

## Original Research Article

## Heavy Physical Works and Symptoms of Menopause

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**Abstract:** **Background:** Intensity of physical works were maybe important in menopausal status. There were some risks for reproductive systems and might be caused early menopause. Objective was the determination of menopausal risks according to intensity of physical activities. **Methods:** This was a study and was done on articles about aerobic tests and symptoms of menopause. According to metabolic equivalent task (METs) of works articles were divided to three groups; light physical work (group 1), moderate (group 2) and heavy physical work (group 3). Frequency of menopausal symptoms compared between three groups, compared between two groups by SPSS 16 ANOVA, Chi-2, relative risks with  $P < 0.05$ . **Results:** In this study, frequency of dysthymic disorder, loss of concentration and malaise were the most in group 3 with heavy physical work and relative risks were the most in these items too. Menopausal score was the most in group 3. **Conclusion:** Heavy physical work was a harmful job for reproductive health and could be caused early menopause.

**Keywords:** Heavy Physical Work, Risk Factor, Symptoms.

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## INTRODUCTION

Intensity of physical works were maybe important in menopausal status. There were some risks for reproductive systems. Literatures introduced the reproductive risk factors for example ionizing radiation and solvents but the mechanical risks were unknown that maybe a risk for early menopause [1-3].

Many of the workers in heavy intensity works were women in reproductive and post reproductive decades. Some of these works were farming, house holding and cleaning. In studies were worked on the risk of menopause in workers women [4]. Many of the jobs had risks [5]. One of the important risks was intensity of physical activity. Physical activity of works had different intensity tasks. Some of jobs were had heavy physical intensity in the most of the time. But some of works had light or moderate intensity [6].

Researchers showed the effects of heavy and moderate works on menopausal symptoms. The women had mental and some physical problems such as pains, fatigue, malaise and weakness and the age of menopause were lower than others [7-9]. Heavy physical works could be effective on cardiovascular and musculoskeletal systems but it's effect on ovaries must be examined [10-14].

There were another studies about the health of rural women who had heavy intensity works that could

be influenced on general and special organ systems [15]. Some of researchers studied about the psychological risks of reproductive disorders [16, 17]. These were related to physical and mental health of workers [18, 19]. The preventive methods and conservation of well-being must be done in heavy works [20-22].

In some studies were emphasized on physical activities but in another studies showed the adverse effects of heavy working on physical fitness.

But having suitable exercises could be effective for better fitness specially in women. Meditation and metal exercises must be done and useful for decreasing the menopausal symptoms.

Estrogen levels were the main cause of symptoms and related disorders. Use of traditional and new therapy could be effective in this situation. Symptoms could be affected on productivity of workers and industries and must be treated.

According to these researches intensity of works could be affected on physical and mental health. Objective was the determination of menopausal risks according to intensity of physical activities.

## METHODS

### Study Setting

Articles about women in industries and working centers.

### Study Design and Target Population

This was a study, was done on articles about menopause symptoms. Population of this study was articles who worked on women in different jobs (farming, house holding and cleaning).

Inclusion criteria were in articles were personnel with 40 years old or older, in pre menopause with latency in menses at least in two cycles and more with at least 5 years work duration. Exclusion criteria in articles were pituitary disorders, hormone therapy, reproductive surgery, thyroid disease, cardiovascular diseases, history of musculoskeletal, cardiovascular and respiratory disorders.

### Exercise Tests

According to metabolic equivalent tasks (METs) of works; articles were divided to three groups; light physical activities (group 1: METs<3), moderate physical activities (group 2: 3≤METs<6) and heavy physical activities (group 3: 6≤METs). VO<sub>2</sub> Max in ml/kg/m were assessed and these items were found from aerobic tests (Mc Ardle step test)

### Questionnaire Design

This study was done by completing checklist from articles with doing aerobic tests. For validity and reliability of research tool; questionnaire was reliable and valid questionnaire for menopausal rating scale.

