

Original Research Article

## Prevalence of Musculoskeletal Pain in Cooking Professionals of Rural Versus Urban Restaurants

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### ABSTRACT

**Overview:** Repetitive manual work and lifting and forceful movements, awkward postures and efforts are well known risk factors of musculoskeletal disorders. A cook's work is characterized by long standing hours, constant leaning forward of the body and also repetitive movements of the upper limb. Assessing the prevalence of musculoskeletal pain in cooking professionals is very necessary and Orebro Musculoskeletal Pain Questionnaire can be used as effective assessment tool in such scenario.

**Materials and Methods:** The Questionnaire Based Study had 60 subjects. They were divided from the Restaurants of Loni (rural-30) and the Restaurants of Mumbai (urban-30). It included both males and females, who are currently working with a cooking experience of at least 10 years. And subjects having any fixed deformity or physical disability, also the subjects not willing to participate were excluded. All the subjects were explained the purpose of the study and the consent was taken from the owner of the respective Restaurants.

**Result:** Results show that, the urban cooking professionals showed 50% of low risk for musculoskeletal injuries according to the Orebro score.

**Conclusion:** The current study concludes that the risk level of the rural cooking professionals is more than the urban professionals regarding the failure to return to work though; the site of pain does not exhibit much difference in both settings.

**Key words:** Orebro Musculoskeletal Pain Questionnaire, Physiotherapy, Cooking professionals, Musculoskeletal Pain.

### INTRODUCTION

*"The biology of pain is never really straightforward, even when it appears to be."*

*-Dr. Lorimer Moseley.*

Since life began, food and eating has always been essential for mankind, and the art of cooking (a profession) indispensable in society. The working processes in this profession still largely rely on human work and cannot be replaced by automation. The working time and workload of professionals have increased considerably, and as a consequence, musculoskeletal disorders or

pain have become even more frequent. [1]

Repetitive manual work and lifting and forceful movements, awkward postures and efforts are well known risk factors of musculoskeletal disorders. A cook's work is characterized by long standing hours, constant leaning forward of the body and also repetitive movements of the upper limb. [2]

Musculoskeletal pain continues to be a major cause of morbidity with considerable economic and societal consequences. Pain disorders have a negative impact on work ability and work

effectiveness. Occupations with high physical work strain, non-natural postures, prolonged static muscle contractions and repetitive movements are regarded as harboring an increased risk of musculoskeletal pain.<sup>[3]</sup>

Musculoskeletal Disorders are impairments of bodily structures such as muscles, joints, tendons, ligaments, nerves, bones and the localized blood circulation system, that are caused or aggravated primarily by work and by the effects of the immediate environment in which work is carried out. They can affect any part of the body. Lifting and carrying heavy loads is a major cause, but pushing and pulling or the need to adopt awkward flexed or twisted body postures for long periods are also risk factors.

Symptoms include pain and/or reduced ability to function normally. This can affect any region of the neck, shoulders, upper arms, elbows, forearms, wrists, and hand.<sup>[4]</sup> Considering these facts assessing the prevalence of Musculoskeletal pain in cooking professionals is very necessary and Orebro Musculoskeletal Pain Questionnaire can be used as effective assessment tool in such scenario.

## METHODOLOGY

The Questionnaire Based Study had 60 subjects. They were divided from the Restaurants of Loni (rural-30) and the Restaurants of Mumbai (urban-30). It included both males and females, who are currently working with a cooking experience of at least 10 years. And subjects having any fixed deformity or physical disability, also the subjects not willing to participate were excluded. All the subjects were explained the purpose of the study and the consent was taken from the owner of the respective Restaurants. They were scrutinized for inclusion and exclusion criteria and those who met the inclusion criteria were taken into consideration for the study and asked to score themselves according to questions asked in Orebro Musculoskeletal Pain Questionnaire

(OMPQ)<sup>[5]</sup> and then were categorized according to the cut off scores recommended by Linton.<sup>[6]</sup>

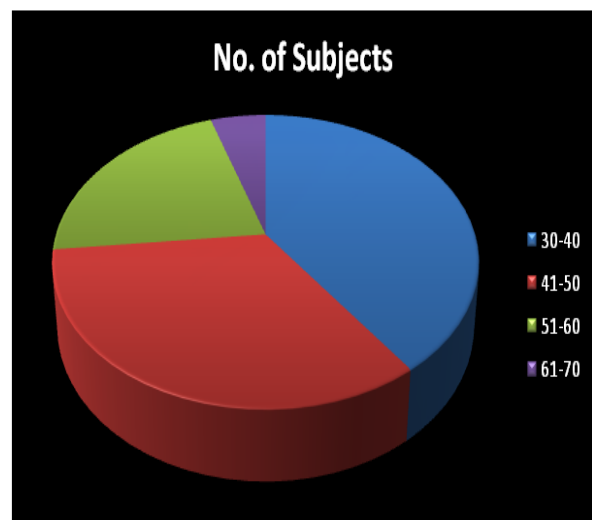
The data analysis was done by statistically analyzing responses to each factor of OMPQ and percentage changes were compared in subjects of all age by formulating four groups viz. 30-40 yrs, 41-50 yrs, 51-60 yrs, and 61-70 yrs. Subjects above 70 years were unavailable for study.

