attributable from the place. Exactly WHO accounts that will work-related possibility aspects account around the world for many morbidity disorders including: 37% rear cramping, 16% reading reduction, 13% of serious obstructive voice condition, 11% of asthma, 10% of traumas, 9% of lung cancers and 2% of leukemia [1]. Every 5 second a worker in USA is injured and every 10 second a worker is temporarily or permanently disabled [2]

According to the WHO report 2002, which addressed selected occupational risk factor in Asia Pacific Region for 2000, an estimated 189,000 deaths annually were attributable to injury related risk factors, 72000 deaths to work exposure to carcinogens, and 171,000 deaths to airborne particulates. These risk factors, plus noise and ergonomics stressors, attribute about 16 million DALYs lost in 2000, which were about two thirds of the world total. The occupational economic sectors dealing with hazards are regrouped into three broad categories comprising agriculture, industry and services based on the United Nation classification system. In terms of types of disease or injury that caused fatalities, cancer, circulatory system disease, accidents and violence are the most common causes. [1]

It is well known that healthy workers are more productive. The introduction of hazardous technologies in industry and agriculture has resulted in high accidents rates, occupational diseases, and unhealthy working environments. Most workers are illiterate and don't know what protective measures should be adopted. This ends up in an increasing toll of work-related accidents and diseases. Government data in 1999 showed that 1934 industrial accidents occurred in factories registered under the factories Act 1934. Large numbers of illiterate workers are employed informally in unregulated sectors like construction, mining etc., especially in small enterprises. Woman and children are especially vulnerable as they usually work informally, and have no access even to basic occupational health and safety protection. Working hazards are similar in other hazardous industries like textile, tanning, chemical, and paper etc. In addition, tanneries waste liquid contaminates underground water making it danger for workers and the resident's health. The prevalence of cyanosis is very common in Spinning and Textile workers of Pakistan. A cross sectional study conducted which revealed that among 362 textile workers the prevalence of Cyanosis was36.5%low education level and work in the spinning section of the mill appeared to contribute to the high prevalence of this occupational disease in Pakistan[3]

Brick kiln workers are scattered across all four provinces of Pakistan. According to a labor department source in Punjab province there were 500 registered brick kilns against 1,900 unregistered. The total number of workers was estimated at more than 100,000. Brick components cause lungs infections, skin problems, backache, and eye allergies. The potential risk factors for occupational injuries include younger or older age, lack of experience or systematic trainings, poor working conditions, long working hours, job stress, fatigue, shift/night work, poor sleep, undesirable lifestyle like smoking, drinking, lack of physical exercise, plus scanty safety resources and irresponsible staff to provide safety to the workers[4]The researches demonstrated that work force in the weaving department of textile industries are at the high risk of developing hearing loss and other associated ailments due to greatcontact with sound. Individuals usually are over exposed to sound along with generally there. is the little protection adopted by them? It also shows that noise intensity levels and exposure for the long duration leads to deafness. The efforts should be focused towards reducing the noise pollution generated at the source by the modifications in existing technologies. [5]

PILER conducted surveys in three industries which revealed that machineries are out dated and workers unaware of the procedures. Exploding boilers (105 were registered) killed hundreds of workers in paper industry 1998-2000. Trauma is the one of the leading causes of presentation to the surgical emergency and one of the increasingly common causes of trauma is industrial occupation. Industrial injuries are only a constant threat to its workers but also constitute a considerable surgical emergency work load and such injuries pose a challenge to all surgeons. The objective is to enlist predisposing factors and pattern of injuries in industrial trauma. This descriptive study was carried out from Jan 2006- Dec 2007 in west surgical ward Mayo Hospital, Lahore. One hundred patients aged >12 years with industrial trauma were included. The patient injured in some previous accidents and having amputation or surgical procedure done, were excluded. The pattern of injuries such as musculoskeletal 59%, abdominal 19%, vascular 9%, eye 8%, chest 4% and head injury 1% were recorded. It is concluded that injuries sustained by workers may be prevented by proper working techniques and conditions together with wearing of protective gadgets.[6]

This study is aimed to identify the occupational morbidity's epidemiology, to determine health consequences of work place exposure and to make remedial efforts, when indicated.

MATERIAL AND METHODS

Study population: The study population was comprised of all the industrial workers availing the social security services but out of this population no other patients were included in the study.

Study sample and sampling method; The study sampling was comprised of 100 patients admitted to Punjab Employee Social Security Hospital Lahore. The sample was purposively taken by using non probability sampling i.e. convenience sampling technique with take all approach was used to identify the study subjects. The sample size was supposed to be distributed proportionally to all the indoor units of hospital, which was operationally not possible as certain units have a smaller number of patients as compare to the others. Structured interviews were being conducted with the patients during the months of July and August, 2016.

