

Prevalence Of Non-Specific Neck Pain Among Beautician's.

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ABSTRACT

Background: Non-specific neck pain (NSNP) is a prevalent occupational health concern among beauticians due to prolonged static postures, repetitive movements, and ergonomic challenges. This study aims to determine the prevalence and severity of NSNP among beauticians and assess its impact on daily activities. non-specific neck pain (NSNP) is a common musculoskeletal disorder affecting individuals in various occupations, particularly those requiring prolonged static postures and repetitive movements. Beauticians are at a higher risk due to their work-related ergonomics, including prolonged neck flexion, repetitive hand movements, and static postures.

Methodology: A total of 97 beauticians participated in this cross-sectional study. Data were collected using a structured questionnaire, including the Neck Disability Index (NDI) and Numeric Pain Rating Scale (NPRS). Descriptive statistics were used to analyze the prevalence and severity of NSNP.

Results: Among the participants, 74.23% reported experiencing neck pain, while 25.77% had no symptoms. Based on the Neck Disability Index (NDI), 51.55% had moderate disability, 13.40% had severe disability, 9.28% had mild disability, and 25.77% reported no disability. The mean NDI score was 16.40 ± 9.03 , indicating a moderate level of disability. The mean pain scores on the NPRS were 2.63 ± 1.64 at rest and 6.10 ± 2.28 during movement, with a statistically significant p-value (5.63×10^{-28}). The average age of participants was 31.19 ± 4.71 years, with a mean work experience of 6.34 ± 1.11 years. They worked an average of 6.14 ± 0.75 days per week and 6.96 ± 1.16 hours daily.

Conclusion: The findings indicate a high prevalence of NSNP among beauticians, with a significant proportion experiencing moderate to severe disability. The results highlight the need for ergonomic interventions, postural awareness programs, and workplace modifications to reduce the burden of neck pain in this occupational group. Raising awareness about proper work practices and implementing preventive measures can help improve the musculoskeletal health of professionals in the beauty industry...

Keywords: *Non-specific neck pain, beauticians, occupational health.*

1. INTRODUCTION

Nonspecific neck discomfort occurs when there is no identifiable systematic disease that can be identified as the root cause of the complaint. Neck pain causes significant human suffering because of pain, due to pain limitations, neck pain can significantly reduce a person's quality of life & productivity at work, which can have a significant financial impact on both the patient & society [1] The most prevalent and fourth-leading cause of musculoskeletal disorders globally is non-specific neck pain (NSNP). An estimated 70% of people will experience neck pain at some point in their lives, with a 15% to 50% yearly occurrence. It is more prevalent in women in their middle years. It is well known that NSNP is linked to a decline in workers' quality of life and productivity in addition to being a risk factor for the development of severe spinal pathologies and functional disability. {2} Several things might cause neck pain: Physical factors include strained muscles brought on by bad posture, extended sitting, or repeated motions. Psychosocial Factors: Anxiety, depression, a lack of social support, and

prolonged stress are all major causes of neck pain.

Acute neck pain: Is a prevalent condition that often arises from muscle tension, poor posture, or minor injuries. While it can cause significant discomfort, most cases resolve within a few weeks with appropriate self-care and treatment

Common Causes: Muscle Strain: Prolonged activities like working on a salon can lead to muscle tension and discomfort. Poor Posture: Maintaining improper posture during daily activities can contribute to neck pain. Injuries: Sudden movements, such as in whiplash from vehicle accidents, can cause acute neck pain. Symptoms: Pain and stiffness in the neck. Headaches, particularly tension-type headaches triggered by stress or muscle strain. Reduced range of motion. Radiating pain to shoulders or arms. {3} Pain in the neck's anatomical region that does not radiate to the upper limbs is known as NSNP. It can also be described as pain in the side area of the neck that extends down to the superior border of the clavicle and the suprasternal notch, as well as from the superior nuchal line to the scapula's spine. According to the International Association for the Study of Pain, acute pain is defined as lasting fewer than seven days, subacute pain is defined as lasting less than three months, and chronic pain lasts longer than three months. Prolonged work hours and other musculoskeletal and occupational variables are linked to NSNP, excessive demands and workload, desk-bound work positions, and a sedentary lifestyle. These elements may result in functional limitation, reduced cervical movement, and muscle spasms.

