Thesis

by Nazish .

Submission date: 31-Oct-2020 10:55PM (UTC+0500)
Submission ID: 1432220823
File name: Thesis_of_Nazish.docx (212.2K)
Word count: 5342
Character count: 28108

1 ABSTRACT

Background

Pain is an unpleasant emotional sensation that is considered as arising in a part of the body. In other words, it is shown as subjective sensation. Pain is a defensive mechanism designed to make the subject protect an injured part from further injury.Plantar fasciitis is a painful inflammatory condition influencing the plantar aponeurosis of the foot. Plantar fascia ligaments undergo a lot of wear and tear owing to occupation related activi . The plantar fascia becomes inflamed and the inflammation causes stiffness and heel pain. The aim of the study is to find prevalence of plantar fasciitis and associated risk factors among working l lies.

Objective

The objective of the study was to determine the respective endowment of work activity such as time spent sitting, standing, and walking, floor surface quality, weight, age, body mass index, foot biomechanics and additional medical and demographic history factors to the prevalence of plantar fasciitis. .

Method

A cross-sectional study will be conducted to establish the prevalence of Plantar Fasciitis and associated risk factors among working females. Data will be collected through Numeric Pain Scale and a self-made questionnaire. Sample size of the study is 267.Questionaire contains 11 questions about every condition give rise to plantar fasciitis. Data was collected from working ladies in Lahore over a 6 months period.All the Data collected from questionnaire was organized and analyzed on software SPSS(version25).

Results

According to VAS, higher the score (moderate to severe) worse is the condition and inability to perform movements or restricted movement . According to our calculation out of 267participants, 17.98% do not have heel pain, 36.70% have mild heel pain. 28.46% suffered moderate pain with movement restrictions, 10.86% lies in severe pain score with movement restrictions and 5.99% lies in worst pain score with movement restrictions, which are collectively diagnosed as positive for planter fasciitis and presenting the frequency of planter fasciitis.so the collective prevalence of planter fasciitis is 45.31 % over the sample of 267.

Conclusion

In conclusion, the study revealed that majority of working ladies complained of foot pain especially in heel. The pain was moderate particularly following long standing. The pain was supplementary between middle to old aged women with high load of occupation related activities. The pain amend the conventional daily living activities between more than three quarters of working ladies however very few numbers who asked for medical consultation.

2 INTRODUCTION (2.5 TO 3 PAGES)

Plantar Fasciitis is an inflammation of the fibrous tissue (plantar fascia) across the bottom of foot that connects heel bones to the toes. It is the most common cause of heel pain. Pain can be burning, aching, crippling, stabbing and occasionally lancinating in nature, typically when the main task requires continuous walking and prolong standing. The pain can take place at any part of the day but may increase during the first steps after waking-up or a prolonged rest(1)and can also be provoked by prolong standing, weight bearing and walking.

Plantar fasciitis may affect more than 1 million people worldwide per year. The exact prevalence of plantar fasciitis is still unknown.(1)Plantar fasciitisrepresents about 80% of heel pain and around 8–10% of injuries due to running. The lifetime prevalence is 10% and it frequently affects all ages with a peak occurrence between 25-50years of working females. Nearly more than 90% of plantar fasciitis cases can resolve voluntarily after one year duration and only 5% of patients who are diagnosed with plantar fasciitis go through surgery for the condition.(2)

The etiology of plantar fasciitis is multifactorial. It can be classified into four categories.

- **Mechanical cause**: include an externally rotated foot, pronated foot, pes cavus (high arch of the foot that does not flatten with weight bearing) and obesity.
- **Degenerative causes:** include atrophy of heel pad and age related increase in pronation.
- **Systemic causes:** Rheumatoid arthritis (RA), gout, systemic lupus erythematosus (SLE), ankylosing spondylitis and Reiter's syndrome.
- **External causes :** foot wear

RISK FACTORS FOR PLANTAR FASCITIS

Whenever the plantar fascia is put under strain it becomes inflamed or develop micro tear or both. The damage of the fascia is directly associated with following risk factor.

AGE

Women of age between 25-50 years old are at greater risk of developing plantar fasciitis. Age related changes results in fascia degeneration, where it fails to resist normal tensile loads. Prolong weight bearing activities results in repetitive micro trauma associated with degenerative changes.

WORK TASK

Several work tasks contribute to the origination of plantar fasciitis. The tasks like continuous walking, prolong standing, long distance running, weight bearing, ballet dancing and dancing that put higher level of stress on heel and attached tissues are associated with plantar fasciitis.

OBESITY AND BODY MASS INDEX (BMI)

Body mass index is the ratio of body weight to body height. Normal BMI ranges between 18.5-24.9kg/m², overweight 25-29.9kg/ m²and class 1 obesity is defined BMI more than 30kg/m². Increased body mass index and obesity integrates with increasing heel fat pad thickness and loss of heel pad elasticity leading to plantar fasciitis.(3)

EXCESSIVE FOOT PRONATION

Usually when the foot lands on the ground it pronates and rolls slightly inward. Too much pronation puts extra pressure on inner foot which can strain the plantar fascia.

HIGH ARCHES (PES CAVUS)

The plantar fascia help to maintain arches of foot and conserving a high arch may put strain on plantar fascia.

WEAK PLANTAR FLEXOR MUSCLE

The muscles that run across the bottom of the foot with plantar fascia are the intrinsic muscles of the feet. If these muscles are weak the plantar fascia may be put under excess strainleading to plantar fasciitis.

TIGHT ACHILLES TENDON

The ankle has a limited range of motion when the Achilles tendon is tight and it is difficult to fully flex the foot (dorsiflexi , which may eventually lead to tight plantar fascia resulting in plantar fasciitis. It is estimated that nearly 4 out of 5 people with plantar fasciitis also have a tight Achilles tendon.

DIFFERENT LEG LENGTHS

When a person has length legs discrepancy the plantar fascia and other soft tissue of the foot are stressed asymmetrically and have to work harder to absorb shocks and ground reaction forces causing plantar fasciitis.

HAMSTRING TIGHTNESS

There is an elevated risk of plantar fasciitis when hamstring tightness is present.(4)

Plantar fasciitis is diagnosed on the bases of patient history and physical examination. Patients can have local tenderness across the antero-medial of the calcaneum, pain starts with the first steps, or after training.Plantar fascia pain is chiefly perceptible upon the dorsiflexion of the pedal phalanges of patient, which further stretches the plantar fascia. Consequently, any activity that would increase the stretch of the plantar fascia, in particular walking barefoot without any arch suppor limbing stairs, or toe walking can aggravate the pain.The clinical exam will anticipate medical history and physical activity of patient, foot pain symptoms and use of imaging studies such as radiographs, diagnostic ultrasound and MRI.

If the condition is relatively mild the more convenient therapies (such as stretching, ice, heat, NSAIDs, or use of a foam viscoelastic pad, athletic shoe, or crepe-soled shoe with soft heel pad) are accepta e(5). If the clinical condition is of moderate severity and the early management have failed, an injection is recommended because of its convenience. Patients are warned, nevertheless, that not more than two or three injections will be given and rest must accompany the treatment. At this stage a night splint is an alternative to an injection.If the injection or other treatments have failed or the patient is very obese or has had prolo ed symptoms (6 to 12 months or longe the patient is strongly nudged to consider casting.The cast is left in place for 5 to 6 weeks.Recent reports states that a trial of casting is

advantageous before consideration of surgery. There is a concurrence that nonsurgical treatment is successful approximately 90% of the time.(5)

Most of the literature related to foot health and working activities is based on either western societies or developed countries. To the best of our knowledge, in spite of obvious differences between Western and Asian countries with regard to social, cultural and ethnic compositions, as well as shoe wearing habits and occupation related activities there is a lack of available information on working activities and foot health for Asian populations. Therefore, the objective of this study was to address this lack, as well as determine the prevalence of non-traumatic work related foot pain and its contributing factors in working women aged between 25 and 50 years in Asian setting.

