

**ASSESSMENT OF PREVALENCE OF HEALTH PROBLEMS AMONG  
AUTOMOBILE WORKERS**Pradeep P. Shinde<sup>1</sup>, V. V. Ghorpade<sup>2</sup>, N. S. Madhekar<sup>3</sup>**HOW TO CITE THIS ARTICLE:**

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**ABSTRACT: BACKGROUND:** The global automotive repair and maintenance service industries are expected to be worth almost \$306 billion by 2015. The automotive service sectors currently are having employees an estimated 787,77702 and increasing at rate of 12% per annum. **AIMS & OBJECTIVES:** (1) To assess the prevalence morbidities among automobile workers (2) To increase the awareness about safety (PPE) at work place (3) To motivate about social security schemes coverage. **MATERIAL & METHODS:** A cross-sectional study was carried out in the territory area of IMSR Medical Collage of Satara districts. The total no of 117 participants were included for the study. A pretested, predesigned Proforma was used to collect the Information's under supervision & analyzed & interpreted with help of percentages & chi square test. **RESULT:** About 32.76% were only having less than 10 years of service. 68.41% of subjects have dropped their study before high school. Only 25.74% have their own garage, along with 29.25% of subjects were having specialized training. PPE was available with 29.25% of subjects. Stress, Muscle/bony pain & dyspepsia along with bowl disorders were significant morbidities observed. **CONCLUSION:** Prevalence of morbidities is significant in this study & need more medical attention towards automobile workers.

**KEYWORDS:** PPE, Respiratory distresses, Cellular immunity.

**INTRODUCTION:** The global automotive repair and maintenance services industries are expected to be worth almost \$306 billion by 2015.<sup>(1)</sup> The Indian automotive after market is currently estimated at Rs33000 cr. contributing 2.3% of India's GDP.<sup>(2)</sup> The spare parts and post-sale service including manufacturers, distributors retailers, service providers like garages are at large scale growing market for Indian economy. The share of automotive services market in India is estimated \$10 billion.<sup>(3)</sup> The automotive services sector currently having employees an estimated manpower of 78,77702 and increasing at the rate of 12% per annum. The size of automotive service market in India, It is estimated at 8-10 billion USD. It is estimated that 50% of this sector is unorganized.<sup>(4)</sup> This service sector is more prevalent in rural areas with less facility and lack of knowledge about safety measures as compare to urban areas. The studies among this sector has also shown employees suffering longer working hours combined with poor remuneration and little social security, in the event of disease, disability or death.<sup>(5)</sup>

Occupational risk due to poor awareness regarding personal protection equipment (PPE) among mechanics ranges from exposure to various chemicals such as gasoline, benzene, lead, asbestos, exhausted fumes at work place causes them various hazards like ergonomically muscular problems, respiratory distresses, skin related disease, stress and psycho-social problem alcohol & nicotine dependence due to poor earning and lack of social security.<sup>(6,7)</sup> A study done in New-York city revealed that 67% of workers hazardous level of lead in blood.<sup>(8)</sup> Similar study assessing lead exposure in automobile workers in India showed a significant increase in level of lead & associated significant reduction in level of zinc,<sup>(9)</sup> which is also responsible for responsible lowering the cellular

## ORIGINAL ARTICLE

immunity, causes respiratory infections.<sup>(10)</sup> A cross sectional study has shown 18.4% prevalence contact dermatitis in automobile workers.<sup>(11)</sup>

In a study in Kolkata city among automobile workers showed that 25.8% had respiratory obstructive impairment. The past studies in India shows increase in level of lead and significant reduction in level of zinc which is required for integrity of cellular immunity to have normal resistance for respiratory diseases.<sup>(12)</sup>

**MATERIAL AND METHODS:** A cross-sectional study was carried out involving 117 automotive repair workers in the Territory of IMSR Medical College of Satara district, after a pilot study to estimate the prevalence of morbidities. Recruitment was done after obtaining written consent and proper explanation of examination. Preset Proforma for the questionnaire was distributed to the subjects. Peripheral neuropathy was assessed with 2gm monofilament and peak respiratory flow rate (PEFRs) were found out by a peak flow meter. Workers less than one years of job were excluded.