Inclusion Criteria

Patients were taken who were admitted to indoor units of Social Security Hospital Lahore, registered with social security network and working in an industry.

Exclusion criteria

Patients who were admitted to indoor units of Social Security Hospital Lahore, but not working in an industry. Parents, siblings, spouse and children of those registered with social security network admitted to Social Security Hospital Lahore but not working in any industry.

Data Collection instrument;

Data collection was done by using structured questionnaire comprising of close ended questions covering all study variables.

Analysis; Data was entered on SPSS version 21 and frequencies and percentages of various variables were determined.

RESULTS

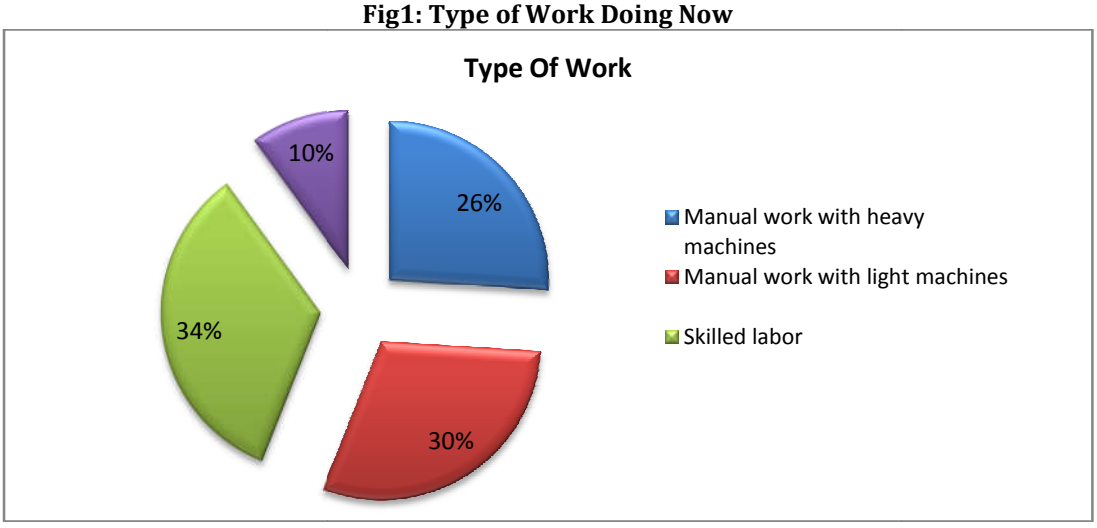
Demographic characteristics: The sample for this research is comprised of 100 patients in different units of social security hospital Lahore, including medical, surgical, cardiology, orthopedic and urology. The age range of respondents of the study was 19-64 years, admitted to above- said units. Majority of patients were of middle age group i.e. 31 to 40 years of age. Male- female ratio of the respondents was 99% to 1%.It's obvious through the confidently skewed distribution old in the individuals that since the age of the staff increases the morbidity raise as well, which is often resulting from the ignorance connected with mild sign and symptoms connected with unique work associated medical concerns in the first age group that's why pilling the dark final years staff in to the medical center. The other demographic characteristics of patients show that a lot of the morbid industrial workers are illiterate (23%), while (29%) were those who were intermediate passes. Most (93%) of them are carrying the responsibility to support their family as they are living a married life. (83%) of respondents having 5 or above household members. It is an interesting finding that though the government has fixed the minimum wages up to Rs. 9000/month but still in this small sample 22% were having income 7,000-10,000/-. Most of them 39% fall into lower income group whose monthly income is ranging from 11000-15000.

It was found that being the only tertiary care/teaching hospital of social security services it is serving a wide geographical spread, particularly in central Punjab, including Multan, Lahore, Sheikupura, Laiyyah, Jhang, Faisalabad, Kasur, Sialkot and Gujranwala. Still the most prominent catchment area is Lahore, particularly those areas of Lahore.

Work and Working Environment;

It is evident from the figure given below, that a number of pie (26%) is being availed by those who are doing Manual work with Heavy Machine category of people working in different industries. Since this category is relatively more prone to accidents and occupational hazards, hence getting benefit out of social security services [fig. 1].