3 LITERATURE REVIEW (3 PAGES)

Reda A.Goweda, et al conducting a research on " **Prevalence and Risk factors of Plantar Fasciitis**" patients with heel pain attending primary health Care center of "**Makkah**" in **2015**.He took population of mean age (30- 54) .In this study, he found prevalence of plantar fasciitis as 5[illegible]% .He noticed significant relationship with plantar fasciitis and its associated risk factors .104(66.7%) were obese, 91(58.3%) wearing inappropriate footwear and 104(89.7%) had sedentary life style.(6)

Hensen L,et al conducting a research on long term "Prog[illegible]sis of Plantar Fasciitis" in "**orthopedic journal of sports [illegible]edicine**" in **2018.** He took 174 patients (91 women, 83 men).On examination he found the risk of having P.F was 80.5% after 1 year, 50.0% after 5 years, 45.6% after 10 years and 44.0% after [illegible] years from the onset of symptoms.He noticed the fascia thickness decreased significantly in both the asymptomatic and symptomatic groups (p less than 0.1) from 6.9mm and 6.7mm respectively to 4.3mm in both groups.(7)

Nahin RL, et al conducted a research on "**Prevalence and Pharmaceuticals Treatment of Plantar Fasciitis**" in "**United [illegible]tates**" in **2018.**He found that 85% of sample was diagnosed as Plantar Fasciitis with pain. Higher Prevalence was seen in women (1.19%) versus men [illegible]47%) in age group of 45-64 years (1.33%) versus age group of 18-44 years (0.53%), in obese (1.48%) versus those who have body mass (less than 25) (0.29%). 41.04% of PF were seen using prescribed medications for pain.(4.01%) NSAID's, (2.21%) opioids were the most prevalent prescribed drugs PF pain. They were also seen using analgesics for pain management.(8)

Scher DL, et al conducting a research on "**The [illegible]idence of Plantar Fasciitis**" in "**United States Military**" in **2009.** The Prevalence of PF was 10.7 per 1000 p[illegible]on per year. Compared with men, women had increased incidence of PF of (1.96)compared with service member in Ai[illegible]orce, those in the Army and Marine had an increased incidence rate of PF of 1.85 and 1.28 respectively. The incidence rate ratio for age group of 40 or more than 40 compared with 20-24 years old groups was 3.42. (9)

Schick, et al. conducted a research on "**High Prevalence of Obesity and Female Gender**" among patients with "**Concomitan[illegible]Tibialis Posterior Tendonitis**" and PF in **2015.** He conducted study on 6879 patients .Among patients with either TPT or PF ,1 in 11 (9%) had both .He then compared age ,gender and body mass index among these groups .Patients with both diagnosis were neither statistically older nor more obese than patients with single diagnosis .They were statistically more females.(10)

Rasenberg N, et al conducted a research on "**Incidence, Prevalence and Man[illegible]ement of Plantar Heel Pain**". A retrospective cohort study in "**Dutch Primary Care**" .The overall incidence PHP was 3.83 cases per 1000 -year .The Inciden[illegible]of female was 4.64 and of males was 2.98. Overall Prevalence of PHP was 0.4374% .The Incidence of PHP was seen on its peak in September and October of each year.(11)

Sharma Pallavi, et al conducted research on **" To compare the Prevalence of Planter** Fascitis among Females Wearing Flat Foot Wear and Heels in Young Adults" in Indian journal of Physiotherapy and Occupational therapy .He conducted research on 100 participants, out of which 20% felt planter fascia stretch, 7% had positive windlass test, 27% population was prone to planter fasciitis out of which 19% of subject were those who wear high heels.7% population with positive windlass test were females who were wearing heals.(12)

Rezaeian T, et al conducted research on **"The Prevalence of Foot Structural Deformities in Female Hairdressers Working in Shiraz"** in Department of Physiotherapy, School of Rehabilitation Sciences,Shiraz University of Medical Sciences,Shiraz, Iran.He conducted research on 239 hairdressers.The results showed that 30.1% of subjects had a BMI lower than 18 and 56.1% of them were married. 38.9% of subjects worked more than 8 hours per day and 69.5% of them worked in standing position.According to results 53.1% of subject worn ordinary sandals and only 8.4% of them used arch support.Hallux valgus was found as a common deformity 54.9% among study subjects,34.8% of them had hallux rigidus and 31% calf pain and metatarsalgia.(13)

Sanchez N, et al conducted research on **"Planter Fasciitis Treatment:A Review** in Department of Mechanics Engineering, Pilot University of Colombia in 2018. He carried out a descriptive study not only from the medical but also the technological perspective of the pathology known as planter fasciitis .This study allows to identify and to thoroughly perceive the characteristics of this pathology from a medicine perspective and to identify the treatments and possible solutions offered from an engineering perspective, since throughout history many studies used for the treatment of any disease are usually used and complemented with advanced knowledge to approach the solution from a broader perspective, which allows obtaining better results.(14)

Fraser JJ et al, conducted research on **"Utilization of Physical Therapy Intervention Among Patients with Planter Fasciitis in the United States"** in Department of kinesiology,University of Virginia.He conducted research on 819 963 unique patients diagnosed with planter fasciitis accounted for 573737 visits from 2007 to 2011,comprising 2.7% of all patients in the database.only 7.1% of patients received a physical therapy evaluation .Of the 57800 patients evaluated by the physical therapist 59.8% females received manual therapy, with significant increases in utilization per annum. A large proportion 89.5% received rehabilitation following physical therapist evaluation. (15)

Matthew J, et al conducted research on **" Analysis of Planter Fasciitis Risk Factors Among Intercollegiate and Recreational Runners"** in 2016.MANOVA indicated the dorsiflexion AROM and PROM were significantly less in planter fasciitis group compared to the healthy control runners.Injury status accounted for 10.6% and 16.7% of variance in active and

passive dorsiflexion range of motion respectively.More specifically each degree of decreased dorsiflexion AROM increased the risk of planter fasciitis by 14.6%. (16)

Chua YP, et al conducted research on **Prevalence of nontraumatic foot pain among urban young working women and its contributing factors** under department of Orthopedic Surgery, University of Malaya Kuala lumpur in 2013.He conducted research on 400 urban working women.He took mean age of 25-35 yrs . He took sample from different countries like INDIA, MALAYA,CHINESE.More than 60% of women were professionals or working as administrative or supportive staff.A total of 200 (50.0%) experienced pain <1 day/week while the pain lasted for 1-2 days/week for 83 (41.5%) participants.For 42 (21.0%) participants the pain was present for 3-5 days/week while in the remaining 25(12.5%) participants pain was experienced for >5 days/week.overall 97(48.5%) of the 200 participants with foot pain admitted to using some form of pain relieving medication either orally or topically.only 23(11.5%) of the 200 participants with pain sought formal medical treatment for the problem with only 12(6.0%) requiring medical leave.most frequent site of foot pain at the heels rather than metatarsal heads,medial arch,toes,lateral arch,ankle joint and Achilles tendons.(17)

Daniel I, et al conducted a research on " **Risk factors for Planter Fasciitis:A matched case control study"** under the department of Physical therapy,Virginia Commomwealth University Richmond,Virginia in 2003.He concluded that individuals with <_0 degree of dorsiflexion had an odd ration of 23.3 when compared with the referent group of individuals who had > 10 degree of ankle dorsiflexion.Individual who had a body mass index of >30kg/m had an odd ratio of 5.6 when compared with the referent group of individuals who had a body mass index of <_ 25kg/m. Individuals who reported that they spent the majority of their work day on their feet had an odd ratio of 3.6 when compared with the referent group of those who did not. (18)

16

4 OBJECTIVE

- To find the Prevalence of Planter Fasciitis and Associated risk factors in working females in Lahore.

5 OPERATIONAL DEFINITIONS

Planter Fasciitis:

Inflammation of band like fibrous tissues at the bottom of foot that causes intense pain with movement is known as **Planter Fascitis.**

23

Prevalence:

Prevalence is a statistical concept referring to the number of cases of a disease that are present in a particular population at a given time.

Working Ladies:

Women that are official employed at different government and public sectors to serve and perform their appointed duties.

6 METHODOLOGIES

MATERIALS AND METHODS

Study Design: Descriptive cross sectional study design

Data collection: Data will be collected from different **Working Females** from Lahore.

Duration of study: Duration of study will be completed within **6 months** after the approval of synopsis

Sample Technique: Non probability convenient sampling technique used in this research

Sample size: Sample size of **267** was calculated using online sample size calculator **Raosoft** taking margin of error of 0.05, confidence interval of 95% and population size of 5000.

