

## PREVALANCE OF WORK RELATED LOW BACKACHE IN GENERAL SURGEONS

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**Abstract.....Object:** The aim of this study was to investigate prevalence of work-related low back pain among general surgeon.

**Methodology:** This cross sectional study was conducted during July 2019 to January 2020 among general surgeons working in different private and government hospitals of Nawabshah, Hyderabad, and Karachi Sindh. A total of 160 Questionnaires were distributed among study participants. The NPRS and Standardized Nordic Questionnaires were used. **Results:** 160 Surgeons were surveyed. Out of 160 general surgeons 129 (80.6%) surgeons reported low back pain while there was mild to moderate intensity. 6.3% general surgeons reported that they were hospitalized due to low back pain. **Conclusion:** A High prevalence of low back pain was found amongst general surgeons without any pathology working at different government hospital of Sindh (Nawabshah, Hyderabad, and Karachi). The low back pain was indicated as work related due to prolong standing and long hour of surgical process. The finding of this study has important clinical implication for prevention and early management of low back pain among general surgeons.

**Keywords:** Work-related, Low back pain, General

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### INTRODUCTION

Low Back Pain (LBP) is highly Prevalent Health problem and has a great impact on the quality of adult lives.[1, 2] Back Pain is one of the public Health problems with 50 to 85% of Musculoskeletal Problems causing disability in developing countries.[1] It is evaluated that about 50-80% people of the whole world population suffer from low back pain once in life time, [3] while it is the second most common cause for consulting the doctor.[4]

Health Care Professionals are exposed to a range of work related risk factors that may results in various musculoskeletal disorders, of which low back pain is common.[5] This Pain can be due to Numerous Risks Factors including Prolong Static Postures and repetitive movements of Health Care Professionals.[6] There is a relationship

between Low Back Pain (LBP) with Work place exposure to the awkward postures and vibrations in doctors who are exposed to such work-related risk factors during their services.[7]

Health Care Professionals including Physicians, Surgeons, Physiotherapists and Nurses are at risk of many Musculoskeletal Disorders such as Back Pain, Shoulder Pain and Knee Pain in their work places.[8] Low Back Pain (LBP) Musculoskeletal (MSK) disorders mainly Health Care Workers that peaks among operating room staffs and is found to be almost twice more than other occupations.[9, 10] Low Back Pain (LBP) in different specialties is at high risk among Orthopedics, Obstetrics, Gynecology and General Surgeons.[10]

Surgeons are known to be unique group of Health Care Professionals (HCP) that exposed to high range of work related Musculoskeletal (MSK) pains and injuries.[11, 12] As the popularity of General Surgeons increases, they refer into improving its patients safety and decreasing its invasiveness have also been on the rise.[13]

Work related Low Back Pain (LBP) has been affecting a high proportion of Surgeons in Laparoscopic Surgery, Orthopedics Surgery, Obstetrics and Gynecology due to their working hour in Operation Theatre(OT).[14] Vaginal Surgery have been found as most common clinical activity causing Low Back Pain (LBP) among Gynecologist due to their awkward position.[15] Abdominal and Pelvic examination require bending and twisting of trunk prolonged posture adopted for prolong period of time during Surgery.[14] Backache is common cause of morbidity among doctors and 50% Obstetrician and Gynecologist suffering from Low Back Pain (LBP) due to work practice and posture.[16]

Obstetrics (OBS) Surgeons and Gynecologist often involves performing tasks which may cause postural problems such as adopting unusual posture of lateral rotation and flexion of trunk during Vaginal Surgery.[16] Orthopedic Surgeons spend much of their clinical hours in ergonomically challenging postures. These Awkward postures are common risk factors for low back pain (LBP) amongst Surgeons.[17-19] Surgeons are exposed to particularly hazardous day to day working environment with exposure to many risk factors causing infections, emotional and physiological disturbance and musculoskeletal injuries.[20]

