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A CROSS SECTIONAL SURVEY: TO ASSESS PAIN AND HEALTH RELATED LIFE QUALITY AMONG INFORMAL WORKING WOMEN STRINGING FLOWERS IN NORTH CHENNAI

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Abstract

Introduction

Pain is a neglected symptom in women and the women working in informal structures like flower stringing in Chennai are going through moderate to severe physical and mental load. Working women experience pain leads to a poor quality of life, influencing physical and mental health during their life time.

Objectives

The aim of the study is to assess pain and health related life quality among informal women workers. (1) To determine the level of pain among women flower stringers. (2) To correlate the relationship between pain severity and health related life quality among women flower stringers. (3) Associate socio-demographic variables with pain.

Methodology

In this cross sectional study, conducted on women flower stringers residing in 4 wards of North Chennai. Stratified random sampling technique was used to recruit women flower stringers having pain using Numerical Pain Rating Scale (NPRS) and a sample size of n = 112 were involved in the study. Data on socio-demographic variables, pain and health related life quality obtained through structured interview with a validated questionnaire of NPRS and EQ – 5D – 3L. Statistical analyses were done with SPSS.

Results

42 % and 51% of the women flower stringers experience mild to moderate pain in relation to the location of pain in neck, shoulder and phalangeal pain or the whole body pain. Significant difference was seen in pain relation to health related life quality among women flower stringers. Women are more likely to experience pain during their informal working structures. For pain intensity and severity, the associated decrease in health and quality of life was established a minimal relevant difference denotes strong negative correlation. (i.e, r = - 0.6832).

Conclusion

This suggests that level of pain severity has a significant correlation with health related life quality, in which women pain influences her daily activities and work production in terms of income and expenditure.

Key Words: Pain; women; informal workers; flower stringers; North Chennai; India.

1. Introduction

Employment in India is informal, 90% of the Indian workers are employed under informal arrangements and it is estimated to be 462.50 million in urban areas (1). According to labour force survey, TamilNadu has 74 lakh informal workers (2), Informal employment is a higher source of jobs for women as when compared

to men. With growing informal employment, the level of informality varies with level of socio economic development and level of education. Women are always involve in some kind of productive activity, but much of their work is invisible and largely involved in low skilled, low paid informal work with no social security. Women informal work sector tend to be clustered towards lower end of the informal occupational spectrum, which helps explain why gender gaps are larger in informal occupational groups. (3-5).

Women performing informal work are going through moderately increased physical and mental load. Their health is also affected by development of musculoskeletal problems like pain, fatigue and tiredness.(6). The prevalence of musculoskeletal pain is high among informal working women and the complaints of pain on the location of body parts: head, neck, shoulders, hands, leg, feet and low back pain. Neck pain and shoulder pain with irritability are the causes of chronic pain and disability which affects the quality of life of women. Chronic pain is associated with poorer prognosis and lower the health related life quality in women (7, 8).

Previous studies shown higher level of pain is related to health and quality of life. Relation between pain severity and health related life quality among women were cross – sectional in nature.(9).Women reports greater number of days in chronic pain than men. Women spent 6 days in a month with chronic pain and perform the work with pain. The gender division of labour, both within the household and in informal occupation, emerged as a bigger contribution to back pain. However the other health concerns that are overwhelming affect Indian women largely (10).

To investigate the effects of pain and health related quality of life, I conducted qualitative cross sectional research in north Chennai. I found chronic pain particularly neck and shoulder pain in many women flower stringers. Along with work, lack of protective nutrition and inadequate rest increased women vulnerability to pain. This paper presents the pain that impacts the health related life quality among women flower stringers. This qualitative research reveals that women are the most vulnerable group getting affected by pain and its impact. Its findings emphasize on improving women's health by improving the determinants of health.

2. Methods

Study Population and Design

This paper studies the consequences of pain and relationship of pain with health related life quality among women flower stringers in North Chennai. The aim of the study is to assess pain and quality of life in women informal workers. The present study emphasize on the data in observation of pain symptoms and a detailed description of quality of life in women. It includes informal interactions, interviews and observations of women

flower stringers in the area. North Chennai is the place where intense population is present and initial field work was done to select women flower stringers and unstructured interactions about their health and quality of life. (11 – 13).

