Prevalence of Musculoskeletal Disorder among House Wives and Working Women

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ABSTRACT

Background: Musculoskeletal pain is very common in both development and developing countries with estimates of prevalence ranging from 11-60%. The previous studies suggest that the prevalence of musculoskeletal pain among women were more than men. This study aims to assess prevalence of musculoskeletal disorder among house wife and working women.

Methods: Sample sizes of 100 were taken among age group of 25-40yrs. which has been divided into two groups. Group A (50) includes house wife and Group B (50) includes working women, Standard Nordic questionnaire has been employed to assess prevalence of MSD's among the groups.

Result: The result showed that there is a significant difference between different category of shoulder pain and groups but there is no significant difference between other joint region pain and groups.

Conclusion: There is a significant difference between different category of shoulder pain and groups so we can conclude by the result that house wives are more prone for shoulder pain than working women. For other joint regions, there is no marked significant difference among housewives and working women but both are prone for getting musculoskeletal pain. Counselling, postural correction and awareness sessions should be conducted on ergonomics to maintain and prevent the MSD's among House wife and Working women.

Key Words: MSD's, House wife, Working women, Nordic scale, RSI, QOL, WMSD

INTRODUCTION

Musculoskeletal disorders (MSDs) are among the leading causes of occupational health problems with consequences for workers, employers and society. Out of these occupational health problems, work related musculoskeletal disorders (WMSDs) are the commonest form of MSDs affecting people that result from work related events. [1,2] Musculoskeletal conditions have the 4th greatest impact on the overall health of the world population, affecting more than 1.7 billion people worldwide which results in increasing overall rate of disability. [3] Many studies found women have a higher musculoskeletal morbidity than men in general population as well as in different occupational groups. The exact reason for these gender differences is unknown. According to the traditional model, biological differences in body shape, size, muscle mass, muscle strength and aerobic capacity, in combination with different physical demands, are sufficient causes for the observed differences. [4] Persistence of Musculoskeletal pain results in decreased productivity which at the end leads to poor quality of life. Global burden of disease study 2010, demonstrates the impact of musculoskeletal diseases as the second greatest cause of disability globally in all over the world. Quality of life [QOL] is an important indicator for musculoskeletal [MSK] disease. [5] Repetitive movements, awkward postures and high impact forces

are the three primary risk factors for WRMSD's. The WRMSD's developed due to exposure of above factors over a longer period of time that need suitable coping strategies which will help in controlling it. Workers performing strenuous work for longer duration can cope with musculoskeletal symptoms by modifying their working techniques with the help of ergonomic principles. [6] Considering different factors that affect women's health are lack of coordination in shared responsibility of men, women and family, considering women's employment as a minor role alongside the major of housekeeping, and to define the problem and its relationship to work factors, increasing interest has been directed in many countries to the development of various methods to estimate and record musculoskeletal symptoms. Questionnaire has proved to be the most obvious means of collecting the necessary data. [7] Hence, this study was undertaken for finding the prevalence of musculoskeletal disorder among house wife verses working women using Nordic scale.

METHODOLOGY
Sample Design: Convenient sampling
Sample Size: Sample sizes of 100 subjects were taken among the age group of 25-40 yrs which has been divided into two groups. Group A (50) includes house wives and Group B (50) includes working women
Criteria For Selection
Inclusion Criteria
1. Age 25-35 years
2. Married women with primigravida
3. No pregnancy at the time of survey
Exclusion Criteria
Any diagnosed case of musculoskeletal/ neurological/
Psychological/ psychiatric / dermatological/ deficit or disorders that can affect the study
Procedure
     Sample of 100 subjects were taken among the age group of 25-40 yrs which has

been divided into two groups. Group A (50) includes house wives and Group B (50) includes working women. Then the purpose and procedure of the test was explained to all the subjects and consent was taken. Standard Nordic questionnaire has been employed to access prevalence of MSDs among these two groups. This Sample, general questionnaire, recognized/ validated internationally, detects symptoms in neck, back, shoulder and extremities. It presents 28 multiple choice questions, sometimes negative, structured in two well differentiated parts. The first part, the general one refers to symptoms in 9 parts of the body [Neck, Shoulders, Elbows, Wrist/ Hands, Upper Back, Lower Back, Hip/ Thighs, Knees & Ankles / Feet] during the last 12 months / 7 days. The second part, the specific one, refers to symptoms in 3 parts of the body [Neck, Shoulders & Lower Back] throughout the subjects working life/ 7days beforehand. In both cases, complementary information of the worker would be helpful, but not obligatory, to ensure a better evaluation.