Non-specific neck pain (NP) is characterized by pain in the posterior and lateral neck region between the superior nuchal line and the spinous process of the first thoracic vertebra, absence of neurological symptoms and specific pathologies, such as a tumor, traumatic sprain and fracture, infectious or inflammatory cervical spondylolysis, and no or minor to major interference with day-to-day activities.

According to a "Bio-Psycho-Social" perspective, NP may be caused by a variety of reasons. These include risk factors that cannot be changed and are associated with patho-anatomical characteristics (such as age, gender, trauma history, and genetics) and risk factors that can be changed and are more closely linked to psychosocial characteristics (such as smoking, a sedentary lifestyle, beliefs, coping mechanisms, expectations, and job satisfaction). These elements might also play a role in the shift from acute to chronic pain. {2} Neck pain has also been linked to a few Psychological issues, including high levels of stress high job demands, job strain and Low levels of support from co-workers [1]. The posture, working conditions, & speed of employees can be directly impacted by their social & psychological traits. This can lead to physiological traits. This can lead to physiological changes which can then result in musculoskeletal problems. Factors that are both physical & socio psychological are closely associated. Due to their lengthy standing and inappropriate static posture while working, as well as their poor social and psychological conditions, beauticians have a significant frequency of musculoskeletal problems associated to their line of work {4} Neck pain typically develops slowly and is often caused by a variety of factors, such as bad posture, anxiety, depression, neck strain, and involvement in sports or work-related activities. {5} Any of the neck's structures could be the source of the discomfort. These comprise the dura, muscles, ligaments, facet joints, nerve roots, and intervertebral discs. Neck pain can have many different reasons. These include congenital diseases, injuries, and tumors. Nonetheless, in the majority of instances, no systemic discomfort is found to be the root cause of the complaints. This group of patients may be classified as having non-specific neck discomfort since they primarily including degenerative changes. nonspecific neck discomfort is mostly diagnosed based on clinical grounds, assuming no symptoms point to the existence of a specific or more serious ailment. It is still unclear what causes non-specific neck discomfort naturally. After a few weeks, it usually resolves on its own, although it can seriously impair day-to-day functioning. {6}

Some patients may experience non-specific neck discomfort if their symptoms have a traumatic origin, but this does not include those whose neck injuries are specifically related to abrupt acceleration and deceleration. Frequently, neck pain coexists with restricted mobility and vague neurological symptoms that impact the upper limbs. Radiculopathy and myelopathy can both cause excruciating, uncontrollable pain. Studies concerning patients who have primarily radicular symptoms that originate in the cervical spine have been included under the section on neck pain with radiculopathy. {7} Chronic non-specific neck pain (CNNP) patients have often been shown to have deep neck muscle activation. According to some, these muscles don't heal on their own. There is a significant degree of cervical support provided by these muscles. In order to recuperate from the difficulties that result, a variety of therapeutic exercises have been suggested. [8] Beauticians nature of work: Growth of beauty had increased dramatically in modern era, with the advancement of modern lifestyles, appreciation of beauty is rising quickly. It is also becoming increasingly common for those who work in beauty parlour to have occupational health problems.

