

# Frequency of Musculoskeletal Problems in Beauticians of Rawalpindi and Islamabad

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## ABSTRACT

**Background:** Many factors affect patient adherence to physical therapy treatment like unavailability of space and tools, lack of funding and awareness etc. Recognition of these barriers may help the physiotherapists to overcome these hurdles and ultimately improve treatment outcomes. The purpose of this study was to determine common MSK problems in beauticians, to identify the cause of MSK disorders, common spine deformity and awareness level of physical therapy among beauticians.

**Methodology:** A descriptive cross-sectional survey was conducted using a self-structured questionnaire which was generated after literature review. 300 beauticians were considered for data collection.

**Result:** Our study revealed that 59.9% of beauticians were having back pain, 66% of them were having pain due to prolonged standing, 49.3% of them were having normal posture, 21.8% were having hyperextended knee and only 19% of them were aware of physical therapy treatment.

**Conclusion:** It is concluded that the presence of back pain due to prolonged standing was evident in beauticians. The most common MSK postural problem was found to be rounded shoulder. The awareness of physical therapy amongst beauticians was less evident and those who were aware were also not consulting physical therapists for their MSK problems.

**Keywords:** beauticians, MSDs, posture, work-related disorders, musculoskeletal system.

## INTRODUCTION

All body movements and its external appendages is made possible by what we call as the musculoskeletal system also known as MSK as an abbreviation. It comprises of the bony skeletal structure which helps in keeping the body together in place and a framework to provide support, moreover the joints help in movement of different kinds. Any hindrance or disturbance of this system may cause muscular body movements to be painful, jerky, uncoordinated, and involuntary or random.[1]

Usually objective ways of measurement are more useful to find a secure diagnosis, subjectively, a better patient impact is found. Some ways of examination are always known as a "Gold Standard" to find out causes for symptoms commonly reported in a work place. The best way to evaluate may be from the firsthand experience of the beautician or the worker importance of occupational ergonomic stressors for the occurrence of MSDs of the low back and upper extremities has been demonstrated.[2]. There can be different reasons for pain such as postural strain, repetitive movements, overuse and prolonged immobilization. Making a difference in your posture or poor body mechanics may give rise to spine alignment issues and muscle shortening, thus leading other muscles being misused and becoming painful.[3]

Symptoms are different for each person but the ones seen in most of people are: Pain, Fatigue Sleep disturbances [4]. Various versions of manual therapy or mobilization can be used for treatment of spine alignment problems. For some acute musculoskeletal pain these measures have resulted in a quick recovery.[5]. The reasons for musculoskeletal pain have variations. Muscle tissue can be injured with the daily exertions. Blow to a region is also a factor in causing musculoskeletal pain. Other factors may involve overuse and repetitive movements. Spinal alignment problems may arise due to changes in posture. People under influence of musculoskeletal pain mention complete body aches. Their muscles may feel overused.[6]. Pain. We should consider again and again the important role of ergonomics, counseling, proper procedures of patient care in the duration of beautician profession train for increased efficiency in work.[7].

To develop injury prevention measures, various health and safety agencies are only involved in disorders that slowly develop and are due to overexertion of above mentioned constituents of musculoskeletal pain.[8]. . Work procedures that are repetitive or are in uncomfortable or awkward position are the reasons to these

disorders which will cause pain during working hours and at rest.[9].

Arms and hands are involved in most of the work usually done. Thus, most WMSD has effect on hands, wrists, elbows, neck and shoulders. Work that requires legs can also cause WMSD of the legs, ankles, feet and hips. Back problems also occur from repetitive activities.[10]. Most of the names do not correctly define the disorders. Such as the repetitive strain injuries imply that only frequent movement cause the disorder but awkward positions are also a factor. These terms can be used but for this document WMSD is preferred,[11]

These day to day motions are not precisely hurtful in ordinary routines. What makes them harmful in work scenario is the continuous movements which almost always involves more exertion than usual and mostly the speed of the movements and the very little time of break between them. WMSD are linked with work routines that involve: Rigid or constrained body posture, frequent repetitive movements, Pressure build on small regions such as hands and wrists. A piece of work that does not permit enough recovery between motions.[12]. If we talk generally only of these factors cannot act separately to cause WMSD.WMSD usually occur due to combined impact of these. Heat, vibration and cold can also lead to WMSD[13].

