

“Impact of Neck Pain on Daily Living Activities of Housewives in Community”

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Abstract

Aims & Objectives: find out the extent of disability of housewives in daily living activities with neck pain. **Method:** This study was conducted with the sample size of 100 based on the inclusion criteria i.e. the housewives with neck pain between the age group of 18-50 years, carried out for the period of 3 months. The disability in daily living activities was measured by using Neck Disability Index (NDI). **Result:** There was statistically significant impact of neck pain on daily living activities of housewives in community. **Conclusion:** This study concluded that there was significant impact of neck pain on daily living activities of housewives in community and this impact increases with increasing age.

KEYWORDS: Housewives, neck pain, Daily living activities, Neck Disability Index (NDI).

INTRODUCTION

Pain is an unpleasant emotional state felt in the mind but identifiable as arising in a part of the body. In other word it is a subjective sensation. Pain is a defense mechanism designed to make the subject protect an injured part from further damage. By any measure, pain is significantly a global health problem. Globally, it has been reported that 1 in 5 adults suffer from pain. Pain can experience acute, chronic, or intermittent, or a combination of the three. Pain is a multivalent, dynamic and ambiguous phenomenon; it is notoriously difficult to quantify. The non communicable diseases have been dramatically rising all over the world especially musculoskeletal diseases which considered one of the major causes of morbidity throughout the world¹⁶.

Musculoskeletal disorders are universally prevalent among all age and gender groups, and their impact is pervasive. Musculoskeletal disorders are defined as “disorders of the soft tissues and their surrounding structures not resulting from an acute or instantaneous event (e.g., slips or falls)” occurring in the neck, shoulder, elbow, hand/wrist and low-back. These disorders are considered to be work-related when the work environment and the performance of work contribute to causing these disorders¹⁵.

Work related neck pain is one of the common musculoskeletal disorders that affects millions of workers throughout the world across variant works or sectors of services¹⁶.

Neck pain is becoming increasingly common throughout the world. It has a considerable impact on individuals and their families, communities, health-care systems, and businesses. The overall prevalence of neck pain in the general population ranges

between 0.4% and 86.8% (mean: 23.1%); point prevalence ranges from 0.4% to 41.5% (mean: 14.4%); and 1 year prevalence ranges from 4.8% to 79.5% (mean: 25.8%). Prevalence is generally higher in women, higher in high-income countries compared with low- and middle-income countries and higher in urban areas compared with rural areas. Many environmental and personal factors influence the onset and course of neck pain⁹.

Most studies indicate a higher incidence of neck pain among women and an increased risk of developing neck pain until the 35–49-year age group, after which the risk begins to decline⁹.

The West and the Midwest of the Asia are the regions where the prevalence of neck pain is highest; the South has the lowest prevalence. Prevalence of neck pain is highest among poor respondents. In Europe, Chronic pain is common and that chronic pain affects negatively many aspects of quality of life, and that patients with long lasting pain experience a multitude of negative attitudes and distrust from health care providers, from colleagues, families and acquaintances. Chronic pain of moderate to severe intensity occurs in 19% of adult Europeans, seriously affecting their daily activities, social and working lives. Neck pain is a common source of disability. About 14.6% of population having neck pain with disability under the basis of age and gender. Neck pain is a disabling condition with a course marked by periods of remission and exacerbation¹⁶.

In the general population, musculoskeletal disorders (MSDs) are much more common among females than in males¹⁵.

Factors that are Physical workload such as repetitive motion, static posture, awkward posture and neck flexion or rotation have significant association with Neck Pain. The cervical spine is surely the most complicated articular system in the body; there are 37 separate joints whose function it is to carry out the myriad movements of the head and neck in relation to the trunk, and sub serve all special sense organs, e.g., eyes, ears, nose, taste, touch, and proprioception. The 7 small cervical vertebrae with their ligamentous, capsular, tendinous, and muscle attachments appear poorly designed to protect their contents, compared with the skull above and the thorax below⁵⁰. There could be a difference between forwards and backs in the frequency of abnormal cervical functional parameters as forwards have a more physical role. Patients with cervical pain have a poorer ability to relocate the head on the trunk after an active head movement⁵¹.