In order to meet eligiblity and to participate in the present study, women aged between 18 and 59 years referred with pain using Numeric Pain Rating scale (NPRS) was included (14). The women who did not want to and who were not eligible to participate in the study were excluded. The inestigator conducted interviews with the women flower stringers identified during interactions and observations at the area. Interviews were conducted in local Tamil language with open ended structured questionnaire. Written consent and confidentiality were maintained throughout the study with detailed explanation of nature and scope of the research.

Outcome Measures

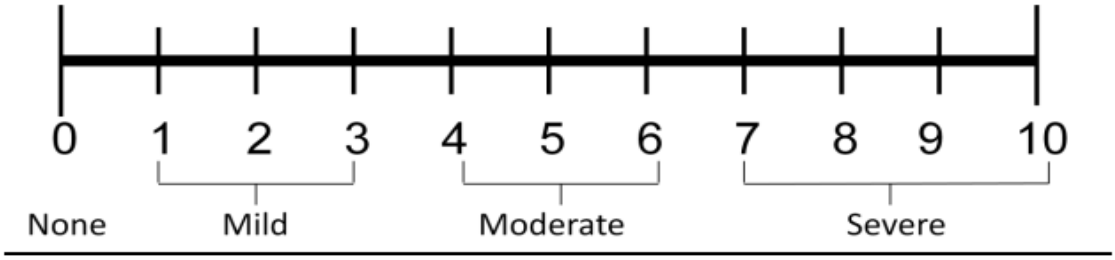
Dependent Variable

Health related life quality was measured to assess the health care and quality in women with pain to improve the comparability across the analysis for assessing the relationship of pain and quality of life.

Health related life quality was measured using EQ – 5D – 3L. The EQ- 5D – 3L scale is a health related life quality scale used to measure five dimensions of health including mobility, self - care, daily usual activities, pain / discomfort, and anxiety and depression with three levels of severity(17, 18). The desirability of the scale values range from 0 to 2, 0 denotes unhealthy and 2 denotes full health.

Independent Variable

Independent variable in the present study was pain intensity and its severity measured using NPRS indicating from 0 – No pain to 10 – Worst pain (14 – 16). Various clinical trials concluded NPRS was appropriate for measuring chronic pain. NPRS is the simplest and most commonly used scale which reflects moderate to severe pain. It has well documented validity and correlates the pain and its affect. The Women is asked to make three ain ratings, corresponding to current, best, worst pain experienced over past 24 hours.



Sampling

In the present study, data were collected from 4 wards in north Chennai. A sample of 200 women was found and who are involved in flower stringing daily is randomly drawn from 4 wards. The stratified random sampling techniques were adopted. Every ward as declared as strata. The sample size "n = 112" was equally divided on all wards. Therefore samples 1, 2, 3, 4... k,(∑ ni = n), drawn independently from the strata. The reason behind such sampling technique was better coverage and accuracy in statistical analysis. The main characteristics of such sampling are equal allocation of sampling units. Thus n is equally divided among all "k" strata (19 – 22).

3. Results

The data collected was interpreted to excel sheet and was analyzed. The demographic characteristics such as Age, Age at marriage, Education, Religion, Income per annum, No. Of Children were analyzed using arithmetic mean, Standard deviation and Percentage.

a. Socio – demographic variables:

Among the study participants, mean age of women string flowers is 36.4553 +/- 3 years, mean age at marriage was 22.44 +/- 3 years, 48% of the flower stringing women were higher secondary school goers, 72% were Hindus, 36 % were below poverty line of earning 9000 rs per month.

Table :1 Demographic variables of informal flower string working women in North Chennai.

Variables	Mean	Percentage	p value
Age in years	35.4553	25%	<0.001
Age at marriage in years	22.44	61%	<0.001
Education			
Primary	44.583	33%	
Secondary	12.114	10%	
Higher Secondary	50.223	48%	<0.001%
Graduation	5.6	4%	
Post graduation	0.987	1.45%	
others	1.23	5.00%	
Religion			
Hinduism	88	72%	0.025

Christianity	12	14%	
Muslim	12	14%	
Others	0		
No. of Children	2.41	66%	0.182

The demographic variables analyzed using descriptive statistics showed significant at "p" value <0.001 by regression with education and it is not significant in religion.