The responses were analyzed by rural and urban environment and six sites for common musculoskeletal injuries were decided for determining impact of MSD's including, neck, shoulder, arm, upper back, lower back, and legs. The result was concluded on the basis of percentage change in responses.

## RESULTS

Table 1: Demographic Representation of Total Number of Subjects.

Age Groups	No. of Subjects
30-40	24
41-50	20
51-60	13
61-70	03
<b>Total Subjects</b>	<b>60</b>

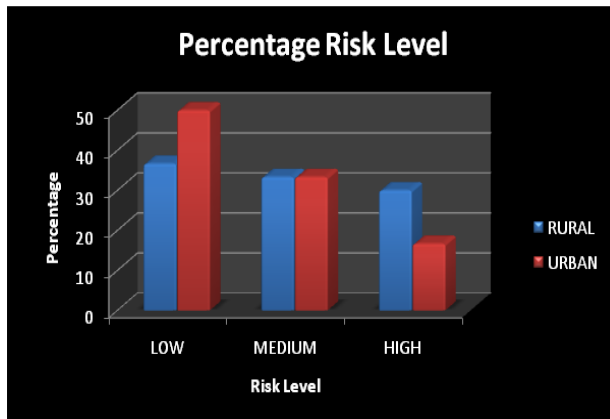


Graph 1: Demographic Representation of Total Number of Subjects.

The result of this study shows, 40% subjects were of age group 30 to 40 years, while 33% of age group 41 to 50 years, 22% from age group 51 to 60 years and 5% from age group 61 to 70 years.

**Table 2: Demographic Representation for Risk Level of Cooking Professionals.**

Risk Level	Rural Percentage	Urban Percentage
LOW	36.66%	50%
MEDIUM	33.33%	33.33%
HIGH	30%	16.66%

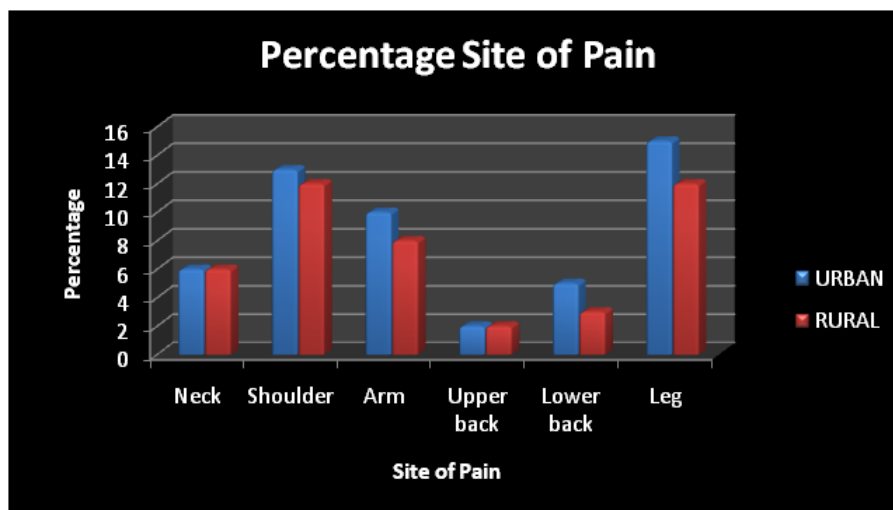


**Graph 2: Demographic Representation for Risk Level of Cooking Professionals.**

Results show that, rural cooking professionals are more prone to have musculoskeletal injuries as compared to Urban. Also, the urban cooking professionals showed 50% of low risk for musculoskeletal injuries according to the Orebro score.

**Table 3: Demographic Representation of the Site of Pain**

Site	Urban (%)	Rural (%)
Neck	6	6
Shoulder	13	12
Arm	10	8
Upper back	2	2
Lower back	5	3
Leg	15	12



**Graph 3: Demographic Representation of the Site of Pain**

The Result of the above study, show that the Neck pain and Upper back is equal in both the population, whereas the Shoulder pain of the Rural cooking professionals is slightly more than the Urban. Also the Arm and Lower back pain is more in rural population as compared to urban population. Rural cooking professionals are more prone to have Leg pain as compared to the urban cooking professionals.

