

Kitchen Platform Also Cause The Spinal Pain In Females

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Abstract- Scientific scrutiny of low back problems demonstrates its socio-economic importance in most industrialized societies. The patho-mechanics of low back pain is unknown. Physicians¹ are beginning to get better perception of what causes of pain psycho-social factors, PIVD, spondylolisthesis, OA, muscular imbalance etc or other pathological & bio-chemical factors.

Material and Methods: Patients from suspected cases of spinal pain were received in my clinic are kids or adults using mobile phones, laptops or computers and house-wives in kitchens. Females, who are working at high-platform kitchen at urban areas. Their posture leads to hyperextension [hyperlordosis] of lumbar spine that causes associates with hyper flexion of cervical spine and increase thoracic kyphosis and both knees are slightly flexed in posture.

Result: By the use of stepper for standing posture, reduce the load of knee joint. Use of high-stools for sitting posture, pressure of the Lumbar spine is much reduced. Modified kitchen platforms and therapeutic exercises leads to improve functional activities and posture by reducing pain and muscular imbalance. Spinal pain continues to be a major public health problem with an increasing trend. So, correction of hyperextension [hyperlordosis] of lumbar spine and hyper flexion of cervical spine, thoracic kyphosis and prevent the knees from flexion by therapeutic exercises, using high stools in kitchens during work, alternating changes of stepper under the leg and nutritional supplements for improve musculoskeletal nutritional status and modify the high-platforms in the kitchen.

I. INTRODUCTION

Pain is a distressing feeling often caused by intense or damaging stimuli. It is a major symptom in many medical conditions, and can interfere with a person's quality of life. Now a day, it is very common problem in developing and developed countries. The pain may be characterized as a dull ache, shooting or piercing pain, or a burning sensation.

Back pain can affect people of any age, for different reasons. As people get older, the chance of developing lower

back pain increases, due to factors such as previous occupation and degenerative disk disease. Low back pain and neck pain are the first and fourth leading causes of years lived with disability.

Lower back pain may be linked to the bony lumbar spine, discs between the vertebrae, ligaments around the spine and discs, spinal cord and nerves, lower back muscles, abdominal and pelvic internal organs, and the skin around the lumbar area. Pain in the upper back may be due to disorders of the aorta, tumors in the chest, and spine inflammation.

Spinal pain is divided into neck pain (cervical), middle back pain (thoracic), lower back pain (lumbar) or coccydynia (tailbone or sacral pain) based on the segment affected. The lumbar area is the most common area for pain, as it supports most of the weight in the upper body.

²Persistent pain interfering with daily activities is common. The prevalence of chronic pain in the adult population ranges from 2% to 40%. With a median point prevalence of 15%. The lifetime prevalence of spinal pain has been reported as 54% to 80%. Studies of the prevalence of low back pain and neck pain and its impact in general have shown 23% of patients reporting grade 2 to grade 4 low back pains versus 15% with neck pain.

The present study was conducted among females between the ages of 25-50 years. A total of 25 women between the ages of 25-50 years including in the study. A group of females are house-wives, working-women and females from rural areas. Females, who are house-wives, and spend 5-6 hours per day in the modular kitchen. Office Working ladies are spend 6-7 hours per day in front of computers or laptops. Females belongs from rural areas, spend 5-6 hours per day in the kitchen but in sitting position.

II. MATERIALS AND METHODS

Patients from suspected cases of spinal pain were received in my clinic are kids and adults using mobile phones and laptops or computers and house-wife in kitchens.

The women were interviewed using pre-structured. A detailed profile, obstetric and medical histories were collected. After through proper assessment, back pain was suspected.

