



WORK RELATED BACK PAIN CAUSING FUNCTIONAL DISABILITY IN HOUSEMAIDS USING QUEBEC BACK PAIN DISABILITY SCALE

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Abstract: Low back pain is a painful condition affecting the lower portion of spine and causes function disability in housemaid. The aim of this study is to understand the percentage of functional disability caused due to work related back pain in housemaid. The Hindi version of Quebec back pain disability scale is used to determine the level of functional disability due work related back pain in total of 100 housemaids for the research. The data was collected and statistical analysis was done. The results have concluded that there is functional disability due to work related back pain in housemaids due to the factors like wrong posture of working, pushing and pulling heavy load, repetitive bending forward and working, excessive twisting and trunk movements, lack of rest, lack of physical activity and low level of nutrition uptake.

Index Terms – Functional disability, Low back pain, Housemaids, Quebec back pain disability scale.

INTRODUCTION

Low back pain is also called lumbago. It is a common, painful condition affecting the lower portion of the spine. It can also be caused by injury to a muscle (strain) or ligament (sprain).

Nearly all of us experience low back pain at some point in our life while doing housework ⁽¹⁾. Low back pain is most common type of back pain occurring in about 60-80% of people at some point in their lives.

A large number of population are associated with different types of occupation in unorganized sectors in developing countries like India. The common characteristics shared by the workers of the informal sectors are intense human labor, prolonged working hours, no work – no pay system, irregular work schedule resulting in suffering from musculoskeletal disorders (MSDs) which deteriorates their physical condition.

The work related musculoskeletal disorder can also, trigger a state of stress that is able to result in muscle tension which further worsen the pain and functional difficulty. One of such occupation is working as house maid. Working as housemaid include different types of activity like mopping floors, washing dishes, cleaning bathrooms and furniture, doing laundry, reaching for higher shelf, lifting heavy baskets and bag, standing for long duration and working, etc.

The prevalence of low back pain among house maid has been shown to be high. The prevalence is believed to vary from 46 to 77% in different parts of world ⁽²⁾.

The back pain prevents them from working and interfere with their activity of daily leaving.

Here in this research we have tried to understand level of functional disability due to work related back pain by using Quebec back pain disability scale in Hindi version.

The Hindi version of Quebec back pain disability scale have a good test - retest reliability, discriminative and convergent validity and is appropriate for clinical and research use in Hindi speaking low back pain patient. Reliability good (Cronbach's alpha- 0.98) and validity is 0.59-0.86 %

NEED FOR STUDY

This study is designed to gather data about functional disability and level of difficulty due to low back pain for performing various activities like moving, bending, pushing, pulling, lifting etc. in housemaid using Quebec back pain disability scale.