WMSD has three types of traumas: muscle injury, nerve injury and tendon injury[14]. In muscle contraction chemical energy comes from sugars and have by-products for example lactic acid which are taken away from blood. The blood flow will decrease if a muscle contracts for a long time. This leads to the substances being produced by muscle to be not removed. This leads to accumulation of substances. the raised levels of the substances cause muscle irritation and Pain. The level of pain is dependent on how long the contraction occurred and the time given between movements for muscles to have the byproducts removed.[15]

## METHODOLOGY

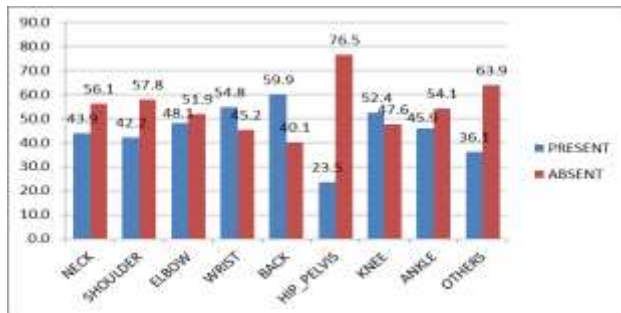
The study design used was cross sectional study. The study was carried out in various parlors of Rawalpindi and Islamabad (Pakistan).After selection of parlors; we obtained approval from the owners of each parlor and took informed consent from the participants of our study. All the beauticians present in that parlour were given a chance to give their data as we recorded them. Their names and identity were kept confidential. The sample size of our study was of 300 participants working in beauty parlors and

saloons. Sampling technique used was Purposive sampling. Women working in the beautician industry with Age range of 20-45years were included in this study. Women who are hypotensive or have heart problems were excluded from study.

A questionnaire consisted of close ended questions about the work that the beauticians do and the postures in which they work, moreover questions in relation to where they have pain were present too. There was a visual tool to assess the posture and muscle symmetry of the employees. There were also 4 questions that reflected on the awareness of Physical Therapy in these professional people. Data was analyzed by SPSS21 and Microsoft Excel.

**RESULTS**

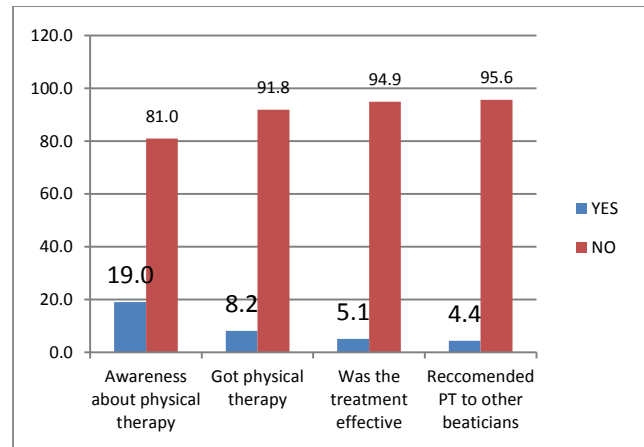
Below graph show that out of 300 beauticians 125(43.9%) reported pain in their neck and 175(56.1%) had no neck pain. 146(42.2%) beautician had pain in their shoulders and 154(57.8%) were free from shoulder pain. Beauticians having pain in their elbow were 70(48.1%) in number and 230(51.9%) had no pain. Beauticians complaining pain in their wrist were 73(54.8%) total in number and 227(45.2%) had no pain in their wrist. Whereas reporting of back pain in beauticians were 106(59.9%) and 194(40.1%) hip or pelvic pain was present in 42(23.5%) of them and 258(76.5%) were free from any hip or pelvic pain. Out of same sample size 66(52.4%) beauticians were complaining of knee pain and 234(47.6%) had no pain in their knee. Pain in ankle was reported by 58(45.9%) of the beauticians whereas 242(54.1%) had no ankle pain .Pain from other problems were reported by (36.1%) of beauticians.