Nowadays, the field of beauticians is booming not just in terms of financial gain but also in terms of young people's passion for their employment. In order to enhance a client's personality, hair dressing techniques include cutting, style, colouring, straightening, and dressing hair. The phrase "musculoskeletal disorders" (MSDs) refers to a collection of ailments affecting the muscles, tendons, nerves, and supporting structures such as intervertebral discs. Long periods of repetitive motion, awkward work postures, prolonged standing, uncomfortable temperatures, and the usage of defective instruments and equipment are all contributing factors to musculoskeletal discomfort. For beauticians, bad posture and body motion that causes pain in the neck, back, shoulder, wrist, and other musculoskeletal system pose a challenge. This not only affects job performance but

also increases sick days and early retirement from the industry. Beauticians who are subjected to physical labour work in unique positions, have restricted postures or conduct repetitive work are experiencing an increase in occupation related musculoskeletal alignments, Because of most beauticians spent their days in standing (awkward posture required for cutting and colouring hair)

Workplaces with poor design, challenging work environments, and ergonomically inadequate instruments may have an adverse effect on beauticians' health. Beauticians run at risk of suffering injuries to their feet, arms, wrists, shoulders, and lower back.

The potentially harmful tasks and aspects of hairdresser include styling and blow-drying whose arms are elevated and the use of some force required and cutting hair which requires precise grasps in scissors and combs. [9]

Because of their work's strong ties to fashion and beauty, beauticians are seen as risk groups for eating disorders and body image issues. [10]

2. METHODOLOGY

An observational, cross-sectional study conducted on beauticians using simple random sampling method for a period of 6 months with sample size 97.

Inclusion criteria Age 25 to 45 years, Gender: Female beauticians, Beauticians with work experience 5 and more than 5 years, working hours: 6 Hours or more than 6 Hours, atleast 5 days a week **Exclusion Criteria** Cervical radiculopathy, Recent history of cervical or shoulder injury Post-concussion syndrome (traumatic brain injury), Beauticians with known systemic inflammatory conditions such as rheumatoid & osteoarthritis.

MATERIAL Materials- numeric pain rating scale, neck disability index, consent form, data collection sheet, permission letter.

3. PROCEDURE

The study started after approval of institutional ethics Committee and Protocol committee of D. Y. Patil Educational Society Kolhapur.

According to the inclusion criteria the participants were selected. Consent form was given to each participant and purpose of the study was explained Those who have non-specific neck pain was assessed by using outcome measure such as NPRS and Neck disability index.

Both the scales will be explained to a participant and a The beautician with non-specific neck pain will be given a neck disability index and NPRS and ask them to mark the correct score.

The interpretation of the study was done basis of Numeric Pain Rating scale and Neck disability index. The study is concluded by statistical analysis of the outcome measures.

Statistical analysis was done using INSTAT application. Analysis was done using paired test.

4. RESULTS

A cross sectional study was done through random sampling 97 between the age of 25 to 45 years.

Numeric pain rating scale containing score from 0 to 10 was used to assess the intensity of pain and questionnaire named Northwick Park neck pain questionnaire was taken containing 10 questions with regarding severity of pain while performing Activities of daily living was used with the confidentiality and privacy ensured to be maintained with the written consent taken from them.

Among the participants, 74.23% reported experiencing neck pain, while 25.77% had no symptoms. Based on the Neck Disability Index (NDI), 51.55% had moderate disability, 13.40% had severe disability, 9.28% had mild disability, and 25.77% reported no disability. The mean NDI score was 16.40 ± 9.03 , indicating a moderate level of disability. The mean pain scores on the NPRS were 2.63 ± 1.64 at rest and 6.10 ± 2.28 during movement, with a statistically significant p-value (5.63×10^{-28}).

The average age of participants was 31.19 ± 4.71 years, with a mean work experience of 6.34 ± 1.11 years. They worked an average of 6.14 ± 0.75 days per week and 6.96 ± 1.16 hours' daily

Prevalence of Non-Specific Neck Pain among Beauticians:

Prevalence of Neck Pain Severity. The Neck Disability Index categories show that out of 97 beauticians:

This indicates that more than half (51.55%) of the beauticians suffer from moderate neck pain, and 13.40% have severe neck disability, highlighting a significant burden of neck pain in this profession.