RESULTS
     Total of 100 women participated in the study which was divided into two groups. Group A (50) has house wives and Group B (50) has working women. Nordic questionnaire was used as an outcome measure. It indicates the body region calculated on the basis of last 7 days,12 months and functional impairment questionnaire formatting in Yes and No percentage. Statistical Analysis was done by using chi square test. The chi square test is used to find the association between the tributes. Among the two groups that is Group A and Group B the chi square test is significant if the p value is less than 0.05. Our result showed that there is a significant difference between different category of shoulder pain and groups but there is no significant difference between other joint region pain and groups.

Cross tabulation of neck12m			GROUP		Total
			HOUSE WIFE	WORKING WOMEN	
	N	Count	24	25	49
		% within GROUP	48.0%	50.0%	49.0%
	Y	Count	26	25	51
		% within GROUP	52.0%	50.0%	51.0%
Total		Count	50	50	100
		% within GROUP	100.0%	100.0%	100.0%

Chi square =.040 | p-value=0.841 ns

Cross tabulation of neck7d			GROUP		Total
			HOUSE WIFE	WORKING WOMEN	
b	N	Count	23	25	48
		% within GROUP	46.0%	50.0%	48.0%
	Y	Count	27	25	52
		% within GROUP	54.0%	50.0%	52.0%
Total		Count	50	50	100
		% within GROUP	100.0%	100.0%	100.0%

Chi square =.160 | p-value=0.689 ns

Cross tabulation of neckFI12m			GROUP		Total
			HOUSE WIFE	WORKING WOMEN	
c	N	Count	24	25	49
		% within GROUP	48.0%	50.0%	49.0%
	Y	Count	26	25	51
		% within GROUP	52.0%	50.0%	51.0%
Total		Count	50	50	100
		% within GROUP	100.0%	100.0%	100.0%

Chi square =.040 | p-value=0.841 ns

Cross tabulation of soulder12m			GROUP		Total
			HOUSE WIFE	WORKING WOMEN	
d	N	Count	19	32	51
		% within GROUP	38.0%	64.0%	51.0%
	Y	Count	31	18	49
		% within GROUP	62.0%	36.0%	49.0%
Total		Count	50	50	100
		% within GROUP	100.0%	100.0%	100.0%

Chi square 6.763 | p-value=0.009 sig

Cross tabulation of soulder7d			GROUP		Total
			HOUSE WIFE	WORKING WOMEN	
e	N	Count	19	32	51
		% within GROUP	38.0%	64.0%	51.0%
	Y	Count	31	18	49
		% within GROUP	62.0%	36.0%	49.0%
Total		Count	50	50	100
		% within GROUP	100.0%	100.0%	100.0%

Chi square 6.763 | p-value=0.009 sig

Cross tabulation of soulderFI12m			GROUP		Total
			HOUSE WIFE	WORKING WOMEN	
f	N	Count	20	32	52
		% within GROUP	40.0%	64.0%	52.0%
	Y	Count	30	18	48
		% within GROUP	60.0%	36.0%	48.0%
Total		Count	50	50	100
		% within GROUP	100.0%	100.0%	100.0%

Chi square 5.769 | p-value=0.016 sig

Cross tabulation of elbow12m					
			GROUP		Total
			HOUSE WIFE	WORKING WOMEN	
g	N	Count	47	42	89
		% within GROUP	94.0%	84.0%	89.0%
	Y	Count	3	8	11
		% within GROUP	6.0%	16.0%	11.0%
Total		Count	50	50	100
		% within GROUP	100.0%	100.0%	100.0%

Chi square =2.554 | p-value=0.111 ns

Cross tabulation of elbow7d					
			GROUP		Total
			HOUSE WIFE	WORKING WOMEN	
h	N	Count	47	42	89
		% within GROUP	94.0%	84.0%	89.0%
	Y	Count	3	8	11
		% within GROUP	6.0%	16.0%	11.0%
Total		Count	50	50	100
		% within GROUP	100.0%	100.0%	100.0%