A group of 5 females, who are working in kitchen at least 5-6 hours every day. So, because of long duration of standing posture, women get tired and take the support of high platforms in modular kitchens. ⁴This posture leads to hyperextension [hyperlordosis] of lumbar spine that causes associates with hyper flexion of cervical spine and increase thoracic kyphosis and both knees are slightly flexed in posture. This poor posture leads to flattening of cervical lordosis [elongation of neck extensors and shortening of flexors], hyperlordosis of lumbar spine [Stretching/elongation of lumbar flexion muscles and shortening of lumbar extensors], flexed knee joint [shortening of hamstring]. Short muscles fibers caused hyper toned muscles and elongate muscle fibers caused weakness of muscles.

After proper assessment of these symptoms, we decided the therapeutic protocols for improve ADL and reduce pain and postural correction. In this therapeutic approach, we educate the patient for correct posture and range of motion exercises of cervical in every half an hour. Stretching exercise of neck flexors and spinal extensors and hip flexors and strengthening exercises of abdomen, gluteus and neck extensors. Quadriceps strengthening and hamstrings and calf static stretching.

Advice the patient to use stepper during work in kitchen to prevent hyperextension [hyperlordosis] of lumbar spine and reduce the stress of knee joint muscles. Also use the high-stools in the kitchen for sitting during work.

Working posture becomes an important factor while designing ergonomically sound tools, equipment and workstation or platform. Platform is nor too high or nor too low. Platform height of the kitchen is at the level of umbilical region. So the need for assessing reduction of muscular stress on the women worker with the use of improved tools and implements was felt so that the women can be persuaded to use the effective improved equipment to ensure right work posture for the selected activities and can have least fatigue and discomfort to the body.

Good body posture and ergonomics are, therefore, important for the homemaker who spends major portion of her time performing household tasks. Her working arrangements should be ergonomically correct to enable her good body posture. She should be able to stand or sit at the place of her work without having to stoop, stretch or climb to do the work in hand. Advice the patient to reduce the body weight and

improve dietary status according to patient's nutritional requirements.

5 women from the second group used to work in the office. They continue spend 6-7 hours in computer work. So, because of long duration of sitting posture, neck goes to flexion and upper back are also affected. This posture leads to changing neck curve from concave to convex which is creating one big C-curve. Chin jutting, sitting more on spine as pelvis tilt back, discs begin bulging. This posture also leads to straightening of lumbar spine.

The last group of 5 females are belongs from rural areas who spend 5-6 hours in the kitchen but they work in sitting position or proper an Indian style kitchen.

III. RESULTS

In this study total of 15 women between the age group 25-50 years. The greater proportion of women belonging to 25-50 years age group i.e. the 25-30 years, the patient getting relief from pain in lower back from using stepper is 30%-40% and in knee joint is 50%-60%. From the high-stool 60%-70% in lower back, 70%-80% in knee joint and 30%-40% in neck pain. Then prescribed therapeutic exercises with therapeutic tools, we found better results through exercises. Patient getting relief from pain in lower back is 70%-80%, in neck pain 60%-70% in and knee joint is 70%-80% and these exercises are also very helpful to increase the range of motion of cervical and lumbar movements.

The age group of 30-40 years of females, the patient getting relief from pain in lower back from using stepper is 25%-30% and 40%-50% in knee joint. Using the high-stool, the pain is relieved 50%-60% in lower back, 60%-70% in knee joint and 30%-35% in neck. Through prescribed exercises patient getting relief from pain in lower back is 60%-70% and 50%-60% in neck pain and 60%-70% in knee joint.

The last group between the ages of 40-50 years of females, lower back pain is relieved 20%-25% and knee joint is 15%-30% through stepper. The patient getting relief from lower back pain using high-stools is 40%-50%, 45%-50% in knee joint and 25%-30% in neck pain.

In this age group, we prescribed therapeutic exercises with nutritional supplements because nutritional status is very low in this group of females. So, through exercises, relief from lower back pain is 50%-60%, knee joint pain is 40%-50% and 30%-40% in neck.