Interpretation	No.of patients	Percentage
have no disability.	25	25.77%
experience mild disability.	9	9.28%
experience moderate disability.	50	51.55%
experience severe disability.	13	13.40%

Pain Assessment

The Numeric Pain Rating Scale (NPRS) shows:

Numeric pain rating scale	Mean	S.D.	P-Value
At rest	2.63	1.64	5.626806E-28
On movement	6.10	2.28	

which suggests a statistically significant difference between pain at rest and pain on movement.

This suggests that movement exacerbates pain significantly, indicating that work-related activities contribute to neck pain.

Factors Associated with Neck Pain

Demographic and Work-related Factors

Demographic Profile	Mean	S.D.
Age	31.19	4.71
No. Of Experience	6.34	1.11
Days per week	6.14	0.75
Hours of working	6.96	1.16
Neck Disability index	16.40	9.03

The average age of participants is 31.19 years, suggesting that young to middle-aged beauticians are affected.

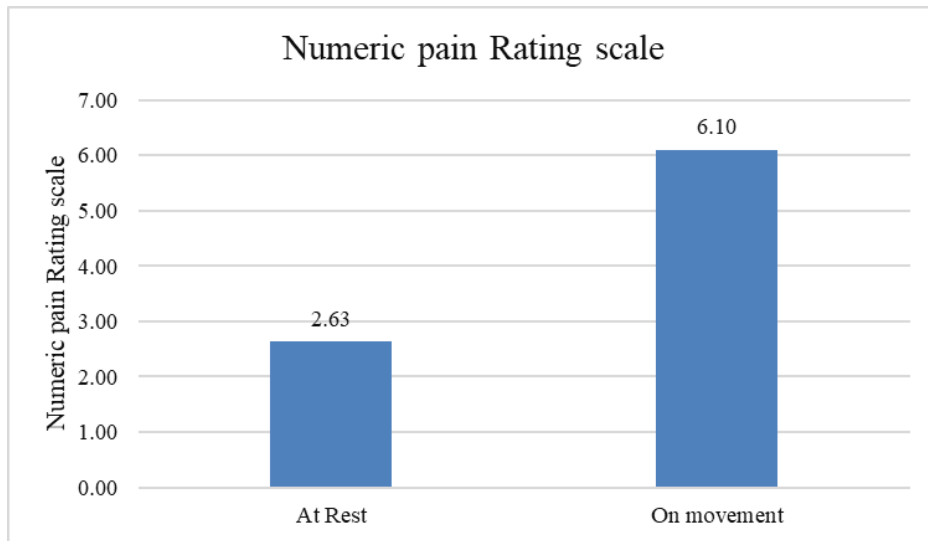
They have 6.34 years of experience on average, which suggests that prolonged exposure to beauty-related work may contribute to neck pain.

Most work 6 days a week and for an average of 6.96 hours per day, indicating prolonged postural strain.

