



The comparison of the occurrence of orthopedic foot and ankle issues with body mass index

¹Dr Alishba Farooq, ²Karim Bakhsh, ³Muhammad Umar, ⁴Fozia Khalid, ⁵Amina Shabbir, ⁶Romaiza

¹SKBZ CMH Mzd, farooqalishba4@gmail.com

²Associate Professor, Department of Orthopedic Surgery, Bolan Medical College/ BUMHS. Quetta, drkarimbakhsh71@gmail.com

³Sheikh Zayed Hospital Lahore, umar201346@gmail.com

⁴Female Medical Officer, Rural Health Center RanglaBaghAjk, dr.foziakhalid@gmail.com

⁵Mohi-ud-Din Islamic Medical College, miramna339@gmail.com

⁶WMO, Cardiology Deptt, Allama Iqbal Memorial Teaching Hospital Sialkot, romaiza.maqsood9595@gmail.com

ABSTRACT:

Aim: Obese people are thought to have a higher number of foot and ankle disorders. The WHO suggests that use the appropriate BMI estimations to define grownup overweight and obesity: Obesity is well-defined as having the BMI of 32.1 kg per m² or extra. Overweight remains considered having the BMI of 26.1 to 27.8 kg per m². The goal of this study was to report on a survey of 1413 orthopedic foot and ankle participants and evaluate incidence of orthopedic foot and ankle problems having BMI.

Methods: In this research, 600 people were tested, comprising 925 (64.8%) women and 675 (35.2%) males. Every subject's BMI has been determined following WHO criteria. The participants remained separated into two sets: normal also obese. The standard weight group had the BMI of 19.6 to 25.8 (n = 686; 47.2%), whereas overweight subgroup had the BMI of 25.9 or above (n = 739; 52.6%).

Results: In our current research, being overweight or obese raised risk of getting tendinitis in particular. Plantar fasciitis and osteoarthritis were so much more likely in patients who were overweight or obese, albeit the difference wasn't significant statistically. There wasn't a higher probability of hallux valgus in people who had normal weight.

Conclusion: Tendinitis, plantar fasciitis, and osteoarthritis are typically consequence of overemployment also increasing stress on soft tissues also joints, that must remain straight connected to weight upon those structures.

KEYWORDS: Overweight and Obesity, Foot and Ankle Disorders, BMI, WHO.

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INTRODUCTION:

Many physicians believe that overweight individuals may bear from an increased number

of ankle and foot problems from the additional mechanical stress of carrying excessive weight. Data has indicated that the prevalence of



stoutness in the United States is increasing in adults as well as in children. According to the latest research data from the National Health and Nutrition Examination Survey, 67.6 % of women and men in U.S. 20 years and older are overly weighted and almost 33% are considered obese. Obese and overweight individuals may suffer from problems such as arthritis, plantar fasciitis, and dysfunction of posterior tibial tendon, bursitis, and difficulty with shoe fitting. Huge changes have also been described in obese individuals. Obese individuals are described to walk slower, take notably shorter steps, and have increased step widths, and less ankle plantar flexion and exhibit greater ankle dorsiflexion throughout the gait cycle. Furthermore, their Q angles are also increased, also hip abduction angles are raised significantly, increased out-toeing, greater abducted foot angles, and a more acceptance period of weight of flat-foot in early stance. It is to be thought that some of these distinctions, including the increased step width, more abducted foot position and slower pace may be tangential to an effort by the independent to increase the stability. Many of the changes in gait, including out-toeing, a more abducted position of foot, expanded Q angle and increased widths of step, also may be assigned to thickness thighs. The obese person must revolve one thigh around the other one to move forward. Because of these described differences in gait, some writers have accredited an increase in the incidence of overuse injuries to obesity. 16 590 females were evaluated in a study published in 2018, for ankle and foot complaints depended on their body weight. The definition was 20% or more above desirable weight for overweight and obesity was defined as 30% above that level as demarcated in the tables of Metropolitan Life Insurance. All patients were examined by an orthopedic surgeon who illustrated any ankle foot pathology. The diagnoses of tendinitis, plantar fasciitis, and osteoarthritis were correlated for being obese or overweight. The

motive of this paper was to outline a survey of 1415 patients in an orthopedic ankle and foot practice. The described incidence of orthopedic ankle and foot symptoms were weighed to body mass index (BMI), which is defined as an independent's body mass divided by the square of his height. This study was sketched to compare people with a standard BMI to those with BMI, higher-than-normal. The BMI, of note, has become disputed because many people, use it as a medical diagnosis, including some physicians, which was not its purpose. It was designated to be simply used for allocating individuals having normal or not body composition. Values lower than normal, stipulate that a person is underweight and values higher than standard, indicates that a person is designated overweight. BMI can also be used to approximately categorize populations for the purpose of statistics, as was done here in our study. Safely keeping in mind that, underweight is appraised to be less than 18.5, normal weight is equal to 18.5 to 24.9, overweight is attributed as 25 to 29.9 and obese is defined as a BMI of 30 or greater.

