



## **A DESCRIPTIVE STUDY TO ASSESS THE AWARENESS REGARDING SILICOSIS AND ITS PREVENTION AMONG QUARRY WORKERS AT JODHPUR, WITH A VIEW TO DEVELOP INFORMATION BOOKLET**

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### **ABSTRACT**

**Introduction-** *Silicosis is one of the oldest occupational lung disease, which is incurable and is caused by inhalation of dust containing free crystalline silica. Silicosis is preventable disease. Still this disease kills thousands of workers around the worlds every year. Various studies have should that the quarry workers due not having awareness regarding silicosis and its prevention. In this study, distribution of booklet among quarry workers is an attempt to improve the knowledge regarding silicosis and it/s prevention.*

**Material and Methods -** *Quantitative descriptive survey study approach and non experimental research design was used. Total 100 quarry workers working in mining and residing in Jodhpur were selected by purposive sampling technique. Data collection by structured knowledge questionnaire and analysed by using descriptive and inferential statistics.*

**Result -** *The findings of the study reveals that to the level of awareness shows that majority (52%) of the sample had above average, followed by 48% had below average awareness regarding silicosis and its prevention. However, demographic variables age and educational status indicates significant association with the level of awareness regarding silicosis and its prevention.*

**Conclsion -** *The awareness of quarry workers regarding silicosis and its prevention have been above average regarding the causes and the management of the silicosis but in regarding the symptoms and prevention of the silicosis have been found below the average level.*

**KEY WORDS -** *Awareness, Quarry Workers, Silicosis, Information Booklet*



## INTRODUCTION

Silicosis is a well-known fibro genic lung disease which is probably one of the oldest occupational diseases known to man. Recognized since ancient times, this incurable lung disease caused by inhalation of dust containing free crystalline silica. It is irreversible and the disease progresses even when exposure stops. Silicosis is preventable. However, it continues to pose a very real threat to some people on a daily basis and still kills thousands around the world every year.

Silica causes disease when workers breathe in tiny silica particles released into the air with the dust created by cutting, grinding, drilling or blasting rocks. The particles are so small they can only be seen with a microscope, but they are so light that they can remain airborne for a long time. Silica can therefore travel long distances in the air and affect populations not otherwise considered to be at risk.

In India, there are about 3 million workers formally employed in the formal economy with potential exposure to silica dust. Further, approximately 8.5 million more work in construction and many more in the informal economy with exposure to silica dust. Thousands of these workers develop silicosis every year and die directly from it, or from secondary causes such as TB or lung cancer. However, relatively few of these deaths are recorded as being caused by silicosis or as being work-related in national statistics. Reliable statistics are not available for India, but there are many industries where exposures to silica dust are known to exist. Because Silicosis is difficult to detect in its early stages because of the absence of symptoms.

Rajasthan is the second biggest resource in mineral wealth in India after Bihar. A large number of mines of various minerals are found in the state. An estimate suggests that nearly 2 million people are engaged in the industry of mining in state. Mine workers have a long history of difficult work conditions and exploitation and discrimination.

Western Rajasthan especially Jodhpur and Makrana are famous for its sand stone mines and marble mines. Sand stone produced from these mines is used extensively for the construction of beautiful buildings. However, the miners who work very hard to make this stone available live a life full of agony,

misery and pain. Their problems die with them in complete silence of big mines.

Silicosis is an untreatable, but preventable disease. Awareness and planning are keys to prevention of silicosis. Ensuring that workers are aware of the dangers of breathing in silica dust and by providing them with the correct equipment, protective gear and properly ventilated working environments, the worldwide elimination of silicosis as an occupational health problem by the year 2030 is achievable.

## MATERIAL AND METHODS

For the study, a descriptive design was adopted as it is a virtue of a situation that naturally happens. In many aspects of nursing there is a need for a clear picture or description of the phenomena before causality can be examined. A quantitative descriptive design was adopted in the study. The population consisted of CHC Hospital and Mining Area Fidusar at Jodhpur. A sample size of 100 quarry workers was selected using purposive sampling. A structure questionnaire was adopted by the investigator for data collection. The tool structured knowledge questionnaire is validated by experts. Reliability of the tool was done using Karl Pearson (Co-relation, co-efficient) formula.

## RESULT

The analysis and interpretation of data collected from 100 quarry workers working in mines at Jodhpur to assess the awareness regarding silicosis and its prevention. Descriptive and inferential statistics were used for analysis. It was found that mean awareness level of the quarry workers is above average and mean score and SD of awareness was found is  $14.42 \pm 2.923$ . However, the majority of the demographic variables such as gender, marital status, religion, household income, age of starting work, type of work, working experience in mines, and working hours per day were found not significant association with the level of awareness regarding silicosis and its prevention except age and educational status.

Table No. 1 shows that majority (52%) of the sample had above average, followed by 48% had below average awareness regarding silicosis and its prevention.

**Table No. 1****Frequency and percentage distribution of the level of awareness regarding silicosis and its prevention. (N=100)**

Level of Awareness	Frequency	Percentage
Below Average	48	48%
Above Average	52	52%

Table No. 2 shows that the awareness score of quarry workers according to the different aspects of the silicosis and its prevention was highest (83%) regarding the 'causes of silicosis' with the mean 2.49 and SD of  $\pm 0.674$ , followed by 72% regarding the 'management of the silicosis' with the mean 3.60 and SD of  $\pm 1.054$ , 71.67% regarding 'silica production'

with the mean 2.15 and SD of  $\pm 0.821$ , 69.17% regarding 'prevention of silicosis' with the mean 4.15 and SD of  $\pm 1.192$  and lowest (67.67%) in regarding 'symptoms of silicosis' with the mean 2.03 and SD of  $\pm 0.758$ . The overall awareness score with mean  $\pm$  SD is  $14.42 \pm 2.923$  and mean percent awareness of 72.10%.

**Table No. 2****Aspects wise mean awareness score regarding silicosis and its prevention. (N=100)**

Awareness Aspects	Maximum	Mean	$\pm$ S.D.	Mean %
Causes of Silicosis	3	2.49	0.674	83.00%
Symptoms of silicosis	3	2.03	0.758	67.67%
Silica Production	3	2.15	0.821	71.67%
Management of silicosis	5	3.60	1.054	72.00%
Prevention of silicosis	6	4.15	1.192	69.17%
<b>Overall</b>	<b>20</b>	<b>14.42</b>	<b>2.923</b>	<b>72.10%</b>

**CONCLUSION**

After the detailed analysis, this study gives the following conclusion

1. The majority (52%) of samples were aware about the silicosis & its prevention.
2. Insignificant association between the awareness of samples with selected socio-demographic variables like Gender, Marital status, Religion, Household income, Type of work, Working experience in mines, Working hours per day except Age, Educational status,
3. According to Age of the samples, older were more aware than the adult.
4. According to Educational status of the samples, more educated workers are more aware regarding silicosis and its prevention than less educated workers.

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