Margin of error : 0.05

Confidence level : 95%

Population size : 5000

Data Collection Tool :

Data will be collected through **Self made Questionnaire.**

Sample selection criteria

Inclusion Criteria:

- Working females
- 30 to 50 years of age
- Minimum 5 years of working years
- Working females having no other co morbidities

Exclusion Criteria:

- Presence of fracture in foot bones
- Recent surgery of foot
- Mentally retard working ladies
- Having musculoskeletal disorders and other comorbidities
- Having pathological disease
- Osteoporotic females

7 DATA ANALYSIS

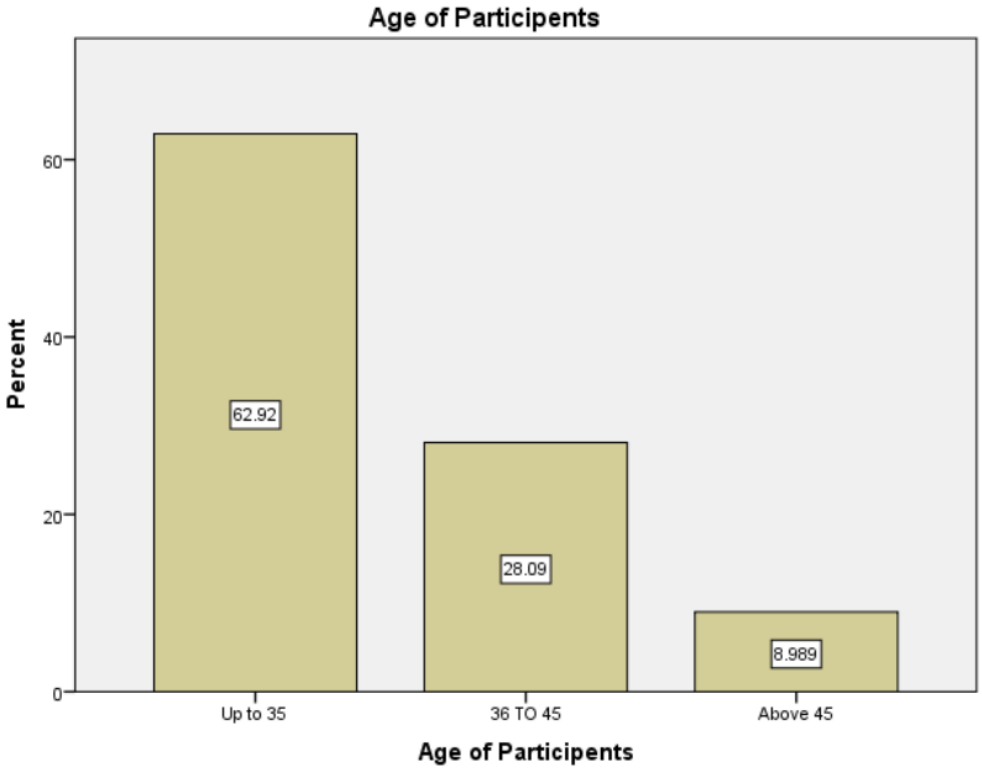
After taking informed written consent. Data will be collected using **Self made Questionnaire** . SPSS 25.0 will be used in this study for data analysis, frequency, flow charts and suitable data computing methods.

8 RESULTS (1 TO 1.5 PAGES)

A cross-sectional study will be conducted to establish the **Prevalence of Planter Fascitis and Associated Risk Factors in Working Females of Lahore**. Data will be collected through **Self made Questionnaire**. Sample size of the study is **267**.. SPSS 25.0 will be used in this study for data analysis, frequency, flow charts and suitable data computing methods. Data was collected from working ladies in Lahore over a 6 months period.

Age of Participents

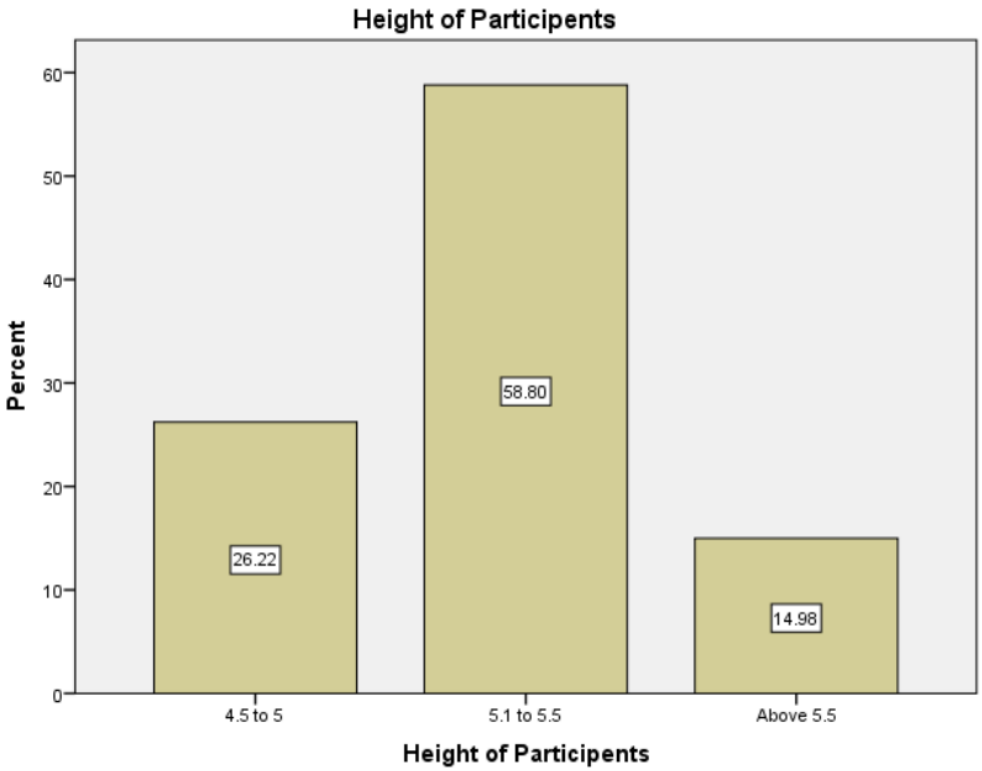
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Up to 35	168	62.9	62.9	62.9
	36 TO 45	75	28.1	28.1	91.0
	Above 45	24	9.0	9.0	100.0
	Total	267	100.0	100.0	



out of 267 valid participants, 62.92% range from 35 years of age , 28.09% ranges from 36-45 years of age and 8.98% ranges from 45+ ages.

Height of Participants

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	4.5 to 5	70	26.2	26.2	26.2
	5.1 to 5.5	157	58.8	58.8	85.0
	Above 5.5	40	15.0	15.0	100.0
	Total	267	100.0	100.0	

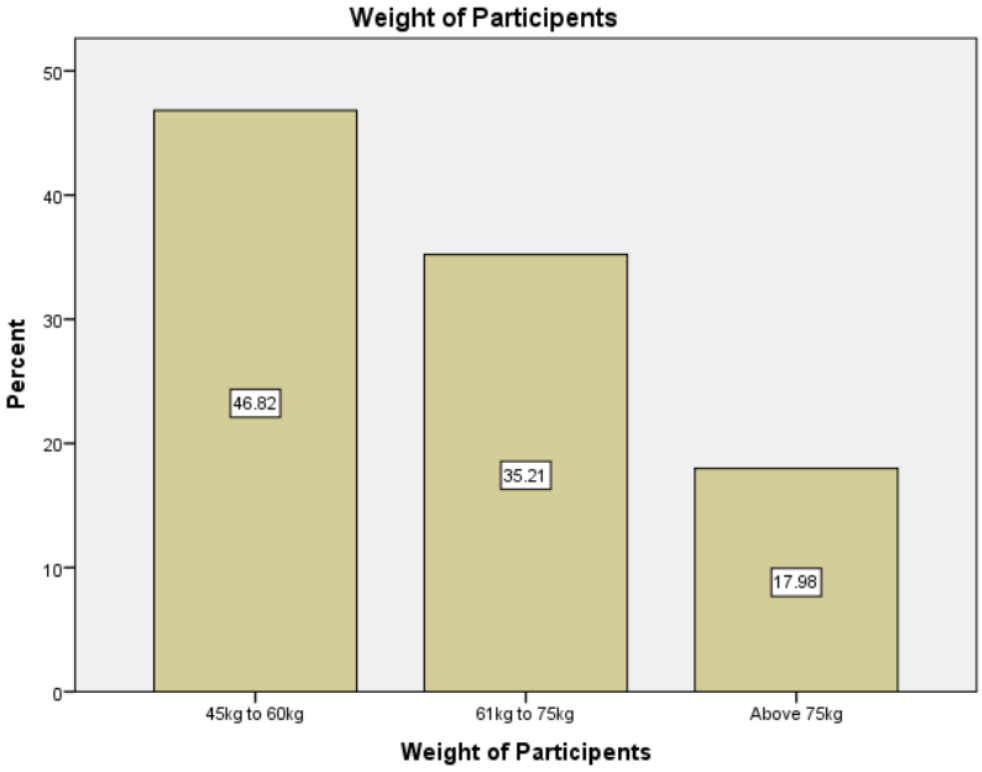


Out of 267 valid participants, 26.22% ranges from 4.5-5 feet of height , 58% ranges from 5.1-5.5 feet of height and 14.98% ranges from above 5.5 feet of height.