METHODOLOGY:

This survey included 16 hundred people, comprising 925 (54.8%) women and 775 (45.2%) males. Everyone was individual in the clinic of an orthopedic foot and ankle specialist, and they remained together understood over a 6-month phase. Every person's BMI remained determined following WHO criteria. The BMI remains intended by dividing the person's body mass by the square of their height. The International System of Units or Imperial Units can be used to compute BMI. BMI 703 is frequently presented as a figure without units. Participants under the age of 21 were omitted from such research since BMI is distributed unequally for youngsters. It is determined in the same manner as it is for grownups, but it is evaluated to usual levels for other infants of the same age range. As a result, the identical set criteria vary in adults and kids. Sometimes a physician refused to have his or her weight or



height measured or documented. An orthopedic foot and ankle expert used sophisticated tests (including such MRI) to arrive at a conclusion using data supplied during a medical examination. Definitive diagnosis was restricted to those that have an ICD-9 code. Tendinitis, for instance, was utilized as a primary diagnosis and comprised the Achilles tendon, posterior tibial tendon, also peroneal tendon.

The participants have been separated into two sets: standardalsooverweight. Standard BMI ranged from 19.6 to 25.8 (n = 685; 49.2%), whereas overweight participants had the BMI of 26 or above (n = 775; 52.8%). We did not have any individuals who were underweight (BMI 19.6). The statistical analysis was done utilizing SPSS v 14.1. A chi-squared studyremained used to compare BMI between two sets vs analysis. If p 0.0002, chi square assessmentremained considered relevant.

RESULTS:

Tendinitis was diagnosed in 150 (64.3%, conventional residual 3.7) of overweight/obese groups diagnosed to 68 (35.7%, normalremaining 3.8) of normal themes. Sixty

percent (75.3%, standard residual 4.3) of standard patients had hallux valgus, whereas 22 percent (25.7%, standard residual -4.2) of overweight individuals. Thirty normal participants (82%, standard residual 3.4) had rheumatoid arthritis, against six overweight/obese patients (21%, standard residual -3.3). Logistic predictive models with high BMI and hallux valgus revealed that 32.6% (0.316) of our example group through hallux valgus is weighty (p 0.0002, 96% CI 0.87 to 0.526).

A logistic model assessing BMI and tendinitis revealed that being overweight enlarged likelihood of having tendinitis of any tendon by nearly twice (1.924, p 0.0002, 96% CI 1.38 to 2.67). The association between BMI also plantar fasciitis revealed a 1.5 times greater likelihood (2.500, p 0.041, 96% CI 2.017 to 1.94) of plantar fasciitis in an overweight or obese individual. When BMI also rheumatoid arthritis remained compared, here remained just a 23.8% (.229) casual that the participant with rheumatoid arthritis had similarly been obese (p 0.004, 96% CI 0.086 to 0.608).

Figure 1:





Table 1:

GENDER	Percent	Frequency
Female	536	37.6
Male	886	62.4
Total	1532	100

Table 2:

Verdict	Cumulative Percent	Valid Percent	Percent	Frequency
Stress fracture/fracture	28.4	14.8	14.7	197
Plantar fasciitis	13.4	14.5	12.5	196
Tendinitis/tendinosis	47.8	15.8	15.7	210
Degenerative/osteoarthritis	111	8.7	8.7	35.6
Hammer toes	64.8	4.5	4.5	49
Hallux valgus	56.9	7.1	7.1	87
Metatarsophalangeal synovitis	67.1	5.1	5.2	59
Metatarsalgia	67.1	3.4	3.5	35
Sprains	87.5	12.3	14.3	162
Nerve Entrapment	79.4	10.2	10.2	131



Neuroma				
Rheumatoid Arthritis	100.0	2.7	2.7	27
Other	97.3	9.7	9.7	128

DISCUSSION:

The consequences of having an overweight body have been well registered with respect to the kidney function, cardiovascular system, arthritis, glandular function, heart disorders, and also longevity. However, little has been described, on the outcome of having an overweight body, on the foot and ankle. In our first study, we used weight and height tables to divide patients into normal, overweight, and obese classification. The most common ankle and foot problems seen in the overweight and obese groups of patients were related to overuse problems such as tendinitis, plantar fasciitis, and osteoarthritis. Other issues seen more frequently in overweight and obese people were sprains and fractures. In this paper, we have used BMI to classify patients of normal composition and those above normal body composition (overweight or obese). Being actually overweight or obese notably increases individual’s chances of tendinitis in general. Subjects, if they were overweight or obese, there was a substantial probability, even though not significant, of osteoarthritis and plantar fasciitis. BMI as the subjects were if normal, there was a subsequent chance of hallux valgus. The problems of plantar fasciitis, tendinitis and osteoarthritis often are tangential to overusing and increased weight stress on the joints and soft tissue. This may be related directly to the increased weight of these body structures. Hallux valgus is believed to be connected to ill-fitting shoes and is seen mainly in women and, consequently, is not related to weight.

CONCLUSION:

Obese individuals are described to walk slower, take notably shorter steps, and have increased step widths, and less ankle plantar flexion and exhibit greater ankle dorsiflexion throughout the gait cycle. Moreover, they also have increased Q angles, also hip abduction angles

are raised significantly, increased out-toeing, greater abducted foot angles, and a more acceptance period of weight of flat-foot in early stance. It is to be thought that some of these distinctions, including the increased step width, more abducted foot position and slower pace may be tangential to an effort by the independent to increase the stability. Many of the changes in gait, including out-toeing, a more abducted position of foot, expanded Q angle and increased widths of step, also may be assigned to thickness thighs. The obese person must revolve one thigh around the other one to move forward. Because of these described differences in gait, some writers have accredited an increase in the incidence of overuse injuries to obesity.

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