Chi square =2.554 | p-value=0.111 ns

Cross tabulation of elbowFI12m					
			GROUP		Total
			HOUSE WIFE	WORKING WOMEN	
i	N	Count	47	42	89
		% within GROUP	94.0%	84.0%	89.0%
	Y	Count	3	8	11
		% within GROUP	6.0%	16.0%	11.0%
Total		Count	50	50	100
		% within GROUP	100.0%	100.0%	100.0%

Chi square =2.554 | p-value=0.111 ns

Cross tabulation of WH12m					
			GROUP		Total
			HOUSE WIFE	WORKING WOMEN	
j	N	Count	40	45	85
		% within GROUP	80.0%	90.0%	85.0%
	Y	Count	10	5	15
		% within GROUP	20.0%	10.0%	15.0%
Total		Count	50	50	100
		% within GROUP	100.0%	100.0%	100.0%

Chi square =1.961 | p-value=0.161 ns

Cross tabulation of WH12d					
			GROUP		Total
			HOUSE WIFE	WORKING WOMEN	
k	N	Count	40	45	85
		% within GROUP	80.0%	90.0%	85.0%
	Y	Count	10	5	15
		% within GROUP	20.0%	10.0%	15.0%
Total		Count	50	50	100
		% within GROUP	100.0%	100.0%	100.0%

Chi square =1.961 | p-value=0.161 ns

Cross tabulation of WHFI12m					
			GROUP		Total
			HOUSE WIFE	WORKING WOMEN	
l	N	Count	40	45	85
		% within GROUP	80.0%	90.0%	85.0%
	Y	Count	10	5	15
		% within GROUP	20.0%	10.0%	15.0%
Total		Count	50	50	100
		% within GROUP	100.0%	100.0%	100.0%

Chi square =1.961 | p-value=0.161 ns

Cross tabulation of back12m					
			GROUP		Total
			HOUSE WIFE	WORKING WOMEN	
m	N	Count	10	9	19
		% within GROUP	20.0%	18.0%	19.0%
	Y	Count	40	41	81
		% within GROUP	80.0%	82.0%	81.0%
Total		Count	50	50	100
		% within GROUP	100.0%	100.0%	100.0%

Chi square =.065   p-value=0.799 ns

Cross tabulation of back7d					
			GROUP		Total
			HOUSE WIFE	WORKING WOMEN	
n	N	Count	10	9	19
		% within GROUP	20.0%	18.0%	19.0%
	Y	Count	40	41	81
		% within GROUP	80.0%	82.0%	81.0%
Total		Count	50	50	100
		% within GROUP	100.0%	100.0%	100.0%

Chi square =.065   p-value=0.799 ns

Cross tabulation of backFI 12m					
			GROUP		Total
			HOUSE WIFE	WORKING WOMEN	
o	N	Count	10	9	19
		% within GROUP	20.0%	18.0%	19.0%
	Y	Count	40	41	81
		% within GROUP	80.0%	82.0%	81.0%
Total		Count	50	50	100
		% within GROUP	100.0%	100.0%	100.0%

Chi square =.065   p-value=0.799 ns

Cross tabulation of HTB12m					
			GROUP		Total
			HOUSE WIFE	WORKING WOMEN	
p	N	Count	29	29	58
		% within GROUP	58.0%	58.0%	58.0%
	Y	Count	21	21	42
		% within GROUP	42.0%	42.0%	42.0%
Total		Count	50	50	100
		% within GROUP	100.0%	100.0%	100.0%

Chi square =.000   p-value=1 ns

Cross tabulation of HTB 7d					
			GROUP		Total
			HOUSE WIFE	WORKING WOMEN	
q	N	Count	29	29	58
		% within GROUP	58.0%	58.0%	58.0%
	Y	Count	21	21	42
		% within GROUP	42.0%	42.0%	42.0%
Total		Count	50	50	100
		% within GROUP	100.0%	100.0%	100.0%

Chi square =.000   p-value=1 ns

Cross tabulation of HTBFI12m					
			GROUP		Total
			HOUSE WIFE	WORKING WOMEN	
r	N	Count	30	29	59
		% within GROUP	60.0%	58.0%	59.0%
	Y	Count	20	21	41
		% within GROUP	40.0%	42.0%	41.0%
Total		Count	50	50	100
		% within GROUP	100.0%	100.0%	100.0%

Chi square =.041   p-value=0.839 ns

Cross tabulation of knee12m					Total
			GROUP		Total
			HOUSE WIFE	WORKING WOMEN	
s	N	Count	34	39	73
		% within GROUP	68.0%	78.0%	73.0%
	Y	Count	16	11	27
		% within GROUP	32.0%	22.0%	27.0%
Total		Count	50	50	100
		% within GROUP	100.0%	100.0%	100.0%
Chi square =1.268	p-value=0.266 ns				