REVIEW OF LITERATURE

1. The Factors That Correlated with Back Pain in Physiotherapists “was a study conducted by. Özge Çınar-Medeni, Bülent Elbasan, İrem Düzgün, in 2015. In which twenty-nine physiotherapists were recorded complaints about back pain were assessed with “Quebec Back Pain Disability Scale” (QUEBEC), working posture with “Owako Working Posture Analyze System” (OWAS). The relation between back pain and age, “body mass index” (BMI), working posture, working time and daily-working hours were investigated. The results of study showed deterioration of working posture and BMI with aging may trigger back pain in physiotherapists.
2. “Low back pain prevalence in healthcare professionals and identification of factors affecting low back pain” was the study conducted by Özge ÇınarMedeni, Bulent Elbasan, Irem Duzgun in 2017. Twenty-seven physiotherapists, 34 nurses, 30 dentists, and 16 dieticians were included. Impairment ratings of cases with LBP were analysed with Quebec Back Pain Disability Scale (Quebec). Working postures were analysed with Owako Working Posture Analysis System. Result of the study is that head-neck and trunk postures are changeable factors that are among the factors affecting LBP, correcting the working posture gains importance.
3. “A Multidisciplinary Workplace Intervention for Chronic Low Back Pain among Nursing Assistants in Iran” was conducted by Sarallah Shojaei, Sedigheh Sadat Tavafian, Ahmad Reza Jamshidi, Joan Wagner in 2016. In which nursing assistants were included. The results showed that multidisciplinary intervention could reduce the intensity of WRLBP among nurse aides, making them suitable for implementation in programs to improve WRLBP among nursing assistants working in hospitals.
4. “Work-related risk factors and the prevalence of low back pain among low wage workers: results from a cross-sectional study” was carried out by Sintayehu Daba Wami, Giziew Abere, and Dawit Getachew in 2019. Institutional based cross-sectional study was conducted from March to May 2017. A systematic random sampling technique was applied to select 422 study participants, and the data was collected by a standardized Nordic questionnaire for the analysis of musculoskeletal symptoms. Study results showed high proportion of hotel housekeepers reported low back pain.
5. “Transcultural adaptation and validation of Hindi version of Quebec Back Pain Disability Scale” was carried out by Sahar Zaidi, Shalini Verma, Jamal Ali Moiz & Mohammed E. Hussain in 2017. The Quebec Back Pain Disability Scale was translated and cross-culturally adapted into Hindi following international guidelines. Hindi version of the scale was completed by 120 patients with low back pain and 60 healthy controls. The results of the study show that Hindi version of Quebec Back Pain Disability Scale has good test– retest reliability, discriminative and convergent validity and is appropriate for clinical and research use in Hindi-speaking low back pain patients.
6. Measurement Properties of the Quebec Back Pain Disability Scale in Patients with Nonspecific Low Back Pain: Systematic Review” was conducted by Caroline M. Speksnijder, Tjarco Koppenaal, in year 2016. In which bibliographic databases (PubMed, Embase, CINAHL, and PsycINFO) were Searched for articles in combination with a methodological search filter for finding studies on measurement properties concerning the development or evaluation of the measurement properties of the QBPDS in Patients with nonspecific low back pain. The results of the study revealed that for research and clinical practice, caution is advised when using the QBPDS to measure disability in patients with nonspecific low back pain.
7. “The Quebec Back Pain Disability Scale. Measurement properties” was conducted by J A. Kopec et al. in 1995. The authors calculated test-retest and internal consistency coefficients, evaluated construct validity of the scale, and tested its responsiveness against a global index of change. The results of the study show that Quebec scale can be recommended as an outcome measure in clinical trials, and for monitoring the progress of individual patients participating in treatment or rehabilitation programs.

AIM

To study work related functional disability in housemaid using QUEBEC back pain disability scale.

OBJECTIVES

The study will help to understand the percentage of functional disability caused due to back pain in housemaid.

METHODOLOGY

- Study Design** : Cross Sectional Study
Sampling Method : Convenience sampling
Sample Size : 100
Study Setup : Mumbai
Inclusion Criteria : 1) Housemaid working for more than two years
 2) Housemaid in age group of 20 to 40 years
 3) Consent participant
 4) Housemaid who does all the household chores

Exclusion Criteria : 1) Housemaid working for less than two years.
 2) Non-Consent participant
 3) Incomplete responses
 4) Back pain due to trauma or any other cause

Materials : Quebec back pain disability scale Questionnaire and pen.

PROCEDURE

- Ethical clearance was obtained from Institutional Ethics Committee of TMV's Lokmanya Tilak College of Physiotherapy, Khargher.
- A cross sectional study among 100 housemaids was done using a validated self-administered questionnaire to find out functional disability.
- The purpose and procedure of the study is clearly explained to all the participants. Demographic data and consent were taken from participants QUEBEC back pain disability scale was distributed to the participants. The questionnaire contain different questions related to different activities like bed/rest (1-3 questions), sitting/standing (4-6 questions), Ambulation (7-9 questions), Movement items (10-12 questions), Bending/stooping (13-16), Handling of large/heavy objects (17-20 questions).
- Total of QUEBEC scale was calculated and the percentage of functional disability was interpreted and statistical analysis of the collected data was done.