Percentage of improved clinical symptoms in various segments after therapeutic approaches:-

Table 1:-

Age	Therapeutic tools and exercises	Involved Regions		
		Cervical Region	Lumbar Region	Knee Joint
25-30 years	Stepper	-	30%-40%	50%-60%
	High-stool	30%-40%	60%-70%	70%-80%
	Therapeutic-Exercises	60%-70%	70%-80%	70%-80%

Table 2:-

Age	Therapeutic tools and exercises	Involved Regions		
		Cervical Region	Lumbar Region	Knee Joint
30-40 years	Stepper	-	25%-30%	40%-50%
	High-stool	50%-60%	60%-70%	30%-35%
	Therapeutic-Exercises	50%-60%	60%-70%	60%-70%

Table 3:-

Age	Therapeutic tools and exercises	Involved Regions		
		Cervical Region	Lumbar Region	Knee Joint
40-50 years	Stepper	-	20%-25%	15%-30%
	High-stool	40%-50%	40%-50%	25%-30%
	Therapeutic-Exercises with nutritional supplements	40%-50%	50%-60%	30%-40%

IV. DISCUSSION

This study revealed the overall prevalence of spinal pain and deformities among house-wives and working ladies in urban areas. Our result is found to be pain and deformities of spinal segments in house-wives of rural areas as well as urban areas. As per data of 30 females selected in our clinics, the criteria are based on their working-time and associated age groups.

³After proper examinations of the patients between the ages of 25-50 years, we found that in office-working ladies mainly suffer from cervical pain because of maximum use of laptops, computer and mobile phones.

On the other side, the house-wives between the age group of 25-50 years, who work in modular kitchens, are mainly suffer from cervical pain, lumbar pain and knee pain. After proper assessment, we found that high platforms in the kitchen are the main cause for these clinical symptoms. Then we decided the treatment protocols.

By the use of stepper for standing posture, reduce the load of knee joint and avoid excessive pelvic tilting which is caused by hyper-lordotic lumbar spine. Patient getting much relief by stepper at the age of 25-30 years. The relief is comparatively mild in knee pain and lumbar pain at the age of 40-50 years, because lack of nutritional status, maternal deliveries etc. The pelvic stability in step standing positions was achieved by dynamic weight shifts through tactile cueing of lower trunk abdominals and gluteus maximus. The exercise was further progressed to stepping sideways in standing with posterior tilted pelvis, which involved the coordinated activity between quadratus lumborum, adductor and abductors of the hips.

In another, by the use of high-stools for sitting posture, pressure of the knee joint and lumbar spine is much reduced. Patient getting much relief in hyperlordotic posture of lumbar spine and hyper flexion of cervical spine, of all groups regarding study.

Another treatment protocol for this study is therapeutic exercises. Stretching exercises for neck flexors, spinal extensors and hip flexors and strengthening exercises of neck extensors, abdomen and gluteal muscles are helps to reduce the pain and increase the range of motion of spine. Quadriceps strengthening exercises and stretching of hamstring muscles are reduces pain and improves function of knee joint. It leads to improve functional activities and posture by reducing pain and muscular imbalance. We prescribed ⁵nutritional supplements at the age group of 40-50 years because Indian females having weak musculature of spine because of less exercises after pregnancy and poor nutritional status.

We advice the patients that they correct kitchen platforms according to their heights. We said that if the platform kitchen is at the umbilicus level then the hyperextension [hyperlordosis] of lumbar spine is reduced and it leads to decreased stress over the knee joint and extra loading of knee joint muscles. Patient also getting relief from pain of cervical spine because of modified high-platform; cervical flexion is also reduced than the previous condition.

V. CONCLUSION

The present study was carried out from the modular kitchens in the urban areas. By the use of stepper, high-stools and Modified platforms in the kitchen and therapeutic exercises for muscular imbalance, reduce pain and improve functional range of motion of the affected joints, patient getting relief from their problems. Nutritional supplements also play an important role in the elderly.

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