Cross tabulation of knee7d					Total
			GROUP		Total
			HOUSE WIFE	WORKING WOMEN	
t	N	Count	34	40	74
		% within GROUP	68.0%	80.0%	74.0%
	Y	Count	16	10	26
		% within GROUP	32.0%	20.0%	26.0%
Total		Count	50	50	100
		% within GROUP	100.0%	100.0%	100.0%
Chi square =1.871	p-value=0.171 ns				

Cross tabulation of kneeFI12m					Total
			GROUP		Total
			HOUSE WIFE	WORKING WOMEN	
u	N	Count	35	40	75
		% within GROUP	70.0%	80.0%	75.0%
	Y	Count	15	10	25
		% within GROUP	30.0%	20.0%	25.0%
Total		Count	50	50	100
		% within GROUP	100.0%	100.0%	100.0%
Chi square =1.333	p-value=0.248 ns				

Cross tabulation of anklefeet12m					Total
			GROUP		Total
			HOUSE WIFE	WORKING WOMEN	
v	N	Count	35	38	73
		% within GROUP	70.0%	76.0%	73.0%
	Y	Count	15	12	27
		% within GROUP	30.0%	24.0%	27.0%
Total		Count	50	50	100
		% within GROUP	100.0%	100.0%	100.0%
Chi square =.457	p-value=0.499 ns				

Cross tabulation of anklefeet7d					Total
			GROUP		Total
			HOUSE WIFE	WORKING WOMEN	
w	N	Count	36	38	74
		% within GROUP	72.0%	76.0%	74.0%
	Y	Count	14	12	26
		% within GROUP	28.0%	24.0%	26.0%
Total		Count	50	50	100
		% within GROUP	100.0%	100.0%	100.0%
Chi square =.208	p-value=0.648 ns				

Cross tabulation of anklefeetFI12m					Total
			GROUP		Total
			HOUSE WIFE	WORKING WOMEN	
x	N	Count	35	38	73
		% within GROUP	70.0%	76.0%	73.0%
	Y	Count	15	12	27
		% within GROUP	30.0%	24.0%	27.0%
Total		Count	50	50	100
		% within GROUP	100.0%	100.0%	100.0%
Chi square =.457	p-value=0.499 ns				

DISCUSSION

The present study was aimed to analyse the prevalence of musculoskeletal disorder among House wife and Working women. The responses of 100 participants were compared between both the groups.

The respondents were affected by MSD's in one or more body regions. The prevalence of comparing MSD's among Housewife and Working women result in high risk due to the negligence of symptoms present in the early stage leading to repetitive stress injuries (RSI) and later stage leading to MSD's. Our study showed that house wives are more prone for shoulder pain than working women. The high prevalence of MSD's among house wife suggests that house work could be an independent risk factor contributing to the development of musculoskeletal disorder among women. Other reasons for this result could be due to some altered essential biomechanical parameter and some basic features of house work such as child care, care giving, household chores, food preparation, cleaning, that results in developing bad postures and strain on musculoskeletal structures. (SumitKalra, Barkha Bhatnagar ,2015).According to the study ,Working women are also prone to MSD's due to the multi tasks they perform in the daily life because of static posture for longer period of time with more number of working hours, stress, sleep disturbance and followed by the routine house hold activities, which leads to physical and psychological stress. The results are in accordance with study done by Deepti Shettar, Mayur S. Sherkhane in the year 2017 in assessment of risk factors of MSD's among working women. [2] Awareness of proper movement analysis according to ergonomics should be educated to avoid MSD's among women to indicate opportunities for prevention. [8]

CONCLUSION

It can be concluded from the present study that selected Housewife and Working women were having MSD's in one or more body region last 12 months and last 7 days. Our study showed that house wives are more prone for shoulder pain than working women. For other joint regions, there is no marked significant difference among housewives and working women but both are prone for getting musculoskeletal pain.

Nordic Questionnaire were used as an assessment tool that can be recommended and utilized commonly as a screening tool among House wife and Working women which can detect MSD's at an early stage. Counselling, postural correction and awareness sessions should be conducted on Ergonomics to maintain and prevent the MSD's among House wife and Working women.

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