50

Weight of Participants

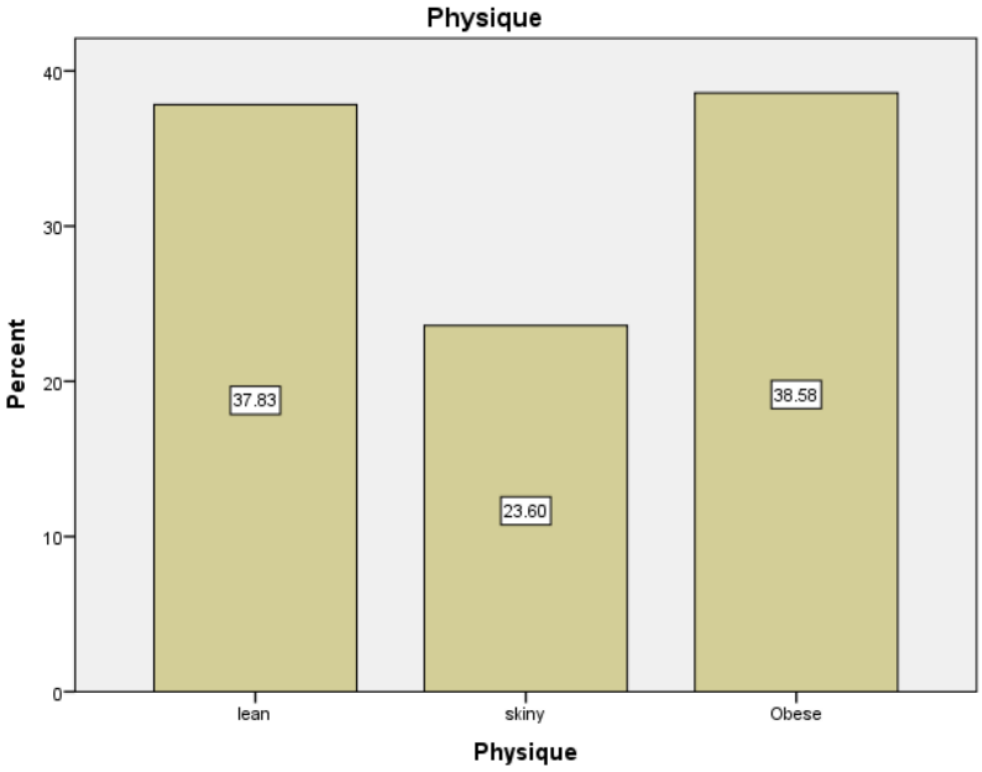
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	45kg to 60kg	125	46.8	46.8	46.8
	61kg to 75kg	94	35.2	35.2	82.0
	Above 75kg	48	18.0	18.0	100.0
	Total	267	100.0	100.0	



Out of 267 valid participants 46.82% ranges from 45kg-60kg of weight , 35.21% ranges from 61kg-75kg of weight and 17.98% have above 75kg of weight.

Physique

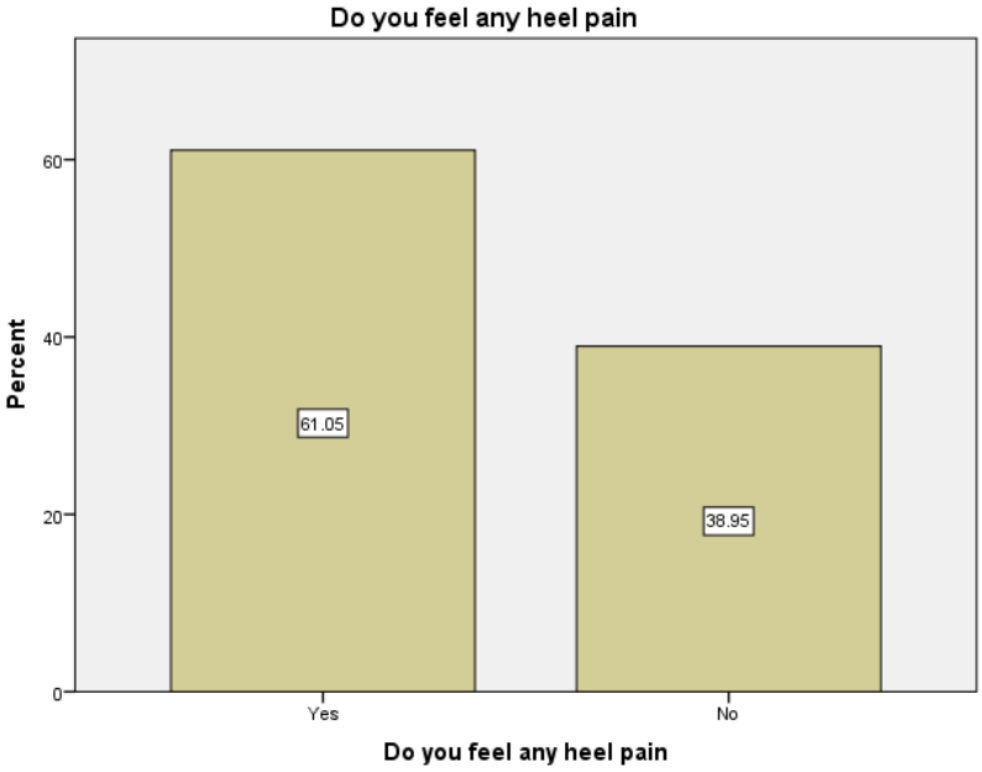
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Lean	101	37.8	37.8	37.8
	Skiny	63	23.6	23.6	61.4
	Obese	103	38.6	38.6	100.0
	Total	267	100.0	100.0	



Out of 267 valid participants , 37.83% were lean ,23.60% were skinny and 38.58% were obese.

Do you feel any heel pain

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	163	61.0	61.0	61.0
	No	104	39.0	39.0	100.0
	Total	267	100.0	100.0	



Out of 267 valid participants, 61.05% were suffering from heel pain while 38.95% were suffering not suffering from heel pain.

Do you suffer pain movement of feet

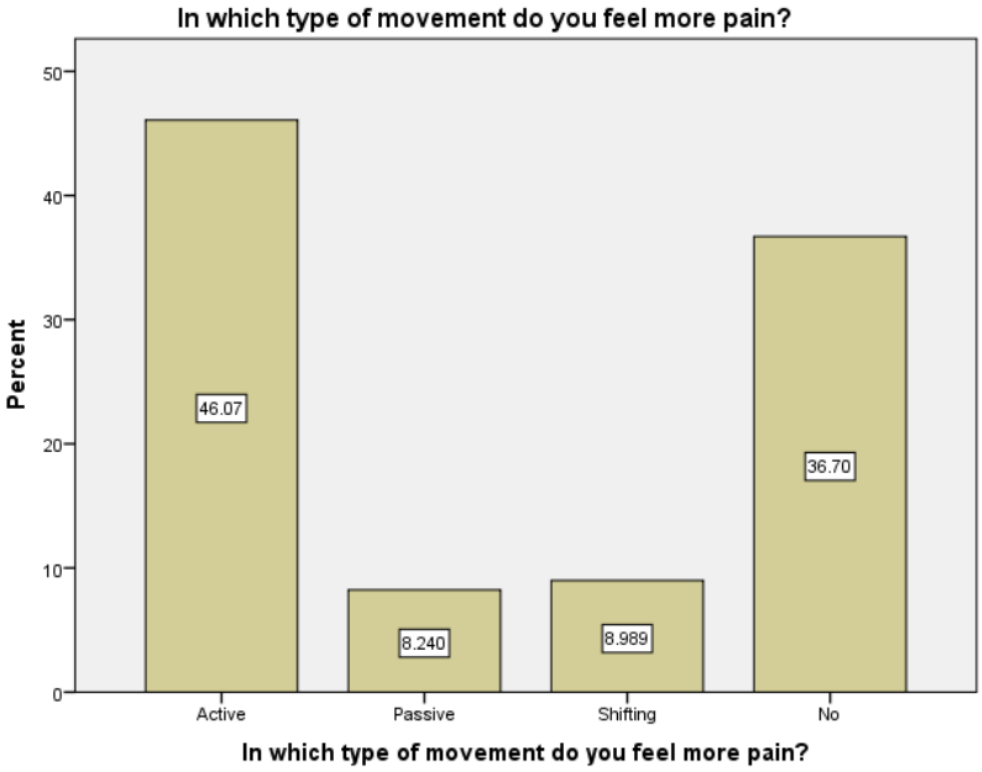
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	165	61.8	61.8	61.8
	No	97	36.3	36.3	98.1
	3.00	1	.4	.4	98.5
	4.00	4	1.5	1.5	100.0
	Total	267	100.0	100.0	

Out of 267 valid participants, 61.8% of participants suffered pain during movement of feet while 98.1% did not suffer pain during movement of feet.

In which type of movement do you feel more pain?

	Frequency	Percent	Valid Percent	Cumulative Percent

Valid	Active	123	46.1	46.1	46.1
	Passive	22	8.2	8.2	54.3
	Shifting	24	9.0	9.0	63.3
	No	98	36.7	36.7	100.0
	Total	267	100.0	100.0	



Out of 267 valid participants, 46.07% were feeling pain during active movements , 8.24% were feeling pain during passive movements of feet , 8.98% were feeling pain during shifting movements of feet and 36.70% were not feeling any pain.