These questionnaires had items such as urgently incontinence, loss of concentration, hot flashing, sweating, stress, malaise, dysthymic disorders (Each items had 1 to 10 scores).

Three groups were observed for age and number of pregnancy.

### Statistical Analysis

Data were gathered in SPSS 16 and analyzed for calculation of frequency, mean, ANOVA for quantitative variables, Chi-2 for qualitative variables and relative risks with P<0.05.

### Ethical Consideration

This study has been done for research ethics; with oral satisfaction and I told that cumulative data have been used.

## RESULT

In this study articles took part. Age mean of women in articles was the most in group 1 with 44.80±1.11 years old and work duration was the most in group 1 with 23.07±1.05 years. Menopausal score was

the most in group 3 with 8.50±1.40. Age of the early menopausal symptoms was 40.5±0.05 in group 3 with heavy physical works.

In the comparison of menopausal symptoms between three groups; Dysthymic disorders, loss of concentration and malaise were the most in group 3 with heavy physical works and were significant differences.

Stress, sweating, hot flashing, urgently incontinency were the most in group 3 but were not significant.

In demonstrated the comparison of means between three groups. Body mass index, age and work duration were not significant differences.

Menopause score was the most in group 3 and age at early menopausal symptoms was the least in group 3 had significant differences.

VO<sub>2</sub> Max and metabolic equivalent tasks (METs) were significant differences between three groups.

By showed the relative risks of menopausal symptoms. In group 3 the relative risks were the most and for loss of concentration was 2.20(1.60-7.65), for malaise was 1.80(1.25-2.50) and for dysthymic disorders was 1.07(1.02-1.43).

The least relative risks were in group 1 with light physical activities.

## DISCUSSION

According to results, age and work duration were greater in group 1 but were not significant differences. Body mass index was the most in group 1 too but was not significant.

Also according to results, in comparison of menopausal symptoms frequencies; dysthymic disorders, loss of concentration and malaise were the most in group 3. The hot flashing, sweating, stress and urgently incontinency were the most in group 3 and the least in group 1 but none of them were not significant differences.

Malaise and loss of concentration were the most in group 3 and the least in group 1 there were significant differences. In some studies were demonstrated the more frequent menopausal symptoms were fatigue and general pains.

In this study dysthymic disorders was the most in group 3 with heavy physical activities.

In another studies were demonstrated that the most frequent symptoms were fatigue and psychological

symptoms [5]. Another studies showed the pains and mental fatigue were the most menopausal symptoms.

But other studies demonstrated the more frequent symptom was vasomotor and flashing.

In scientific literatures were introduced the reproductive risk factors such as solvents and ionizing radiation but the mechanical risks have more prominent in recent years. These risks have been forgotten because of unknown mechanisms but we know about the effect of activities severity and intensity on the body.

Heavy physical work was a stressful situation the person who worked in that work they must be had the best health for example cardiovascular, respiratory and musculoskeletal systems but one of the recent finding is the effect of heavy physical works on hormonal organs specially ovaries.

In this study the risk of dysthymic disorders, loss of concentration and malaise were the most in group 3 with heavy intensity of work. It was according to other studies [5, 6].

In this study total score of menopause was the most in group 3 and age of early symptoms was the most in group 1. Group 1 had light intensity of jobs with the lowest physical activity stress.

In this study was the exact job analysis and these data were gathered from personnel's memory. Unfortunately numbers of workers were participated after exclusion criteria were low.

It seems that complemented research can be useful in this situation.

Study recommended that job analysis and determination of occupational risk factor for middle age women personnel were necessary.

## CONCLUSION

In this study, frequencies of dysthymic disorder, loss of concentration and malaise were more in group 3 with heavy physical work and relative risks were the most in these items too. Menopausal score was the most in group 3. Heavy physical work was a harmful job for reproductive health and could be caused early menopause.

**Competing Interest:** Author declare have not conflict of interest.

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