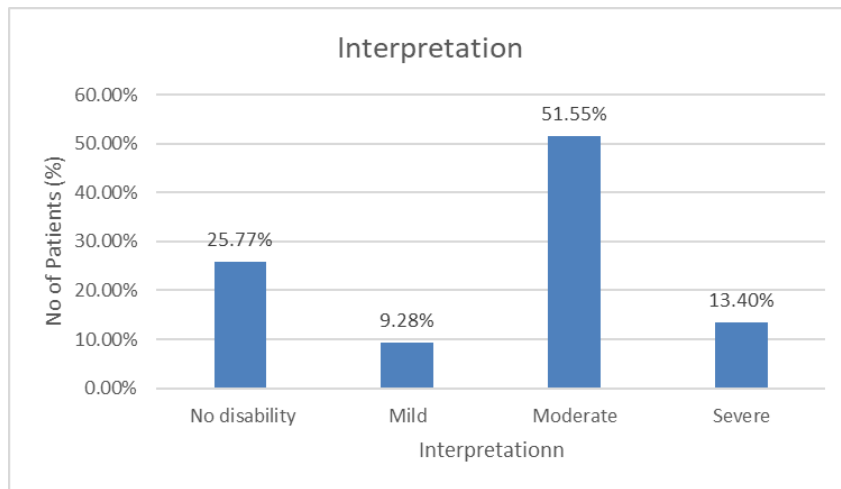
4. Psychological and Physical Impact

Interpretation	No. of Patients	Percentage
Positive	72	74.23%
Negative	25	25.77%
Total	97	100.00%

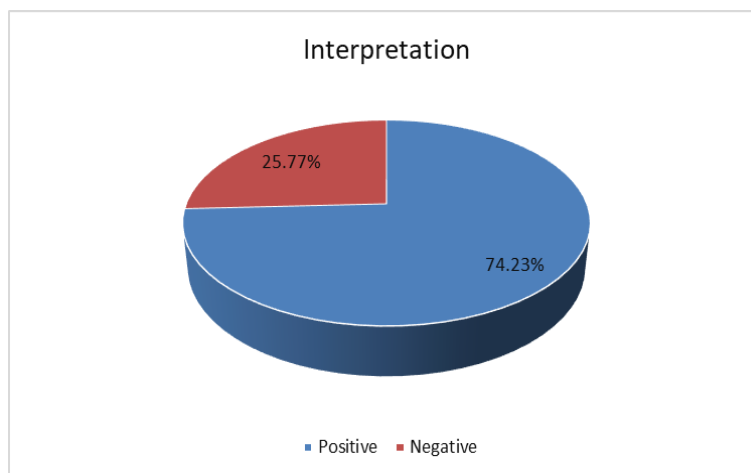
This confirms that neck pain is highly prevalent among beauticians, with almost 3 out of 4 beauticians experiencing neck discomfort.



Graph 1 Intensity of Nonspecific neck pain through NPRS scale



Graph 2 severity of Nonspecific neck pain through NDI



Graph 3 severity of non-specific neck pain through NDI

5. DISCUSSION

Demographic profile

Age distribution(years)

The age of the participants in this study ranged 25- 45 years. The minimum age of the subject was 25 years and the maximum age was 45 years. from our study it was found that is 25.77% no disability ,9.28 % mild disability ,51.55% moderate disability ,13.40% severe disability. The previous study shows that the study carried out among 150 beauticians aged between 25-40, the result of this study shows that 37.33% mild ,22% moderate ,0.67% very severe .40% sleep disturbed 38.9% experiencing numbness in arms.

Number of years of experience

In our study we included the participants having experience of more than 5 years as a beautician. From the obtained data our study revealed that, the increasing of experiences has strong impact on the NSNP.

Majority of the participants having work experiences of more than 9 years were tested positive for NSNP. The previous study showed that there is a strong association of working hours and working experience with musculoskeletal conditions¹. This could be the reason for high prevalence of NSNP having larger number of work experience as a beauticians.

Number of working hours per day

In our study we included the participant working hours per day should than 5 hours. on an average 8.9 hours on the parlour among which they worked continuously for 4.8 hours without any break .as they are performing their job in prolong standing, repetitive motion and awkward work postures these all contributing factors to musculoskeletal discomfort³. These tasks require a large amount of repetitive work along with continuous standing as well as twisting and bending of neck. The previous study demonstrated that there is a high relationship between working hours and job experience with musculoskeletal disorders.

6. CONCLUSION

By investigating the prevalence and causes of non-specific neck pain among beauticians, this study aims to create awareness, encourage ergonomic improvements, and promote preventive strategies to improve their health and well-being. Prevalance of Non-specific neck pain among beautician's no disability 25.77%, Mild 9.28%, moderate 51.55%, severe 13.40%. According to our study the prevalence of moderate pain is high on NDI in beautician's..

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