Surgery involves Standing and / or sitting for prolonged periods of time with an intermittent need to exert substantial forces to tissue, assuming an ergonomic posture with the Arms abducted and unsupported, the cervical

spine flexed and rotated and prolonged vertebral flexion and torsion.[21] Within the discipline of general surgery, there is two main techniques utilized, open surgery and laparoscopic surgery or minimally invasive surgery.[22] The frequency with which each technique is utilized depends on numerous factors and refers between first world countries and developing countries such as South Africa.[23]

Many Studies that investigated risk factors associated with low back pain (LBP) among hospital staff, more working hours and awkward postures mostly cause LBP.[24] A study by Al Dajah and Al Daghi reported that OT staff is at high risk of exposure than other Health Care workers.[25] Mohsin Bandpaei conducted a study among Surgeons and reported a high prevalence rate 39.9 % (Taif Surgeons).[24] In 2011 Aurbach and colleagues conducted a survey of spine surgeons and a reported a similarly high incidence of low back pain (LBP).[26]

To the best of our knowledge, most of the previous studies have been conducted on Gynecological, Orthopedic, Spine Surgeons and other Health Care workers and there is lack of available literature regarding work related MSK problems among General Surgeons.

A cross sectional study was conducted and data was collected from the sample population. The sample was taken from different private and government hospitals in different cities of Sindh province (Nawabshah , Hyderabad, Karachi) among the surgeons who fulfilled the inclusion/exclusion criteria.

Inclusion criteria: 1) Female & male general surgeons 2) Age b/w 26 to 65 years. Exclusion criteria: 1) surgeons suffering from any chronic disease example; Osteoporosis, inflammatory conditions. 2) History of any work related

musculoskeletal (MSK) injury during working

period.

Questionnaire and study sampling: Numeric Pain Rating Scale (NPRS) & Standardized Nordic Musculoskeletal Questionnaire (SNMQ) was used which is valid and reliable. A total of 160 participants were included on the basis of inclusion criteria. The questionnaire consisted 2 parts one related to demographic characteristics and another section was concerned with low back disability. Data was analyzed using SPSS version 20. The demographic characteristics included participant's age, gender, working hours and years of experience, while the responses from questionnaire were calculated as percentages & frequencies. The collected data from both the demographic characteristics and from questionnaire was presented in tables.

**Results**

Table.1 shows the means ( $\pm$ SD) and ranges of age and working hours and the frequency and percentage of gender and year of experience. The mean age of General Surgeons total was 34.30 ( $\pm$ SD 9.955) years. The mean daily working time of General Surgeons was (mean  $\pm$ SD, 9.48  $\pm$  2.826 hr/day). A total of 60.0% of respondent were male and 40% of the respondent was female. The clinical experience of all participants ranges: 1.5 years with a (69.5%) 6-10 years with 5.6%, 11-15 years 6.9% and above 15 years with 20.0%.

Table.2 shows that out of 160(100-0%) of General Surgeons 80.6% experienced Back Pain with 21.9% experienced mild pain, 50.6% were experienced moderate and 8.1% were expressed worst possible pain.

**Table.1 Personal and Occupational Characteristics**

Variables	Range	Mean	Standard Deviation
Age	26-65	34.30	9.955
Working Hours	-	9.48	2.826
Variable	Category	Frequency	Percentage
Gender	Male	96	60.0
	Female	64	40
Year of Experience	1-5 Years	108	67.5
	6-10 years	9	5.6
	11-15 years	11	6.9
	Above 15	32	20.0

**Table.2 Numeric Pain Rating Scale (NPRS)**

Variable	Category	Frequency	Percentage
NPRS	No Pain	31	19.4
	Mild	35	21.9
	Moderate	81	50.6
	Worst Possible pain	13	8.1