DATA ANALYSIS AND RESULT

- Data collected of total 100 housemaids was statistically analysed using Microsoft office excel.
- The percentage of functional disable participants and no affected participants was calculated.
- Range of percentage of functional disability among participants was statistically analysed and calculated.

Figure 1

Functional Disability

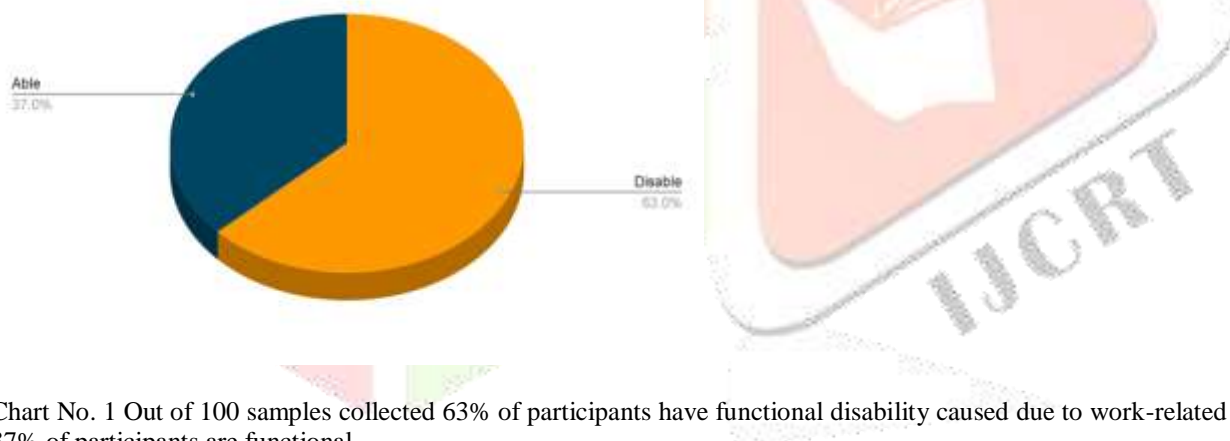


Chart No. 1 Out of 100 samples collected 63% of participants have functional disability caused due to work-related back pain and 37% of participants are functional.

Figure 2

Percentage of Disability Ranges

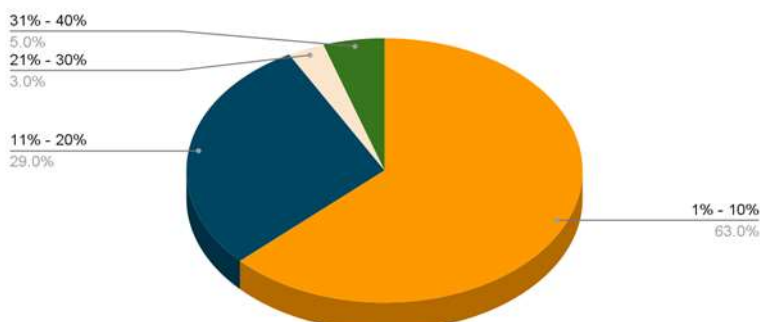


Chart No. 2 Out of functionally disabled participants 63% have 1 to 10% disability, 29% have 11 to 20% disability, 3% have 21 to 30% disability and 5% have 31 to 40% disability.

DISCUSSION

The study was done to evaluate the functional disability in housemaid due to work related back pain using Quebec back pain disability scale (Hindi version).

The study evaluates different activities like bed/rest, sitting/standing, Ambulation, Movement items, Bending/stooping, Handling of large/heavy objects.

According to the data collected out of total 100 participants in age group of 20 to 40 years having working experience of 2 and more than 2 years there is work related back pain causing functional disability in 63 participants.

The reason for functional disability in the participants may be due to excessive work throughout the day, working in awkward posture, repetitive movements, static workload, and excessive work duration.

Work related back pain cause different percentage of functional disability ranging from 1 to 10% disability in 63 %, 11 to 20% in 29%, 21 to 30% in 3% and 31 to 40% in 5% which depends on the factors like wrong posture of working, pushing and pulling heavy load, repetitive bending forward and working, excessive twisting and trunk movements, lack of rest, lack of physical activity and low level of nutrition uptake.