3.2 Pain

For analyzing the pain, linear generalized estimating equation (GEE) were performed. It also called as longitudinal analysis technique which used to derive the pain severity with its variables. Pain intensity and severity is analysed using the available data and this provides an indication for the independent variable within and between participants from mild to moderate pain in women flower stringers. Two longitudinal separate relationships assessed individually between (1) pain and (2) variables and level of pain and health related quality of life using logistic regression. Proportion of pain scores (mild, moderate and severe pain) association with demographic variables. There was significant difference seen with related t age, age at marriage and educational status among women flower stringers. However, religion and no.of children have no significant statistical difference even if they are important determinants of health.

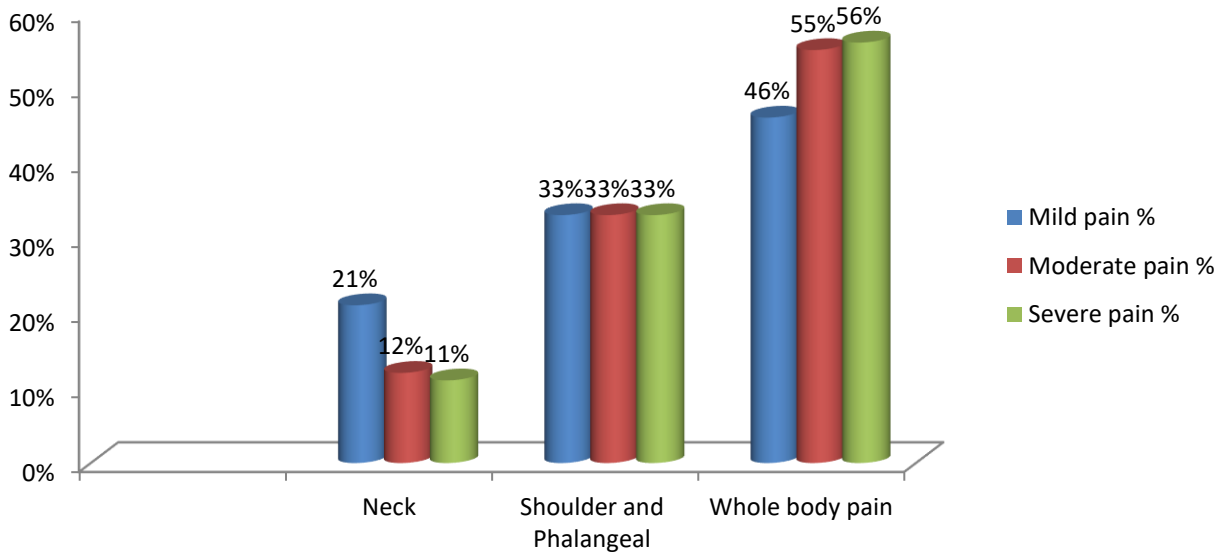


Fig 1: Proportion of pain severity with neck, shoulder and phalangeal pain, Whole body pain.

To see the comparability of groups, on the application of statistical analysis, Chi square tests to determine the association of demographic variables with pain. The determinants of health age, age at marriage, education have shown significant statistical difference at p-value <0.005 and 0.001 respectively. Association by chi square analysis with pain as the outcome variable between mild, moderate and severe pain in relation to various socio – demographic variables identifies confounding factors which are included in the present study. After adjusting for confounding factor, the results still suggested with level of significant association.

Table 2 Association of socio - Demographic variables and pain intensity of women flower stringers.