Below drawn graph shows that out of 300 sample size 173(66%) beauticians reported their pain was due to prolonged standing and rest of 127(34.0%) had no pain due to prolonged standing.102(30.3%) beauticians reported their pain was due to the nature of their duty of prolonged sitting whereas 198(69.7%) had no pain due to prolonged sitting. 84(51%) beauticians had over time aggravated pain and rest 216(48.6%) had no pain related to over time .repetitive work related pain was reported in 108(59.2%) beauticians and 192(40.85)had no pain isolated with repetitive work nature of their duty. 104(58.5%) beauticians had pain due to work load and 196(41.5%)had no pain due to work load. 46(48%) beauticians reported bending the cause of their pain and rest of 254(51.4%) beauticians had no pain because of bending activity whereas 33(29.9%) beauticians had pain from twisting movement and rest 267(70.1%) had no pain initiated by twisting movements.

Below graph shows that from our further analysis we found that 144(19%) beautician had heard about Physical Therapy and around 156(81%) beauticians never heard of it. Graph illustrates that treatment of from physical therapy was taken by 63(8.2%) beauticians and rest 237(91.8%) beauticians never had been gone through any physical therapy session. The graph shows beauticians numbered 75(5.1%) got response from physical therapy whereas 225(94.9%) beauticians did not receive response from Physical therapy session they received. Graph shows that 106(4.4%) beauticians recommend other beauticians to consult or have physical therapy treatment whereas 194(95.6%) beauticians

did not recommended the physiotherapy consultation to any of beauticians



**DISCUSSION**

Bradshaw in his research concluded, work-related shoulder pain, work-related wrist and hand pain ,work-related upper back pain , work-related lower back pain and work-related leg/foot pain while in our research we found that beauticians in Rawalpindi/ Islamabad faced back pain most commonly due to prolong standing.[16]

Chen, H.-C., C.-M, Chang, et al. (2010) did research on "Ergonomic risk factors for the wrists of hairdressers." Applied Ergonomics 41(1): 98-105 The results stated were; Results show an average time of around (51.4 min) for a female to complete hair cutting whereas male hair cutting time is lesser than off female which is 35.6mins.[17]

Mussi, G. and N. Gouveia a researcher researched in 2008(Brazil)his results were 71% prevalence of WRMDs whereas in our research the MSK problems prevailed in 50.9% of the beauticians.[18].

Veiersted, K. B., K. S. Gould, et al. (2008). "Effect of an intervention addressing working technique on the biomechanical load of the neck and shoulders among hairdressers" Applied Ergonomics 39(2): 183-190. Results show the intervention comprised working technique recommendations, e.g. more relaxed muscles and to work with less elevated arms. Random subjects between two different intensity levels of the intervention, one with information written and the other with follow-up of additional personal The hairdressers worked 60° with arms elevated or more for approximately 13% of the total time worked. Reduction in workload of intervention group which included personal follow-up instructions from 4.0% to 2.5% of hairdressing time with right upper arm elevated high, i.e. above 90°. where as in this study the focus was on frequency of musculoskeletal problem among beauticians.[19].

Waters, in His studies results MSDs were associated with psychosocial factors and multiple injuries and additive effect on

risk of MSDs was given exposure given on both work stress and physical exposure while in our study we aimed at generalized MSDs without any injury involved.[20].

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