Fig1: Type of Work Doing Now



The other findings have shown that most of patients (43%) are working in the same profession/industry for the last 5 to 12 years. Those who are working less than 4 years were 25% and those who are working more than 12 years were 32%. Similarly, when they are asked about their previous work history, 58% denied any of such experience, meaning thereby that either they are working in the same industry since they started working, or are newcomers to the occupations. Mostly (69%) were working in fixed duty, and 31% work in shift or rotation duty including morning, evening, and night. Despite of getting wages

lower than the lowest limit, 50% are working for 6 to 8 hours daily, and another substantial portion (44%) are working even for 8 to 12 hours.

Table 1: Work Related Characteristics of Respondents& Safety Practices at Work

Characteristic	Frequency (100)	Percentage (%)	Characteristic	Frequency (100)	Percentage (%)
Working in same factory			**Factory have any safety policy/ guidelines at work place**		
01-04 Years	25	25	Yes	78	78
05-12 Years	43	43	No	22	22
13-20 Years	18	18	**Any safety instructions prior to work**		
21 Years or more	14	14	Yes	75	75
			No	25	25
Previous Experience			**Conducted at the time of your induction at factory**		
01-04 Years	10	10	Yes	55	55
05-12 Years	20	20	No	45	45
13-20 Years	10	10	**Type of training conducted**		
01-04 Years	02	02	Machine operation	14	14
No Previous Experience	58	58	No training	40	40
			Training on safety & protection	34	34
Type of Work			Training of respective work	12	12
Manual work with heavy machines	26	26	**First aid treatment facility in factory**		
Manual work with light machines	30	30	Yes	76	76
Skilled labor	34	34	No	24	24
Unskilled labor	10	10	**Provided with any protective / safety devices at work place**		
			Yes	51	51
Type of Duty Hours			No	49	49
Shift / Rotation	31	31	**Type of safety device**		
Fixed Duty	69	69	First aid kit	18	18
Duty duration			No material provided	50	50
Less than 6 hours	04	04	Protective wearing	32	32
6 – 8 hours	50	50	**Go home in the same clothes wearing at the work place**		
8 – 12 hours	44	44	Yes	61	61
More than 12 hours	02	02	No	39	39
Over time			**Factory have any emergency alert / alarm system**		
Yes	18	18	Yes	71	71
No	82	82	No	29	29

Twenty two percent patients informed that there is no safety policy or guidelines available in their workplace and 25% were not given any safety instructions while going to work. Though, the induction training is supposed to be necessary element after recruiting to any work environment, 45% did not have such training at the time of induction. The training given at time of induction can be categorized to machine operating training, training of their respective work, training related to safety and protection. 24% respondents did not even have a First Aid kit at their work place. 51% of them were provided with some kind of protective device or wearing at their work place, which includes gloves, helmets, special clothes, goggles, etc. But then it was interesting 61% used to go back to their homes in same clothes that were worn at the work place, hence carrying hazardous exposure with them to their homes. In the work place, where 29% respondents were working, there was no emergency alarm or alert system present.

Morbidities among the Workers:

It is moral, ethical, and legal binding to all employers to provide health services or at least an opportunity of periodic health examination to their workers, but it is very unfortunate that 78% of workers have no access to such services. Only 22% have gone through periodic health examination. Obviously, this violation would have resulted in morbidities which lead to mortalities among industrial workers. So when the patient was asked that what their current illness is, their response was in different signs and symptoms and in their understanding of the illness. As the data collectors were medical students, the current illnesses were grouped meaningfully and systematically summarized in the following table. It was found that injuries and fractures have surpassed all (13%), The known occupational hazards were also found to be affecting workers suffering from Asthma (2%), Typhoid fever (10%), ischemic heart disease (6%), Inguinal Hernia (11%), paralysis (4%), CLD (3%), Varicose Vein (4%), Cholilithiasis (4%) and renal stone diseases (3%).

When the respondents were further probed regarding their illness, it was found that 35% consider their current illness is related to their work or occupation. Nearly same proportion 27% has been previously admitted to the hospital for the same disease. 27% have history of other chronic diseases, diabetes, hypertension and hepatitis. 6% of respondents were also suffering from some kind of disability in almost all cases. 2 respondents out of 6 informed that their disability was due to some work-related accident. Illness related findings are summarized in the following table.

Life Style: When they were inquired about few of the life styles habits, it was found that 37% of them were smoking and 19% out of smoker's smoke at their work place. It was found that 07% of them were taking drugs & it was found that 5% of them consume alcohol. 19% have never done any kind of physical activity other than their work, and those who are doing it regularly (26%) are usually opting for sports, jogging or gym.