Variables	Mild Pain	Moderate pain	Severe pain	Chi Square value	df	p Value
Age in years	28.9	25.88	23.44	121.43	1	<0.005

Age at marriage in years	23.4	21.55	25.6	138.56	1	<0.001
Education						
Primary	24	12	8			
Secondary	4	6	2			
Higher Secondary	26	14	11	163.08	1	<0.001
Graduation	2	2	1			
Post graduation	0	0	0			
others	0.4	0.6	0			
Religion						
Hinduism	26	37	15			
Christianity	4	6	2	358	4	<0.981
Muslim	2	9	1			
Others	0	0	0			
No. of Children	2.41	1.52	1.41	456	3	<1.191

3.3. Health related quality of life

Health related quality of life and measures of pain severity, interfere with daily activities, self-care, life control, active distress and support from the family by 3 likert scale. A significant correlation was observed in terms of pain and health related quality of life. In the analysis of regression co-efficient, results showed a double interpretation pooled with co-efficient between the subject and within the subject. In terms of practical relevance it identifies 1 point increase or decrease between pain and health related quality of life. For example, quality of life increases when there is 1 point decrease in pain severity. EQ – 5D – 3L interpretation provides mean and SD range scores women expectations towards quality of life and health care based on interview and observation.

Table 3 Correlation of pain and health related life quality among women flower stringer.

Women Health related QOL Characteristics n = 112	Mean	SD	Co-effeicient r - value	p- value
Pain severity	22.6	5.7		
Interference with daily activities				
Self-care	5.8	1.9	-0.6832	<0.005
Life control	21.2	6.3		
Active distress	15.4	4.6		
Support	28.6	7.6		

4. Discussion and Conclusion.

In India, employment in informal sectors includes those working as casual day workers that are women working in all labour works including sales, production of goods and services, vegetable vendors, street vendors and others with no social and economic security roughly estimated to be 76%. Present study shows most of the informal flower stringing women was in the age group of 30 to 40 years, the mean age is 35.4 years. Employment in India is overwhelmingly informal: 90 per cent of all working women are employed under informal arrangements. In urban cities like Chennai, a smaller share is flower stringing working women for about 25%.

This study shows pain is the worst problem in women and pain having significant correlation with health related quality of life reveals women face more pain in their work categories in their life span. Women are more likely to experience pain in maximum number of days in a month during their informal working structures. For pain intensity, there is associated decrease in health and quality of life was slightly smaller, and negatively correlated than the established minimal relevant difference of level of pain denotes significant correlation. (i.e, r = - 0.5 to - 0.9). The present study which shows an r-value of –0.6832 denotes where all the 5 dimensions of health related and of life on the linear line regression.

Furthermore analysis, reported whole body pain 56% of the women stringing flowers had severe pain. The flower stringers had twice higher odds of getting neck pain and shoulder pain as compared to whole body pain. (OR = 2.0, 95% CI). These differences were statistically significant at P< 0.05. These findings were similar with another study done in South India among domestic workers. (97% of the domestic workers reported neck and shoulder pain). (27) Whole body pain was also severe among flower stringing women at the end of the day making less economically productive the next day.

All of our findings were in line with expectation of pain would have been statistically significant negative relationship with health and quality of life. It is a note-worthy that the impact of pain on health related quality of life found to be smaller (24). This suggests that pain severity has a less strong correlation with health and quality of life, in which women pain influences her daily activities and work production in terms of income and expenditure. Along with existing interviews, pain prevalence would be able to throw light on the nature of work and its impact on women's health (25, 26). Finally more quantitative and qualitative studies should be undertaken to bring out women live experiences and capture the nature of pain. Further research is needed to know the pain impact on all dimensions of health particularly in terms of health care costs, societal values and disability in women who are indulge in informal working structures like flower stringing.

A study by F. Cruzzocreo et l., coping strategies for women who are parent of future generation, are more likely to focus on problem solving coping mechanism rather than emotional coping strategies(22), where the present study neglect to bring out an important aspect of women's health. Hence, further studies are needed to explore the other life stressors in women which might influence the confounding factors of this study.

Conclusion

Neck pain, shoulder and phalangeal pain and whole body pain were significantly high among flower stringing working women. Women in informal employment need to be given counselling for further adaptation of work and health promotion and well-being are the aspects to be governed in future for social and economic security. A better understanding of the informal working, earning is important to the women group and awareness to be given the women working in these conditions. Additionally, a source of information to the Government officials to encourage social and economic security schemes in the future.

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Conflict of Interest

There are no conflicts of Interest in the study.

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