Cleaning a house is a lot of work. It includes activities like cleaning floor which include sweeping, scrubbing, mopping, drying the floor with spine continuously at bend and twist position due to short brooms. They also must carry heavy buckets in physically exertional posture. To put the clothes in the washing machine, they bend and raised herself several subsequent times through repetitive movements of bending and twisting of the spine with some weight in her arms and to return to the standing position in wrong posture of bending and lifting. Housemaid sustained spine in flexion for about hours while doing this service like ironing the cloths, the kitchen cleaning demanded activities as washing, drying and storing dishes and utensils in the kitchen, such as cutlery, plates and cups were stored at lower places of the cabinets, requiring repeated movements of flexion-extension of the spine, reaching for higher shelf for grocery and repeatedly bending to get excess to the food in back of lower shelf of refrigerator. This all-cause work-related exertion on the back of housemaid.

Housemaid also perform activity like making bed in morning, cleaning the room, carrying grocery, vegetables and arranging the kitchen which requires lots of strength and reaching out activity. The work is continuously performed by them without any break and rest period in between the work, which aggregate the musculoskeletal disorder like low back pain.

Leaning over to lift boxes, mopping, vacuuming, scrubbing, and dusting low areas all require to stay in a bent or stooped position can cause work related back pain.

Lack of ergonomic modification at workplace causes excess load on the back leading to aggravation of pain which lead to work related functional disability.

CLINICAL IMPLICATIONS

- The findings can be used to predict the functional disability in housemaids having work-related back pain.
- This would further help in giving them advice about the changes in their posture as well as in their ergonomics changes possible at their workplace which will prevent further functional disability.

FUTURE SCOPE OF STUDY

- Study can be conducted on large scale on more number of participants and in different location.
- Further necessary treatment approach and the awareness program can be implicated.

CONCLUSION

The conclusion of the study is there is functional disability due to work related back pain in housemaids.

LIMITATIONS

Study Sample is limited to 100 participants only.

ACKNOWLEDGEMENT

First of all, I am grateful to The Almighty God without whose blessings this research would not have been possible. It is a genuine pleasure to express my deep sense of thanks & gratitude to my guide, Dr. Deepali Rathod. Her timely advice & scientific approach has helped me to a very great extent to accomplish this task. My deepest appreciation with greatest debt of gratitude belongs to my father Mr. Sandeep Desai & mother Mrs. Mitul Desai for their patience, unceasing support & encouragement.

REFERENCES

- 1) Anne meneghetti. Housework and Back Pain. Work related to proper chores in housekeeping work. 2022.
- 2) Wami SD, Abere G, Dessie A, Getachew D. Work-related risk factors and the prevalence of low back pain among low wage workers: results from a cross-sectional study. BMC Public Health. 2019 Dec;19(1):1-9.
- 3) Laura Vander Goten, Berdien De Koster, Mariam Hashem, Lucinda hampton, George Prudden, WikiSysop, Kim Jackson and AmritaPatro, Quebec back pain disability scale.
- 4) Kopec JA, Esdaile JM, Abrahamowicz M, Abenhaim L, Wood-Dauphinee S, Lamping DL, Williams JI. The Quebec Back Pain Disability Scale. Measurement properties. Spine (Phila Pa 1976). 1995 Feb
- 5) Jacek A. Kopec, John M. Sdailee, Michal Abrahamowicz, Lucien Abenhaim Sharon Wood- Dauphinee , Donna L. Lamping ,J.IvanWilliams, The Quebec Back Pain Disability Scale: Conceptualization and development Journal of Clinical Epidemiology
- 6) Mukherjee P, Roy AS, Bandyopadhyay A, Gangopadhyay S. Assessment of work related musculoskeletal disorders among house maids of Kolkata, India. International Journal of Clinical and Experimental Physiology. 2020.
- 7) Mukhopadhyay S, Das SK, Jathan M. Incidences of work-related musculoskeletal disorders among housemaids: the urban poor dwelling in slums of Mumbai.