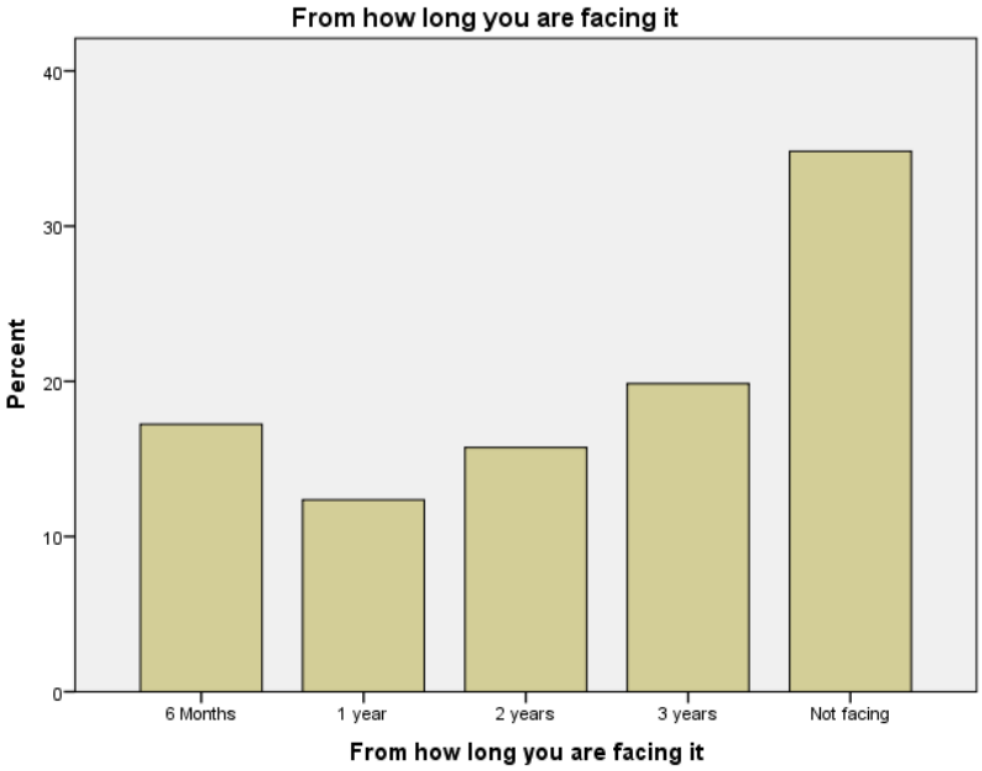
Which type of pain Do you feel?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Aggravating	89	33.3	33.3	33.3
	Shifting	48	18.0	18.0	51.3
	Stabbing	33	12.4	12.4	63.7
	No	93	34.8	34.8	98.5
	5.00	4	1.5	1.5	100.0
	Total	267	100.0	100.0	

Out of 267 valid participants, 33.3% were feeling aggravating pain , 51.3% were feeling shifting pain , 63.7% were feeling stabbing pain and 98.5% were not feeling any pain.

From how long you are facing it

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	6 Months	46	17.2	17.2	17.2
	1 year	33	12.4	12.4	29.6
	2 years	42	15.7	15.7	45.3
	3 years	53	19.9	19.9	65.2
	Not facing	93	34.8	34.8	100.0
	Total	267	100.0	100.0	

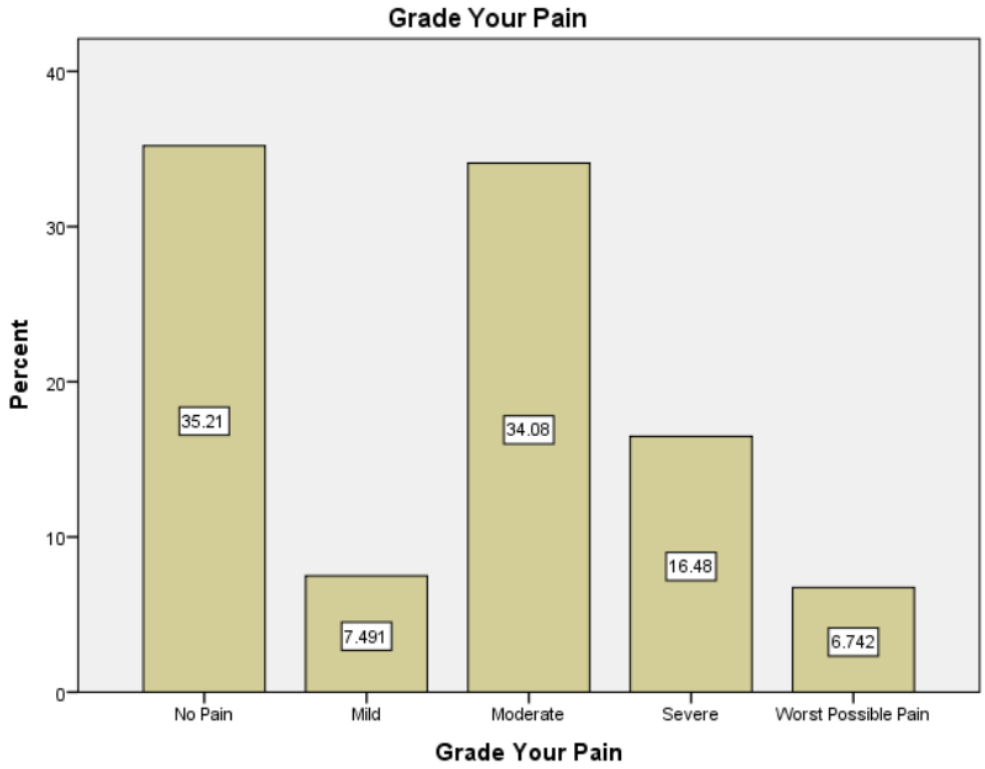


Out of 267 valid participants, 17.2% were facing pain from 6 months, 29.6% were facing pain from 1 year, 45.3% were facing pain from 2 years, 65.2% were facing pain from 3 years and 34.8% were not facing pain.

Grade Your Pain

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Pain	94	35.2	35.2	35.2

	Mild	20	7.5	7.5	42.7
	Moderate	91	34.1	34.1	76.8
	Severe	44	16.5	16.5	93.3
	Worst Possible Pain	18	6.7	6.7	100.0
	Total	267	100.0	100.0	



Out of 267 valid participants, 35.21% were facing no pain , 7.49% were facing mild pain , 34.08% were facing moderate pain , 16.48% were facing severe pain and 6.74% were facing worst possible pain.

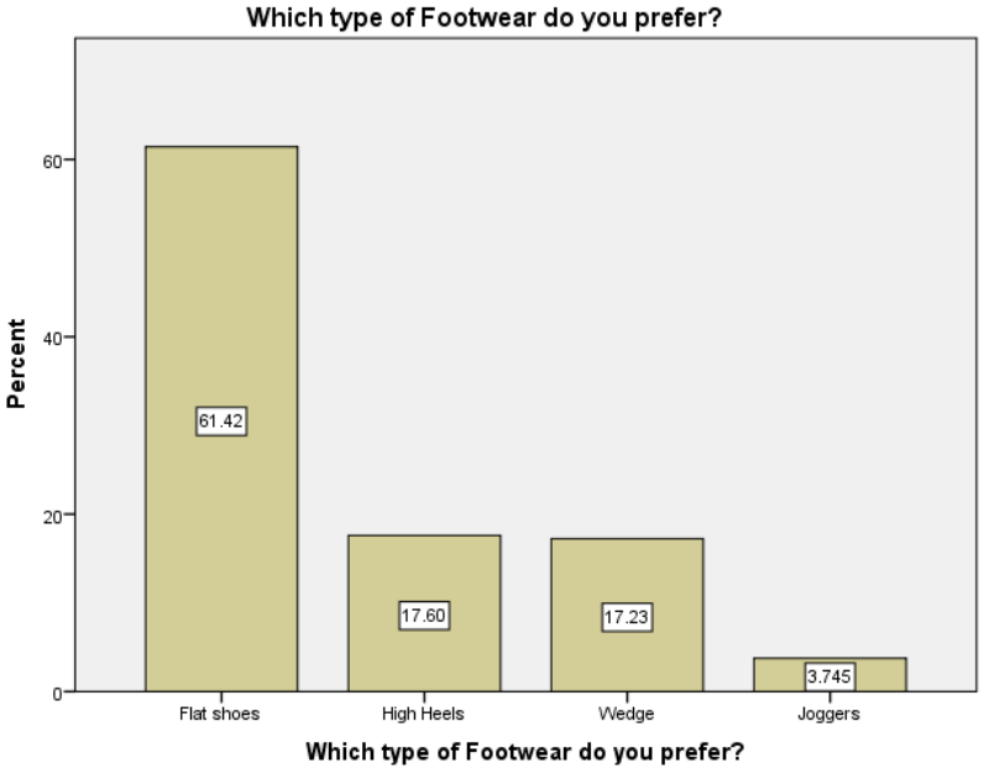
How much hours do you spend in your work?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	4-6 hours	33	12.4	12.4	12.4
	6 to 8 hours	85	31.8	31.8	44.2
	8-10 hours	82	30.7	30.7	74.9
	10-12 hours	66	24.7	24.7	99.6
	5.00	1	.4	.4	100.0
	Total	267	100.0	100.0	

Out of 267 valid participants, 12.4% spent 4-6 hrs in their work , 31.8% spent 6-8hrs in their work , 30.7% spent 8-10hrs in their work , 24.7% spent 10-12hrs in their work.