Mechanical neck pain is a significant societal burden and may include symptoms in the neck and upper extremity. Mechanical neck pain was defined as generalized neck or shoulder pain provoked by sustained neck postures, neck movement, or palpation of the cervical musculature⁵². The upper limb is mechanically connected to the neck and shoulder girdle via skeletal and muscular structures. Mechanical loading of the upper limbs may cause neck pain as a direct consequence of increasing the mechanical loading to the articular and ligamentous structures of the neck or by creating protective spasm⁵³.

Pain in the neck is often combined with shoulder pain, jaw pain or back pain. Even minor neck pain can affect your quality of life. Slight deviations within the structure of the neck can result in nerve irritation, which appears as pain or reduced mobility in the neck, inability to turn the head from side to side, grinding sounds or headache. A 10 history of previous neck injury at baseline was a significant risk factor for subsequent neck pain in a year independently about gender and psychological status⁵⁴.

The 12-month prevalence of pain typically ranged between 30% and 50%; the 12-month prevalence of activity- limiting pain was 1.7% to 11.5%. Neck pain was more

prevalent among women^{2,1,37} and prevalence peaked in middle age. Peak incidence of neck pain coincided with middle-age groups peaking at ages 40 to 49, and ages 35 to 44.

Women were consistently found to spend more time on household activities than did men, and women were more likely than men to have MSDs that resulted in disability^{15,37}.

In terms of age, between 18-29 years of age people, the rate of Neck pain is about 44.2%¹⁶. More than 60% of homemakers experienced at least one musculoskeletal symptom over the spine or upper or lower extremities in the 12 months prior to the survey³⁰.

Data on musculoskeletal pain during the past 3 months in the neck, shoulders, forearms/hands, low back, hips, knees and ankles/feet were gathered by questionnaire from 495 female workers (mean age 45 years) in connection with an ergonomic intervention study in municipal kitchens. The 3-month prevalence of any musculoskeletal pain was 87%, the most common sites being the neck (71%), low back (50%) and forearms/hands (49%)³⁴.

Work is a major determinant of these disorders. Studies have found that housework can be more energy intensive than some types of work paid. Housework involves routine and compulsory household maintenance tasks (cleaning, cooking, purchasing, etc.) and family care duties (child rearing and other care-giving responsibilities) that require substantial physical, emotional and intellectual labour¹⁵.

The parts of the body most affected in mother having child care were the low back (48%), neck (17%), upper back (16%), and shoulders (11.5%)³⁶.

Various risk factors like age, gender, awkward postures, prolonged postures, static works, and repetitive work were found to be the cause of MSD. Risk factors are known to include workplace activities such as heavy lifting and repetitive task¹⁵.

Physical work demands associated with these disorders include heavy physical work in general such as heavy lifting, repetitive work, prolonged sitting posture, prolonged standing, especially without access to seats, neck flexion, work with abducted arm (or arm above shoulder level), bending or twisting¹⁵.

Kitchen is one of the most important aspects in our life. We wait eagerly for the delicious foodstuffs of our kitchenette. However, many simple but repetitive kitchen activities can be a threat to our health. Such as peeling potatoes, chopping, and picking up heavy pots and kettles, overstretching to reach to utensils or ingredients etc. can cause or aggravate pain & discomfort in hand, wrist, elbow, shoulder and neck (Physical hazards). Musculoskeletal problems are not only the one, but various accidents also happen in domestic kitchen (Mechanical Hazards)⁴³.