Table.3 shows that out 160(100%) of participant (General Surgeons) 129(80.6%) had low back pain discomfort. A 6.3% Surgeons mentioned that they were hospitalized because of pain. Out of 129 (80.6%) General Surgeons 17 (10.6%) mentioned pain affecting the job and 113 (70.6%) mentioned pain not affecting the job. More than 40% (44.4%) General Surgeons had low back pain or discomfort in last 12 months. Out of 129 (80%) of General Surgeons majority

of participant 83(51.9%) had mentioned low back pain that reduce their work activity and 47(29.4%) mentioned the low back pain do not reduce their work activity. Out of 129 (80%) of General Surgeons 74(46.3%) of participant had an experience low back pain that prevent their normal work during last 12 months and 57(35.6%) participant concerned with Physiotherapist and about 80(50%) of general surgeons had mentioned Low back pain (LBP) during last 7 days.

**Table.3 Standardized Nordic Musculoskeletal Questionnaire**

Q.1 Have you ever suffered from any work-related LBP as a surgeons?	Yes	129	80.6
	No	31	19.4
Q.2 Have you ever been hospitalized b/c of low back trouble?	Yes	10	6.3
	No	120	75.0
Q.3 Have you had to change duties b/c of low back pain?	Yes	17	10.6
	No	113	70.6
Q.4 What is the total length of time that you have had low back trouble during last 12 month?	0 days	4	2.5
	1-7 days	71	44.4
	8-30 days	27	16.9
	More than 30 days but not everyday	19	11.9
	Everyday	9	5.6
Q.5 How low back trouble cause you to reduce your activity during last 12 month? A. Work activity	No	47	29.4
	Yes	83	51.9
Q.5 B Leisure activity	No	71	44.4
	Yes	59	36.9
Q.6 What is the total length of time that low	0 days	29	18.1

back trouble has prevented you from during your normal work during last 12 month?			46.3
	1-7 days	74	11.3
	8-30 days	18	
	More than 30 days	9	5.6
Q.7 Have you been seen by a Doctor, physiotherapist, chiropractor or other such person b/c of Low back trouble during last 12 month?	Yes	57	35.6
	No	73	45.6
Q.8 Have you had low back trouble at any time during last 7 days?	Yes	80	50.0
	No	50	31.3

**Discussion**

This descriptive type of cross-sectional study was carried out with the aim to determine the prevalence of work related low back pain among General Surgeons in Sindh. The demographic characteristics of the study result revealed that mean age of General Surgeon was 34.30 (±SD 9.955) years and mean working hour/day of General Surgeons was (mean ±SD, 9.48+2.826) and 60% of participant were male and 40% of participant were female and clinical experience of General Surgeons is 1-5 years with (67.5%) and above 15 years with percentage of 20%. The result shows (80.6%) of General Surgeons have back pain specifically during standing and prolong sitting in working hours and the pain they reported was mild to moderate in nature. The finding of our study is comparable to the result of cross-sectional study conducted in Peshawar which showed 53% prevalence of low back pain among General Surgeons, they identified the surgical positions as standing, prolonged sitting but however they had sample size 300 and age b/w 30 to 45years.[30] Another cross-sectional study in Iran reported for Back Pain among 95% of General Surgeons



but however they had a very small size of only 45 participants.[27] It was previously reported by T Rambabuand K Suneetha that the back is most commonly affected area among General Surgeons.[28] A study showed the risk factors that commonly cause back pain are excessive work, working in the same positions, bending and twisting in awkward position makes small injuries inside the structure which finally dispose off as a pain.[29] Therefore, it is necessary to adopt the posture recommended by health professional specifically for those position that have to be maintained for longer time period.

### Conclusion

We found high prevalence of low back pain general surgeons working at different private and government hospitals of Sindh (Nawabshah, Hyderabad, Karachi). Low Back Pain(LBP) was identified as work-related due to prolonged standing and long hours of Surgical Processes. The findings of this study have important clinical implications for prevention and early management of low back pain among General Surgeon. It is suggested that further research should be done to evaluate more risk factors associated with low back pain (LBP) among General Surgeons.

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