**RESULTS:** The data was collected during month of May and June of 2014. The total no of 84 garages were approached with multiple factors for study, almost 90% responded. The age of respondents ranges between 18 to 65 yrs. of age. Mean age of respondents are 30.8 yrs. nearby 67.24% of participants were in continuous in employment in the same profession for more than 10 years. About 68.41% of participants have dropped their study before high school due to lake of motivation & need for financial support to their family. 95% of participants were having their own garage with poor safety measures without proper training at any authorized centre. Only 29.25 % were having PPE, but occasionally used. 29.25 % participants were covered with social security schemes along 59.05% with satisfaction of job. Stress (58.50%), muscle/bony pain (54.99%) & dyspepsia/bowl disorders (36.27%) were mostly observed morbidities with significant P~value (0.001) in the subjects.

Characteristics	Number of workers (n=117)	Percentage of workers
Years of service		
<10 yrs	28	32.76
10 yrs & above	89	67.24
Education		
Completed high school	24	22.6
Dropped out before high school	90	68.41
Employee/Employer		
Employee	95	74.26
Employer	22	25.74
Type of work		
Specialized	25	29.25
General	92	70.75
Working hours a week		
More than 40 hrs a week	110	91.81
Up to 40 hrs	7	8.19
Availability of PPE		
PPE available	25	29.25
Not available	92	70.75
Members in social security schemes		
Covered	25	29.25
Non-covered	92	70.75
Satisfaction with job		
Satisfied	82	59.05
Non-satisfied	35	40.95

**Table 1: Basic characteristics of respondents:**

## ORIGINAL ARTICLE

Symptoms & sign	No. of workers with symptoms and sign	Percentage
Chronic cough / breathlessness	19	22.23
Skin irritation/rashes	06	7.777
Dyspepsia/bowel disorder	31	36.27
Muscle/bony pain	47	54.99
Stress	50	58.50
Contact dermatitis	11	12.87
Pallor	10	11.70
Abnormal sounds in chest	06	7.02
Peak expiratory flow<300l/min	17	19.89
Impaired peripheral sensation	50	58.50

**Table 2: Common symptoms among workers**

**DISCUSSION:** A high level of stress was major significant observed with poor job satisfaction. This is because of continuous work & no comfortable place for relaxation. This finding is almost same with other study.<sup>(13,14)</sup> Majority of the workers had no access to have cover under social security schemes like PPF, ESIS and accidental benefits schemes.<sup>(15,16)</sup>

About 50% workers even unaware of their health problems, neither they have approached for any health care services nor did they do any ergo metric improvement in there working style. A very High proportion of workers had symptoms of cough, breathlessness, abdominal pain, bowel disorder and muscle and bony aches. The reason behind are poor financial conditions and non-affordable medical treatment.

Though the workers work in high risk environment with exposure to chemicals, none of the workers had received any formal training. There was finding of high prevalence of peripheral sensory neuropathy in workers when examined with 2gm monofilament due to poor foot hygiene. This study was aimed to give direction for future research in health problem in non-recognized groups of subjects. The Future study could be performed involving advanced techniques like blood picture, heavy metal assays, nerve conduction studies, bio-thesiometry, pulmonary function test etc.

**CONCLUSION:** Automobile repair & maintenance service sector is important, but unorganized industries. In the present study 117 automobile workers have been examined & about 64.24% of them were having the same profession since last 10 years. Only 29.25% were having PPE, but occasionally used. Stress 58.50%, muscle/bony pain 54.99% & dyspepsia/bowl disorders 36.27% were observed significant morbidities. 29.25% were cover with social security schemes. It seems that proper motivation is required to enhance the educational status & use of PPE to reduce the morbidities at work place.

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## ORIGINAL ARTICLE

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### **AUTHORS:**

1. Pradeep P. Shinde
2. V. V. Ghorpade
3. N. S. Madhekar

### **PARTICULARS OF CONTRIBUTORS:**

1. Associate Professor, Department of Community Medicine, IMSR Medical College, Mayani, Satara District, Maharashtra.
2. Professor, Department of Community Medicine, IMSR Medical College, Mayani, Satara District, Maharashtra.

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**COMPETING INTERESTS:** None

3. Professor, Department of Community Medicine, IMSR Medical College, Mayani, Satara District, Maharashtra.

### **NAME ADDRESS EMAIL ID OF THE CORRESPONDING AUTHOR:**

Dr. Pradeep P. Shinde,  
Plot No. 41, Dambhre Layout,  
Trimurti Nagar, Nagpur-440022.  
E-mail: pradeep98227@gmail.com

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