The frequent occupations affected by cervical spondylosis are included housewife 34% (n=24) and 23% (n=16) service holder. Among the subjects n=35 (50%) have right upper limb involvement with moderate types of pain in 76% (53) where as 23% (16) patients have severe pain and 1% (1) have mild pain. The finding also reflects that the highest number 49% (34) neck pain aggravated by neck bending activity and pain also aggravated by prolonged desk activity, over head activity, turning of the neck⁴².

From the above literatures, it is found that pain and specially neck pain can affect the activities of women in general. Most of the studies (2,3,4,6,15,16 etc.) are focused on the women in general musculoskeletal disorders & its impact on their daily living activities by using neck disability index.

No more specific studies on neck pain in housewives & its effect on their daily living activities.

To obtain a thorough understanding of Neck Pain and its impact on daily living activities, there is a need to evaluate the effect of neck pain household tasks impose¹⁵. Hence the purpose of this study is to find out the impact of neck pain on daily living activities of housewives in Community. The Neck Disability Index (NDI) is a valid and reliable measurement tool used to monitor and measure the difficulties of housewives throughout their daily activities^{5,18,45,46}.

HYPOTHESIS

Null Hypothesis (H₀):

There will be no significant impact of Neck Pain on daily living activities of housewives in community.

Alternate Hypothesis (H₁):

There will be significant impact of Neck Pain on daily living activities of housewives in community.

MATERIAL AND METHODS

Study design: This study is descriptive study design which surveyed the impact of neck disability among Housewives with neck pain in community.

Study setting: The participants (Housewives) were collected from in and around Nagpur.

Sample Size and Sampling Technique:

100 housewives with neck pain between the ages 18-50 years were selected for the study from the above mentioned sources by means of purposive sampling. The entire subjects participated in this study voluntarily, after signing a written consent form. The purpose of this study was explained to all the subjects.

Inclusion Criteria:

1. Housewife doing household work.
2. Housewife with Neck pain.
3. Females only.
4. Age group of housewives 18– 50 yrs.

Exclusion Criteria:

1. Female who are employed.
2. Any neurological disorders.
3. Any history of recent injury/ trauma or accident.
4. Severely fell ill recently.
5. Pregnant women.
6. Spinal surgery or any other surgery in any part of the body.
7. Male.
8. Age: less than 18 years & more than 50 years.

Duration of the study:

Study was carried out for 3 months i.e. from Jan. 2014 to March. 2014.

Materials used:

1. Pen
2. Paper

3. Neck disability index (NDI).

Outcome Measures / Tool used:

1) Neck Disability Index (NDI).

METHOD:

This study was conducted with the sample size of 100 based on the inclusion criteria i.e. the housewives with neck pain between the age group of 18-50 years. The selected housewives were with the informed consent at their door steps. The difficulties/disabilities in daily living activities were assessed using Neck Disability Index questionnaire (NDI).

Neck Disability Index (NDI)-:

Procedure:

This questionnaire has been design to give the information as to how the neck pain affected the ability to manage everyday life of an individual with neck pain. The questionnaire has sections such as pain intensity, personal care, lifting, reading, headache, concentration, work, driving, sleeping & recreation.

For grading the neck disability, the tools being used were Neck disability index (NDI) which assessed the effect of neck pain on the daily living activity. The questionnaire was translated & also validated in the local language to make it simple & convenient for the subject to understand the question. Various sections and the optional answers that were given in the questionnaire was read by the subject and were asked to mark one box in each section for the statement which most clearly described their problems.

The final NDI score was collected and computed for statistical analysis.

Statistical Analysis: The descriptive statistical method was applied in this study for the data analysis.

Descriptive statistics were used for assessing the disability of housewives in daily living activities with neck pain. The values were expressed in Mean, Standard deviation. The required level of significant for test was set at $p < 0.05$

RESULTS

The NDI scoring table showed that out of 100 participants, 32 participants had mild disability, 51 had moderate disability and 17 had severe disability.

The average age of the study participants was 35.55 years, and it ranged from 22 to 49 years. Most participants, 44 were in 31-40 aged groups while 32 participants were in 21-30 years and 24 were in 41-50 aged groups.