Which type of Footwear do you prefer?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Flat shoes	164	61.4	61.4	61.4
	High Heels	47	17.6	17.6	79.0
	Wedge	46	17.2	17.2	96.3
	Joggers	10	3.7	3.7	100.0
	Total	267	100.0	100.0	



Out of 267 valid participants, 61.42% were wearing flat shoes , 17.60% were wearing high heels , 17.23% were wearing wedges and 3.74% were wearing joggers.

when do you feel more pain

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	During rest	94	35.2	35.2	35.2
	During working hours	85	31.8	31.8	67.0

	No	80	30.0	30.0	97.0
	4.00	8	3.0	3.0	100.0
	Total	267	100.0	100.0	

Out of 267 valid participants 35.2% were feeling pain during rest , 31.8% were feeling pain during working hours , 30% were not feeling any pain.

.

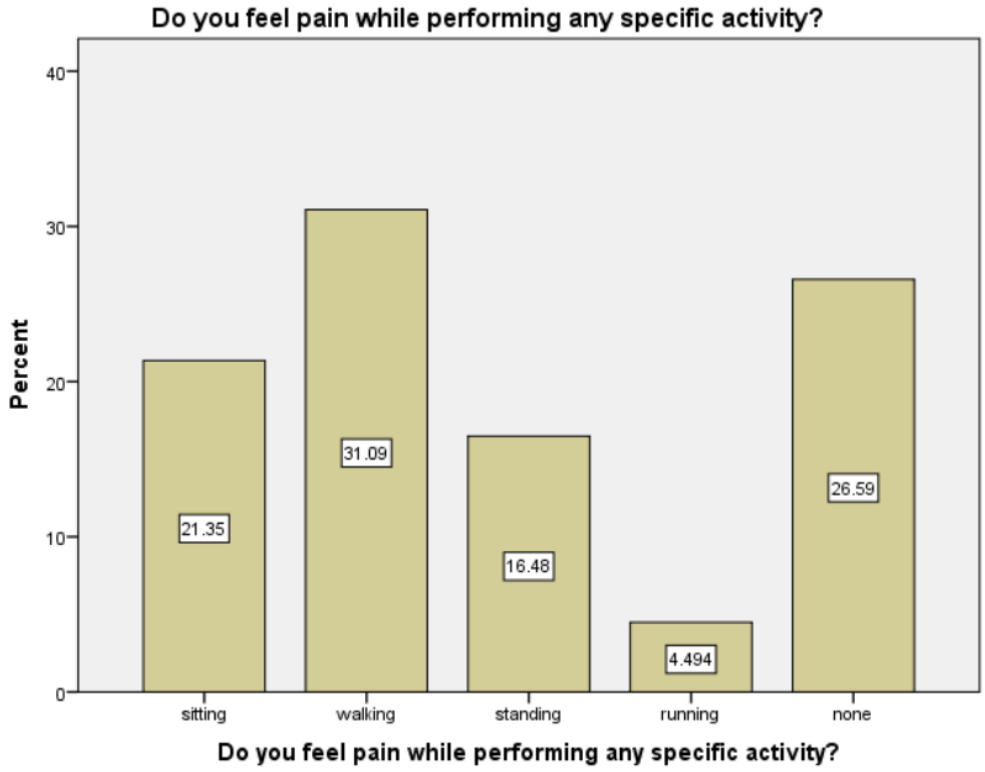
How much time do you spend while standing or walking in a day?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2 hours	19	7.1	7.1	7.1
	3 hours	37	13.9	13.9	21.0
	4 hours	64	24.0	24.0	44.9
	5 hours	144	53.9	53.9	98.9
	5.00	3	1.1	1.1	100.0
	Total	267	100.0	100.0	

Out of 267 valid participants, 7.1% spent 2 hrs in standing or walking , 13.9% spent 3hrs in standing or walking , 24% spent 4hrs in standing or walking , 53.9% spent 5hrs in standing or walking.

Do you feel pain while performing any specific activity?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Sitting	57	21.3	21.3	21.3
	Walking	83	31.1	31.1	52.4
	Standing	44	16.5	16.5	68.9
	Running	12	4.5	4.5	73.4
	None	71	26.6	26.6	100.0
	Total	267	100.0	100.0	



Out of 267 valid participants, 21.35% felt pain during sitting , 31.0% felt pain while walking , 16.8% felt pain while standing , 4.09% felt pain while running and 26.59% did not feel any pain.

Tenderness

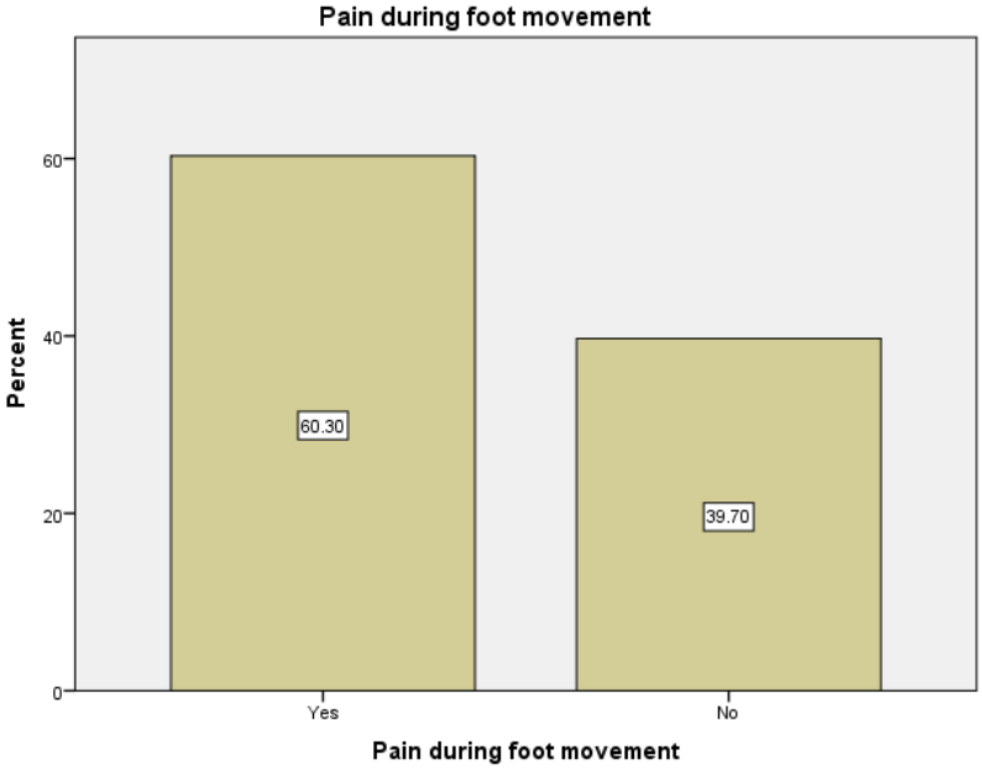
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Present	141	52.8	52.8	52.8
	Absent	125	46.8	46.8	99.6
	3.00	1	.4	.4	100.0

	Total	267	100.0	100.0	

Out of 267 valid participants, 52.8% were presenting with tenderness and 46.8% were not presenting with tenderness.

