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Short Communication

The pandemic and its impact on occupational health and safety among mechanical engineering industries in India

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ABSTRACT

Workplace health and safety has been of paramount importance for any nation and the stakeholders-authorities, employers and workers – must have reasonable sensitization for the same. During the COVID 19 pandemic, lots of policy formulations and regulations had to incorporate within the industries for the health and welfare of the workers. The "new normal" will take some time for adjustments, challenges and implications to be implemented effectively and consistently. Certain processes in the workplace, especially in the mechanical engineering companies, are likely for high close contact incidences. Special situations pertaining to workers" health, like crowded accommodations, travel risks as well common canteens, all need to be reconsidered for providing safer environment to the workers, as far as the current pandemic is concerned. This requires coordinated efforts from all the stakeholders within the mechanical field through subconscious acceptance of the norms of safety and hygiene at all levels.

1. Introduction

The work has gradually taken its shape in the Mechanical Engineering industries after the imposed lockdown in India. It's 2021, and we are still continuing with the times of the COVID-19 pandemic. As more and more businesses reopen and some companies' transition from remote to on-site workplaces, it's obvious for many workers to feel apprehension and worried about encountering the coronavirus at work. As such, COVID-19 safe practices for the workplace are probably here to stay, at least for the foreseeable future. Vaccines are helping, but the government continues to recommend that people should follow COVID appropriate behaviour as far as possible. This applies to industrial workers as well.

Workplace safety should always be a top priority for employers, but with concerns about COVID-19 on everyone's minds, it has now become more complicated than ever before. Testing, vaccinations and return-to-work/stay-at-work policies now go hand-in-hand with workplace, as essential components of an overall comprehensive and effective safety program. It is important for all the stakeholders; workers, employers, authorities; to understand these components.

It is a tricky situation at the workplace, especially at industries like mining, manufacturing and metal-based industries that the workers are compelled to work at a closer distance. It may not be possible for the workers to keep the social distance the mask due to the type of activity. For example, long hours with mask are highly uncomfortable for a worker. This is particularly important for places like go down or shop floors, where all the labour work is done.

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2. The Indian Scenario

The other problem is that India is involved in providing low cost labor that means the workers do not get appropriate wages as per needs.[1] Furthermore, the legislative machinery is also not up to the mark for such workers, as their type of job is "permanently" temporary and most of them are contract laborers. The workers usually have several social disadvantages like, migration, lack of education, unavailability of social security schemes, low level of nutrition and sanitation, lack of health care facility, drug/alcohol abuse and hard physical work. Flat relationships with the employer as well as the supervisor added with the fact that the working hours are not fixed put their lives in truly miserable situation.

In many developed countries, guidance documents are prepared and implemented for different engineering fields. For example, the institution of Civil Engineering has developed guiding document for the worked in England and Wales which takes following points in to considerations:[2]

1. At the times of planning, designing, and/ or carrying out construction work: This is the phase where more or less the place would the industry itself.
2. At the time travelling to and from the workplace- This will vary according to the local factors and travelling distance.
3. At the workers are living away from their normal homes: The dormitory facilities or housing conditions in temporary settlements would play a part in disease transmission as well as safety among the workers. The same can be applied to other engineering fields (like Chemical engineering, Mechanical Engineering etc.) as well at other countries as well.[2]

3. Role of Heath Care Workers in and Outside Industries

Health and care workers are the foundation of health systems and the driving force to achieving universal health coverage and global health security. Their commitment and professionalism throughout the pandemic are evident to all: extraordinary people, performing extraordinary work. There is a provision of health and safety officer under Factories Act as well[3], but in Covid19 the whole health system has been adversely affected. However, too many of them have become infected, ill or died as a result of COVID-19. This can be considered as an example of breach in workplace safety of such workers as well.

WHO estimates that between 80,000 and 1,80,000 health and care workers could have died from COVID-19 in the period between January 2020 to May 2021, converging to a medium scenario of 1,15,500 deaths.[4] These deaths are a tragic loss. They are also an irreplaceable gap in the world's pandemic response.

Outside of healthcare facilities, COVID-19 outbreaks have been reported in workplaces with:

3.1. Person-to-person contact

This is very obvious, as pointed out before within the mechanical engineering field, as lots of work depends on mechanisation and machinery equipment. There are fine calculations which should be fitted to the required dimensions, which require close mechanical work. Person to person contact is immense even with latest mechanical tools and instruments.

3.2. Inadequate ventilation

This is much applicable to both Civil and Mechanical Engineering projects. Inadequate ventilation would lead to many respiratory and skin diseases. As, Covid19 is transmitted though air-borne droplets and aerosols, there are chances of high transmission of the disease in projects related to Mechanical Engineering.

3.3. Common eating areas

Even of the canteen facility is in the existence, there are chances the transmission of Covid19 is high due to two major reasons, firstly the fomite borne nature of the disease and secondly lack mask protection during eating hours.

3.4. Shared work accommodation and shared travel to and from work

This would also apply to every industry in a broad sense, where dormitory facilities are in place. This is especially important for those workers, which are migrant from other states. They are compelled to share the accommodation during and after the pandemic and may increase the chances of getting the infection due to close contact and travelling.Protecting workers helps to prevent COVID transmission at work and keeps workplaces open for regular and productive work environment.

Recommendations for workplace safety among engineering industries, amid COVID19 crisis can be summarized as below:

1. Authorities need to adapt measures based on the level of COVID-19 transmission in the community. This can be augmented by placing Covid19 testing centres in the vicinity of the mechanical industries. There should also be periodic checks by the police and safety officers for big industrial areas. The employer must also be involved, so that they ensure such measures are being implemented. There should be established surveillance system for the disease at the workplace.
2. Governments and employers must consider the potential impact on socioeconomic wellbeing,

including loss of income and access to services when implementing measures at work. This can be a lesson learnt for all the employers that there should be provision of social security schemes even for grass root level workers.

3. Governments should define national policies to protect the health and safety of workers including policies to:

3.5. Ensure paid sick leave

It is also important to give full leave for the worker suffered from COVID19, the duration may be fixed by the local authorities (1-2 weeks)

3.6. Enforce public health and occupational health and safety measures

There should be provisions for well-being and safety beyond Factories Act provisions.

3.7. Encourage remote working

This might be feasible for some aspects like ordering, procurement, billing etc. within the engineering industry. Work from Home (WFH) has been new normal for many companies, but may not be completely possible for mechanical engineering industries.

4. Support from within and Surroundings: The Developing Culture

According to the Harvard Business School experts, people have shown the behaviour of ever helping each other in these pandemic situations.[5] It has also made people realised hat the well-being of humans are interconnected. The good thing is this would persist even if we may enter the normal scenario as far as industries are concerned.

Many of the changes companies will make in the short term are obvious: dramatically reduced travel, more work-from-home opportunities for white-collar workers, and changes in business operations to reduce human contact and to improve workplace hygiene. These changes are now well accepted by most of industries and the workers as well as the employers. In the past also, organizations have used the lessons learned during periods of adverse situations to improve their standard operating practices. For example, the great recession forced employers to modify their staffing models. The result was a permanent shift in the ratio of part-time workers to full-time workers across the economy. COVID-19 may yield similar changes among the engineering industries which may include safety, hygiene, social security and collaborations.

According to John Anderson,[6] President of National Academic Engineering, Engineering played a pivotal role in the pandemic times by maintaining the integrity of supply chain of the products, telework as well as machine learning, which has helped the system for therapeutics and vaccines.

5. Conflict of Interest

None.

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