The mean NDI score was 15.44 in 21-30 aged group, 19 in 31-40 and 21.2 in 41-50 aged group as shown in table and graph. Thus the NDI increased with age group and the increase in NDI with age was found to statistically significant (p value < 0.05).

The overall statistical analysis showed significant impact of neck pain on daily living activities of housewives in community.

DISCUSSION

Our study showed significant result of impact of neck pain on daily living activities of Housewives in community.

Out of 100 participants, 32 participants had mild disability, 51 had moderate disability and 17 had severe disability due to neck pain.

The result showed that the average age of the study participants was 35.55 years, and it ranged from 22 to 49 years. Most participants, 44 were in 31-40 aged groups while 32 participants were in 21-30 years and 24 were in 41-50 aged groups.

Johnson HJ. et al (2008) also suggested that Neck pain was more prevalent among women and prevalence peaked in middle age. Peak incidence of neck pain coincided with middle-age groups peaking at ages 40 to 49, and ages 35 to 44².

Sharmin M. (2012) also studied that n=45 (64%) who were found in age range of ≥ 41 years and n=25 (36%) participants were in the age range ≤ 40 years⁴².

Hoy DG. Et al (2010) also suggested that most studies indicate a higher incidence of neck pain among women and an increased risk of developing neck pain until the 35-49-year age group, after which the risk begins to decline⁹.

Our study also showed the average age of neck pain participants was 35.55 years and ranged from 22 to 49 and above studies^{2,42,9} support the inclusion criteria of our study.

Between this age group the housewives mostly involved in household activities as they are in middle age and more active and bears more responsibilities. Our study also observed that the kitchen activities were mostly affect the neck caused pain along with the other household activities.

Mandal J. (2012) also observed that the kitchen is one of the most important aspects in our life. We wait eagerly for the delicious foodstuffs of our kitchenette. However, many simple but repetitive kitchen activities can be a threat to our health. Such as peeling potatoes, chopping, and picking up heavy pots and kettles, overstretching to reach to utensils or ingredients etc. can cause or aggravate pain & discomfort in hand, wrist, elbow, shoulder and neck (Physical hazards)⁴³.

Our study observed that bending, lifting, twisting activities etc having a role in causing neck pain in housewives.

Shah & Dave (2012) also observed that many factors at work could predispose people to develop musculoskeletal disorders. Lifting or carrying loads, whole-body vibration, having a static posture for a long time and frequent bending and twisting have been proved to be the physical load risk factors consistently associated with work-related back and neck disorders. There is evidence for a causal relationship between low back and/or neck injuries and disorders⁴⁷.

Sharmin M. (2012) stated that the highest number 49% (34) neck pain aggravated by neck bending activity and pain also aggravated by prolonged desk activity, over head activity, turning of the neck⁴².

To evaluated impact of neck pain on daily living activities this study used Neck disability index (NDI) due to its more validity and reliability.

Vernon H. et al (1991) mentioned that injuries to the cervical spine, especially those involving the soft tissues, represent a significant source of chronic disability. Methods of assessment for such disability, especially those targeted at activities of daily living which are most affected by neck pain, are few in number. Face validity was

ensured through peer-review & patient feedback sessions. Test-retest reliability was conducted on an initial sample of 17 consecutive “whiplash”- injured patients in an outpatient clinic, resulting in good statistical significance. Result of the study demonstrated that the NDI achieved a high degree of reliability & internal Consistency⁵.

Mark chan chi Ena et al (2008) evaluated the construct and content validity of the neck disability index (NDI) and the neck pain and disability scale (NPAD) in patients with chronic, non-traumatic neck pain. 20 patients (mean age = 64.5 years) completed a patient-specific questionnaire, the Problem Elicitation Technique (PET), followed by the NDI and NPAD. The result was both NDI and the NPAD included most of the functional problems common to this patient group and display good content validity¹⁸.