Pain during foot movement

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	161	60.3	60.3	60.3
	No	106	39.7	39.7	100.0
	Total	267	100.0	100.0	

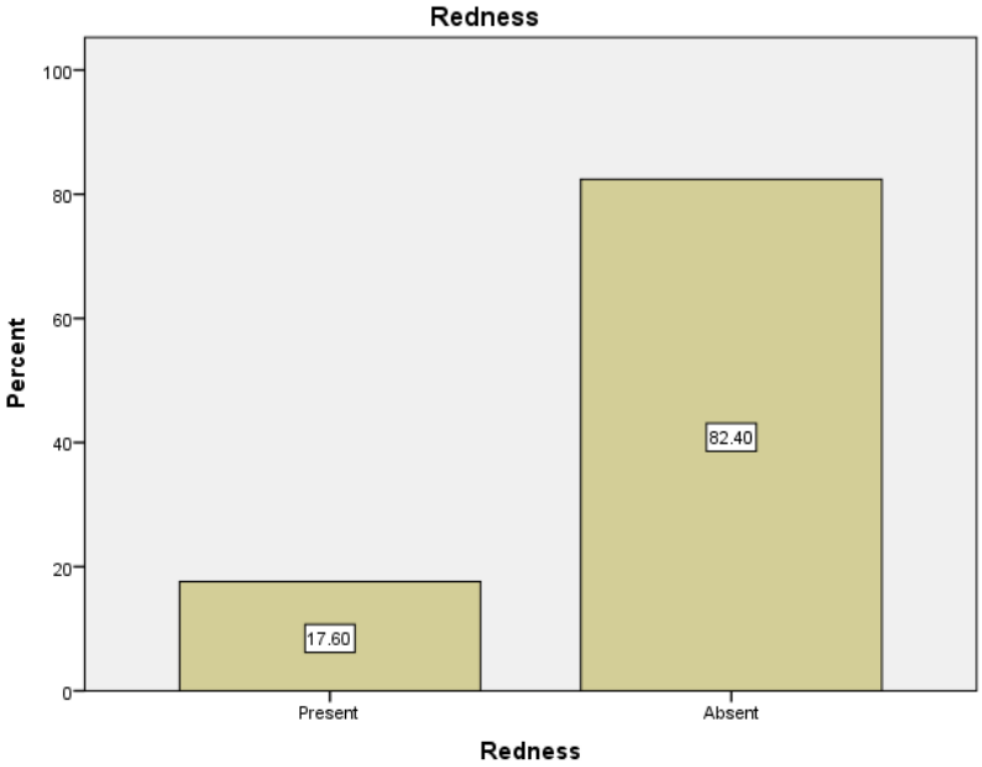


Out of 267 valid participants, 60.30% were presenting with pain during foot movement(passive dorsiflexion) and 39.70% were not presenting with pain during movement (passive dorsiflexion).

Redness

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Present	47	17.6	17.6	17.6

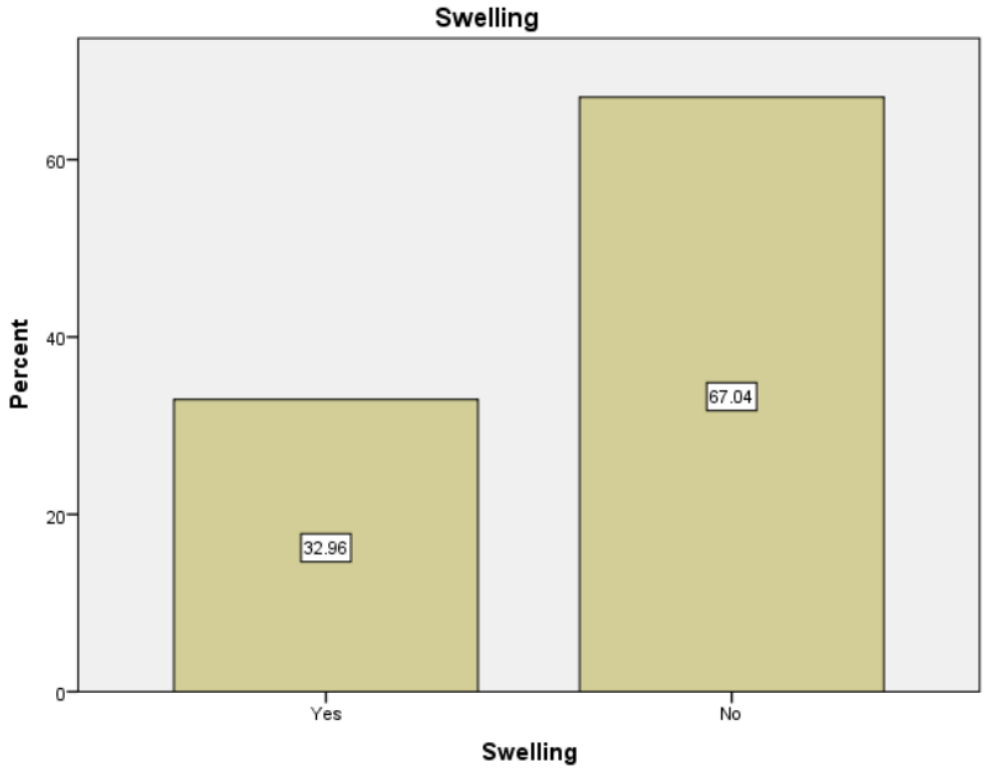
	Absent	220	82.4	82.4	100.0
	Total	267	100.0	100.0	



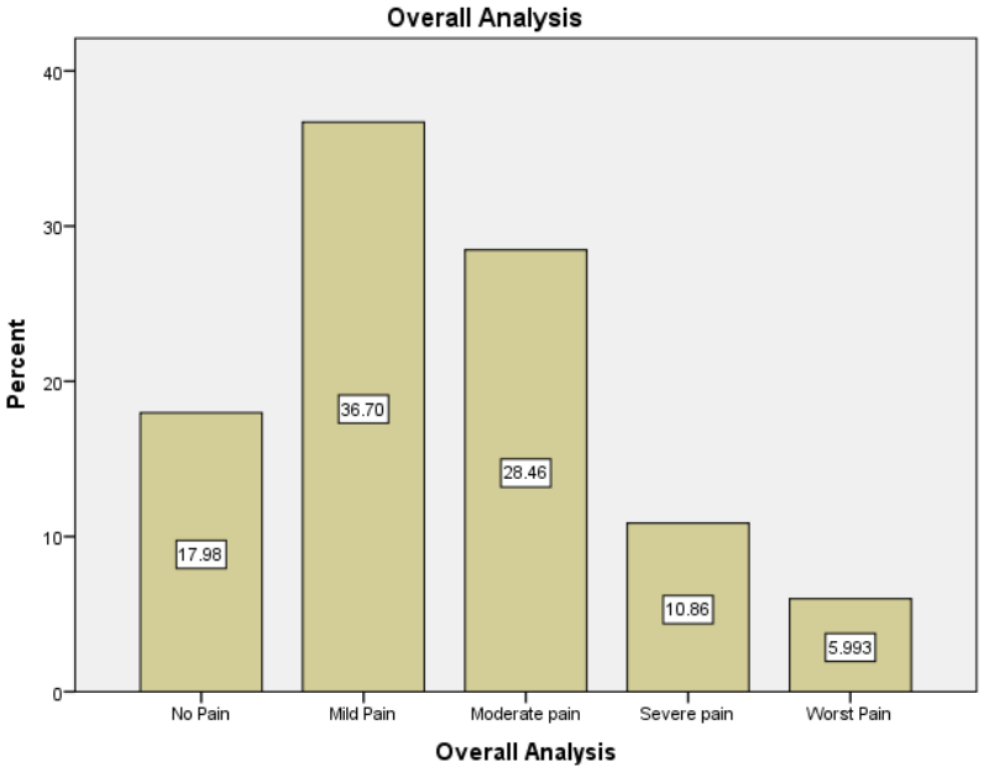
Out of 267 valid participants, 17.60% were presenting with redness during physical examination while other 82.40% not presenting with any redness.

Swelling

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	88	33.0	33.0	33.0
	No	179	67.0	67.0	100.0
	Total	267	100.0	100.0	



Out of 267 valid participants, 32.96% were presenting with swelling on physical examination while other 67.04% were not presenting with swelling.



According to VAS, higher the score (moderate to severe)worse is the condition and inability to perform movements or restricted movement . According to our calculation out of 267participants,17.98% do not have heel pain, 36.70% have mild heel pain . 28.46% suffered moderate pain with movement restrictions ,10.86% lies in severe pain score with movement restrictions and 5.99% lies in worst pain score with movement restrictions ,which are collectively diagnosed as positive for planter fasciitis and presenting the frequency of planter fasciitis.so the collective prevelance of planter fasciitis is 45.31 % over the sample of 267 .

10 DISCUSSION (1.5 TO 2 PAGES)

There were various debates on heel pain issue among working females. And from our discussion we can see that there are various issues and facts which play a key role in having plantar fasciitis among working ladies.

In previous study we can see that women had a significantly increased adjusted incidence rate ratio for plantar fasciitis of 1.96 (95% confidence interval, 1.94 to 1.99).(19)

A study reveals thatchronic plantar heel pain appears to occur most commonly between the ages of 40 to 59 years however the prevalence of disabling plantar heel pain was slightly higher in adults aged 75 years or older in our sample.(20)However in our study it was found that 62.92% working ladies of age up to 35 have high incidence of plantar fasciitis, 28.09% population of age group 35 to 45 have been suffered from the condition and about 8.989% working ladies of age above 45 have been sustained plantar fasciitis.