Table 2: Illness Related Characteristics& Lifestyle Characteristics

Characteristic	Frequency (100)	Percentage (%)	Characteristic	Frequency (100)	Percentage (%)
Any periodic health examination, conducted by employers			**Smoking**		
Yes	22	22	Yes	37	37
No	78	78	No	63	63
Illness is related to your occupation/work			**Smoke at work place**		
Yes	35	35	Yes	19	19
No	60	60	No	81	81
How long suffering from this illness			**Take any drugs**		
Less than 1 month to 1 month	40	40	Yes	07	07
More than 1 month to 12 months	40	40	No	93	93
More than 1 year	12	12	**Consume alcohol**		
More than 10 years	08	08	Yes	05	05
Previously admitted to hospital with same illness			No	95	95
Yes	27	27	**Smoke free envir in the factory**		
No	73	73	Yes	68	68
History of any other chronic disease			No	32	32
Yes	27	27	**Any physical activities**		
No	73	73	Regularly	26	26
Suffering from any disability			Sometimes	55	55
Yes	06	06	Never	19	19
No	94	94			
Reason of this disability			**Type of physical activity**		
By birth	0	0	Sports	14	14
Childhood disease	0	0	Jogging	11	11
Road side accident	3	3	Gym	02	02
Work related accident	2	2	Walk	3	3
No disability	95	95			

DISCUSSION AND CONCLUSION

Occupational hazards cause and contribute to premature death of millions of people worldwide and result in illness and disability of hundreds of millions more every year. The burden of disease from selected occupational risk factors amounts to 1.5% of the global burden in terms of DALY. The World Health Report 2002 placed occupational risks as the 10th leading cause of morbidity and mortality. Around 22.5 million DALY & 699,000 deaths are accountable to these risk factors. According to a study, work related injuries cause nearly 310,000 deaths each year, & around 146,000 deaths are alleged from the region. WHO reports that occupational risk factors account globally for a number of morbidity conditions including 37% of back pains, 16% of hearing loss, and 13% of chronic obstructive lungs disease, asthma, 10% of injuries, 9% of lung cancer, and 2% of leukemia.This specific examine is surely an endeavor a great perception to the morbidities one of the professional employees the industry much less expensive learnt inhabitants on this framework. However, the societal safety measures program comes with a comprehensive system all over Pakistan however there isn't any severe effort to gather and also examine files of the people availing these types of companies, even though like endeavor may result in really valuable findings not to solely grow and also reinforce that system instead to know the work atmosphere. Your necessarily mean get older connected with abnormal employees has been regarding 41 decades, offering facts that the younger outdated employees are often dismissing their own ailments but not confirming to the program, or these are not really properly conscious of the actual companies. Also, a very scanty quantity of woman's affected individuals are mind boggling, since the woman's employees with Pakistan will be increasing together with each and every passing evening but seemingly these are not really staying given suitable wellbeing companies in addition to their own some other perform connected exploitations.

Most qualified and also unskilled labor will be uneducated, posing an extra menace to stay badly informed about their own work-related safety and health. This specific being exposed is additionally indicated within their month-to-month profits, due to the fact staying illiterate they are often badly informed of the actuality also they are staying settled a lot less than the actual preset minimal salary from the government. Our own census files and also other time for you to occasion studies suggest of which majority of labor employees will be operating as qualified labor in the profession and maybe they are far more at risk of the actual morbidities also and also the discovering will be based on these types of information as all day and. 2% affected individuals belongs to the group of Manual Help hefty systems. Protection techniques at the office area had been found for being inadequate as almost all of the techniques had been often not really supplied by the actual supervisor or the actual employees weren't conscious of it, both equally techniques resulting in improve connected with morbidity of the employees. Your building block connect either like techniques would be the supply connected with routine wellbeing examination of the actual employees and that is not really presented at most connected with areas, therefore indicating the means connected with screening and also monitoring at the office area is totally ignored. This education and learning and also basic safety instruction are absent through nearly all of perform areas.

Since goal inhabitants has been belonging to any tertiary attention educating hospital, hence the mentioned abnormal employees returned through virtually all physical systems. Nevertheless, as it has been talked about previous of which significant employees in the profession sits to Manual Help Heavy Equipment, it really is returned within their morbidity as well. Your accidental injuries and also accidental injuries coupled with bone injuries would be the significant morbidity they've lived with, instead the situation connected with disability identified from the examiner also needs to become mentioned from the exact same category.

RECOMMENDATIONS

- Periodic checkups should be done of laborers
- Training of laborers should be done at intervals
- In case of emergency, alarms and first aid should be available in industries
- Smoke free environment should be provided in industrial areas
- The worker should be provided with protective devices such as gloves, work dresses, glasses, helmets, ankle heights etc
- Government should modify the industrial laws for the protection and healthcare facilities of workers

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