Ackelman BH et al (2002) stated for each item that only disability due to neck pain is of interest. This modification of the NDI is a valid and reliable instrument to measure disability due to neck pain⁴⁵.

McCarthy M. J.H. (2007) showed that the NDI has good reliability and validity and that it compares well with the SF36 in the spinal surgery outpatient setting⁴⁶.

The result of our study also showed that the mean NDI score was 15.44 in 21-30 age groups, 19 in 31-40 and 21.2 in 41-50 age group. Thus the NDI increased with age group and the increase in NDI with age was found to statistically significant (p value <0.05). This study showed that the neck pain can cause disability in housewives.

Johnson SH. et al. (2008) also stated that the 12-month prevalence of activity-limiting pain was 1.7% to 11.5%.²

Thomas, George peat et al. (2004) also stated that Neck pain interference in ADL 73.8% in all³.

Pradhan NH. (2013) in his study revealed an average 54% drop in pain and a 49% drop in disability among subjects with neck pain¹⁶.

Our study also showed that the activities like personal care, reading, concentration, general work, recreational activities etc significantly affected due to neck pain.

Leonard et al. (2009) also observed that the previous studies had pointed out that neck pain can affect social factors, which include shopping, family relationships and interactions, traveling and recreational activities. The physical factors associated with neck pain included heavy lifting, monotonous work tasks, static work posture, repetitive job sand a high work pace⁴⁹.

Our study also observed sleep disturbance due to neck pain along with the lifting, reading and other problems.

Korkmaz et al. (2011) also observed that pain intensity interference with quality of life and functioning found that severe neck pain was strongly associated with difficulty in grasping small objects and loss of manual dexterity. Even with unknown pathophysiology, pain tends to create a cluster of related problems such as chronic fatigue, sleep disturbance, excessive rest and withdrawal from activity and mood disorder⁴⁸.

Leonard et al. (2009) Psychological factors affected by neck pain were disturbed sleep due to pain, lack of ability to concentrate and focus feelings of anxiety and depression⁴⁹.

Our study also observed that the neck pain can also leads to headache.

Bogduk (2003) also observed that Neck pain can arise with headache. In 17% patient, headache may occur in combination with neck pain⁵⁵.

Our study also showed that the pain intensity and disability increased with increasing age i.e. more between the age group 41-50 years.

Thomas E. et al (2004) also observed that pain interference prevalence was seen to rise sharply with increasing age³.

Johnson SH. (2008) et al. also suggested that Neck pain prevalence peaked in middle age. Peak incidence of neck pain coincided with middle-age groups peaking at ages 40 to 49, and ages 35 to 44².

Sharmin M. (2012) also studied that n=45 (64%) who were found in age range of ≥ 41 years and n=25 (36%) participants were in the age range ≤ 40 years⁴².

Hoy DG. Et al (2010) also suggested that most studies indicate a higher incidence of neck pain among women and an increased risk of developing neck pain until the 35–49-year age group⁹.

Thus the alternate hypothesis stating that there is significant impact of neck pain on daily living activities of House wife in community.

As our study was carried out in short time period and small sample size. Also limited to small area so our study suggested that the further studies are necessary with larger samples of patient from more demographic area to get more reproducibility of result.

CONCLUSION

The study can be concluded that there is significant disability found in daily living activities in housewives due to neck pain.

Out of 100 participants, 32 participants had mild disability, 51 had moderate disability and 17 had severe disability due to neck pain.

Our study also concluded that the severity of disability increases with increasing age.

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Figures & Tables:

Table: Neck Disability Index (NDI) Score:

Age group	NDI Score				Average score
	Mild	Moderate	Severe	Total	
21-30	14	17	1	32	15.44
31-40	12	24	8	44	19
41-50	6	10	8	24	21.2
Total	32	51	17	100	18.39

Graph: Showing Severity of disability (NDI Score) according to age in Housewives with neck pain.