In another research it was meant to be foundthat more than half (68.4%) of the women with foot pain in our study ascribed the pain to footwear.(21) Wearing high-heeled shoes to work was a significant contributing factor.Whereas in our study it was found that 51.42% working ladies prefer flat shoes and were healthy having no plantar fasciitis while 17.60% and 17.23% population use high heels and wedges respectively and had tensed plantar fascia causing plantar fasciitis and only 3.745% working ladies use joggers and experience no heel pain.Increased public awareness on the importance of proper footwear may help to minimize the prevalence of non-traumatic foot pain in working women.

In another research obese participants (BMI >30) were compared to those who were overweight (BMI = 25–30) and not overweight (BMI <25). Obese participants were found to have a significantly higher prevalence of foot pain.(22) Hill et al reported that obesity, based on BMI, was associated with an increasing prevalence of foot pain. Similarly, Frey and Zamora found that in general, being overweight or obese significantly increased the chances of having tendonitis of the foot and ankle.(21) Whereas in our study it was found that 46.82% working ladies having weight 45kg to 60kg have high incidence of plantar fasciitis, 35.21% working females of weight 61kg to 75kg sustain the condition and about 17.98% of working population with weight above 70kg have been suffered from plantar fasciitis.

The aims of this study were to describe the occurrence of plantar heel pain, determine associated risk factors and examine health status in working ladies. Our findings suggest that plantar heel pain affects approximately one in 10 working females aged 30 to 50 years in the general population. Several studies have documented the association between prolonged standing and walking activities and ankle/foot disorders, there was a 20% increase in risk for each additional 48 min (10% of the work day) spent walking and standing. We confirmed that age and female gender were significant risk factors associated with plantar heel pain. Several authors have suggested that foot biomechanics may play a role in the development of ankle/foot disorders, the use of shoe orthoses may be able to modify the risk by offloading the metatarsal heads or great toe through use of an appropriate metatarsal bar. Thus reducing the high metatarsal peak pressure in working ladies help reduce the plantar heel pain. The diagnosis was based on a physical examination in combination with a symptom

questionnaire. The exposures were quite varied with some working females having primarily sedentary jobs while many had jobs requiring prolonged standing. Workers with plantar heel pain disorders could be more likely to be dissatisfied with their job due to continued pain or the low job satisfaction could lead to higher reporting of regional discomfort.
In short Plantar fasciitis is very common in primary health care settings with obesity, sedentary lifestyle, wearing inappropriate shoes, frequent running and long standing which were shown to be risk factors. Health education program is highly recommended for those patients with plantar fasciitis, additionally health education programs should be conducted to general population to protect people from plantar fasciitis which is considered as a preventable condition.

11 conclusion

In conclusion, the study revealed that majority of working ladies complained of foot pain especially in heel. The pain was moderate particularly following long standing. The pain was supplementary between middle to old aged women with high load of occupation related activities. The pain amend the conventional daily living activities between more than three quarters of working ladies however very few numbers who asked for medical consultation.

Prevalence of planter fasciitis in working females is 45.3% which is due to different associated risk factors such as age ,weight, height, footware, working routine ,prolong standing or walking and any foot abnormality.

12 RECOMMENDATIONS

- In working females to prevent heel pain, stretching of planter fascia is advised to increase flexibility of fascia.
- Stretching of fascia involves toe stretch, towel stretch, calf stretch should be incorporated in daily duty schedule.
- Towel curls and marble pickups are advised for strengthening.
- Massage at the bottom of foot can be done to improve the condition.
- Night splint should wear to hold the ankle and foot in position to improve the condition.
- To prevent and improve inflammation and pain NSAID should be used.
- Risk factors should be prevented to avoid and improve the condition of planter fasciitis.
- In future this research can be conducted on vast sample as we conducted it on limited sample size of 267 participants.
- In future this research can be conducted on different areas to get more information of different areas.

13 LIMITATIONS

- This study is confined to certain areas of Lahore where working females were doing their duty and it does not include international Data. So there can be biased collection of data.
- The study was designed under special circumstances for the fulfillment of degree and under specific time space so that it can be completed conveniently.
- Researcher could not be able to acquire large data sample because of limited sources and time period.

Thesis

ORIGINALITY REPORT

38%	34%	22%	8%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	sma.org.sg Internet Source	6%
2	Robert A. Werner, Nancy Gell, Anne Hartigan, Neal Wiggermann, W. Monroe Keyserling. "Risk factors for foot and ankle disorders among assembly plant workers", American Journal of Industrial Medicine, 2010 Publication	3%
3	www.sports-health.com Internet Source	2%
4	journals.lww.com Internet Source	2%
5	www.ripublication.com Internet Source	2%
6	www.science.gov Internet Source	2%
7	ecc.isc.gov.ir Internet Source	1%
	siteresources.worldbank.org	

8	Internet Source	1%
9	Submitted to Eastern Arizona College Student Paper	1%
10	www.physio-pedia.com Internet Source	1%
11	bmcmusculoskeletdisord.biomedcentral.com Internet Source	1%
12	ecommons.txstate.edu Internet Source	1%
13	www.evidenceinmotion.com Internet Source	1%
14	jhiphalexu.journals.ekb.eg Internet Source	1%
15	onlinelibrary.wiley.com Internet Source	1%
16	worldwidescience.org Internet Source	1%
17	www.phitsjax.com Internet Source	1%
18	www.ncbi.nlm.nih.gov Internet Source	1%
19	Submitted to Otago Polytechnic Student Paper	1%

20	Nadine Rasenberg, Sita MA Bierma-Zeinstra, Patrick J Bindels, Johan van der Lei, Marienke van Middelkoop. "Incidence, prevalence, and management of plantar heel pain: a retrospective cohort study in Dutch primary care", British Journal of General Practice, 2019 Publication	<1%
21	pt.scribd.com Internet Source	<1%
22	studia.ubbcluj.ro Internet Source	<1%
23	www.pycm.ir Internet Source	<1%
24	jbjs.org Internet Source	<1%
25	ridingincarzwithboyz.blogspot.com Internet Source	<1%
26	eprints.mdx.ac.uk Internet Source	<1%
27	www.chapman.edu Internet Source	<1%
28	Submitted to University of Central Florida Student Paper	<1%
29	governor.utah.gov	

	Internet Source	<1%
30	Submitted to Higher Education Commission Pakistan Student Paper	<1%
31	T. Rezaeian, T. Motiallah, N. Ghanbari, F. Moghimi, S. Piroozi. "The Prevalence of Foot Structural Deformities in Female Hairdressers Working in Shiraz", Physical Treatments: Specific Physical Therapy, 2015 Publication	<1%
32	jdc.jefferson.edu Internet Source	<1%
33	es.scribd.com Internet Source	<1%
34	journals.sagepub.com Internet Source	<1%
35	medatrio.com Internet Source	<1%
36	www.jospt.org Internet Source	<1%
37	www.ukessayslondon.com Internet Source	<1%
38	Richard L. Nahin. "Prevalence and Pharmaceutical Treatment of Plantar Fasciitis in	<1%

United States Adults", The Journal of Pain, 2018
Publication

39	Sari J. Priesand, Brian M. Schmidt, Lynn Ang, James S. Wrobel, Michael Munson, Wen Ye, Rodica Pop-Busui. "Plantar fasciitis in patients with type 1 and type 2 diabetes: A contemporary cohort study", Journal of Diabetes and its Complications, 2019 Publication	<1%
40	Liselotte Hansen, Thøger Persson Krogh, Torkell Ellingsen, Lars Bolvig, Ulrich Fredberg. "Long-Term Prognosis of Plantar Fasciitis: A 5- to 15-Year Follow-up Study of 174 Patients With Ultrasound Examination", Orthopaedic Journal of Sports Medicine, 2018 Publication	<1%
41	P. Beeson. "Plantar fasciopathy: Revisiting the risk factors", Foot and Ankle Surgery, 2014 Publication	<1%
42	Submitted to La Trobe University Student Paper	<1%
43	sophia.stkate.edu Internet Source	<1%
44	www.slan.org.ve Internet Source	<1%
45	www.jlc.org	

	Internet Source	<1%
46	vuir.vu.edu.au Internet Source	<1%
47	services.bepress.com Internet Source	<1%
48	www.elsevier.es Internet Source	<1%
49	trojan.troy.edu Internet Source	<1%
50	www.chp.gov.hk Internet Source	<1%
51	www.tbh.org Internet Source	<1%
52	www.freepatentsonline.com Internet Source	<1%
53	www.dolir.missouri.gov Internet Source	<1%
54	www.dovepress.com Internet Source	<1%
55	repub.eur.nl Internet Source	<1%
56	YP Chua, WJ Tan, TS Ahmad, A Saw.	<1%

"Prevalence of nontraumatic foot pain among urban young working women and its contributing factors", Singapore Medical Journal, 2013

Publication

Exclude quotes	Off	Exclude matches	Off
Exclude bibliography	On		