## DISCUSSION

This study measured the prevalence of musculoskeletal pain of the cooking professionals of Rural and Urban

population. It included the age group, the risk level and the site of pain.

The age group of 30 to 40 years is mostly involved in the cooking profession. The study also showed that the rural cooks were at a high risk with 30% when compared to the urban cooks with 16.66%. Thus, High OMPQ score are more likely to fail to return to work. This may be due to the factors such as work place, the way of cooking, more working hours, monotonous work. Also high physical work strain, non-natural postures, prolonged static muscle contractions and repetitive movements lead to musculoskeletal problems. While 50% of urban cooks are at a low risk compared to

rural cooks with 36.66%. The workplace is well organized, less of manual work due to advanced technologies, more cooking staff as compared to rural restaurants hereby reducing the workload on a single individual.

Considering the site of pain, which includes neck, shoulder, arm, upper and lower back, leg pain the cooks of Rural Restaurants are more prone for arm, lower back pain, and leg pain because of their continuous working posture. Due to less ergonomic advice, they fail to maintain comfort level while working which increases the strain over the muscles hereby leading to musculoskeletal problems. Neck pain is equally common in both the population this may be due to lack of support, and frequent forward bending of the neck.

Also previous studies could predict persistent problems in patients with LBP or musculoskeletal problems, [7] whereas our study shows involvement of lower limb more than low back pain. And Dunstan et al [8] in his study showed that High OMPQ score are more likely to fail to return to work.

Thus, Lifting and carrying heavy loads is a major cause, but pushing and pulling or the need to adopt awkward flexed or twisted body postures for long periods are also risk factors. Repetitive manual work and lifting and forceful movements, awkward postures, long standing hours, constant leaning forward of the body have been concluded to be the major factor predisposing to musculoskeletal pain. The current study concludes that the risk level of the rural cooking professionals is more than the urban professionals regarding the failure to return to work though; the site of pain does not exhibit much difference in both settings.

## CONCLUSION

The current study concludes that the risk level of the rural cooking professionals is more than the urban professionals regarding the failure to return to work

though; the site of pain does not exhibit much difference in both settings. Thus considering the study we can implement preventive measures so as to help the subjects by treating the symptoms, giving ergonomic advice, and educating them about the standard working hours etc. hereby reducing the risk level and maintain a good health.

## REFERENCES

1. Lao Dongbu. Institute for Occupational Safety and Health and Labor Rights. Press release. Taipei. Downloaded from [www.ilosh.gov.tw/wSite/public/Attachment/f1391682153005.doc]
2. Shieu HS, Lu CW, Chen CJ, et al. Musculoskeletal disorders 52,261 Chinese restaurant cooks from The National Health Insurance Data Occupation Health. Journal of Occupational Health, 2008, 50: 163-168. Downloaded from [http://joh.sanei.or.jp/pdf/E50/E50\_2\_09.pdf]
3. Haukka E, Arjas PL, Solovieva S, et al; Co-Occurrence of musculoskeletal pain among female kitchen workers, 2006. Int Arch Occup Environ Health, Volume 80:Pages141–148 Downloaded from [https://www.researchgate.net/publication/7093801]
4. Zdravo D, Dobra V. Cleaners and musculoskeletal disorders. European Agency for Safety and Health at Work – Downloaded from [http://www.osha.mdds.gov.si/resources/files/pdf/39\_cleaners\_musculoskeletal\_disorders.pdf]
5. Dagfinrud H, Storheim K, Magnussen L, et al. The predictive validity of the Orebro Musculoskeletal Pain Questionnaire and the clinician's prognostic assessment following manual therapy treatment of patients with LBP and neck pain. Manual therapy. 2012. Volume 18 Issue 2. Pages 124-129. Downloaded from [http://www.sciencedirect.com/science/article/pii/S1356689X12001865]
6. Aravena HI. Utility of the Orebro Musculoskeletal Pain Questionnaire as a Screening and Clinical Decision Support Tool in Workers' Compensation Claimants. Thesis

- submitted for M. S. in Rehabilitation Medicine. University of Alberta. 2014. Downloaded from: [https://era.library.ualberta.ca/files/dn39x158j/Aravena\_Hilda\_I\_201408\_MSc.pdf]
7. Sattelmayer M, Lorenz T, Roder C, et al. Predictive value of the acute low back pain screening questionnaire and the Orebro musculoskeletal pain screening questionnaire for persisting problems. *European Spine Journal*. 2012; Volume 21 Issue 6 Pages 773-84.
8. Dunstan DA, Covic T, Tyson GA, et al. Does the Orebro Musculoskeletal Pain Questionnaire predict outcomes following a work related compensable injury? *Int J Rehabil Res*. 2005 December; 28 (4): 369-70. Downloaded from [http://www.ncbi.nlm.nih.gov/pubmed/16319565]

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