Study of Morbidity Pattern and Its Associated Factors among Migrant Workers Residing in the Field Practise Area of a Tertiary Care Hospital in Mangalore: A Cross-Sectional Study

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Abstract

Introduction: Migration is a process of social change due to which a person moves from one cultural setting to another to settle for a longer period or permanently. The collapse of rural livelihood forces the workers to migrate. As migrants do several types of jobs, there are high chances of morbidities. **Methods:** A cross-sectional study was done on 392 people selected using simple random sampling in Lingapayyakadu using pre-tested and semi-structured questionnaire. SPSS software was used for data analysis. **Results:** 68.7% were males and rest females. 80.9% had some form of acute morbidity in previous 3 months whereas 16% were suffering from chronic morbidities. Age ($p = 0.046$), working hours per day ($p = 0.017$) and occupation ($p = 0.047$) had significant association with acute morbidity while age, ($p < 0.01$) sex ($p = 0.046$) and education level ($p < 0.01$) had significant association with chronic morbidity. **Conclusion:** Major acute morbidity was musculo-skeletal disorders and age, working hours and occupation had significant association while hypertension was the major chronic morbidity with age, sex and education level having significant association with chronic morbidity.

Key words: *Migration, Musculo-skeletal disorders, Acute morbidity, Chronic morbidity, Risk factors*

Introduction

The word 'Migration' is derived from the Latin word 'Migrate', which means to change one's residence[1]. Migration is a process of social change due to which a person moves from one cultural setting to another to settle for a longer period or permanently[2]. The collapse of rural livelihood in many parts of India forces the workers to migrate from their native places in search of employment. The urbanization level has increased from 27.81% in 2001 to 31.16% in 2011 in India as per census with main reasons being population explosion and poverty induced rural to urban migration[3]. In India, according to 2011 census there is an average of 14 million internal migration every year[4]. Migrants often live in a social context where new social, political and language realities result in great demands on their coping skills and adaptability[5,6]. The relationship between disease, travel and migration have historical roots that continue to influence modern medical activities[7]. Migration is a very stressful process with various factors like job insecurity, poverty, social and geographical isolation, time pressures, poor living conditions, separation from family, lack of recreational activities etc. Knowledge about the health status of migrants is often limited due to lack of data. This is because migrants are often excluded from surveys. As migrants do several types of jobs, there are high chances that they are exposed to different types of physical, chemical and biological agents making them vulnerable to health problems. Migrants from disease-endemic area often settle in urban slums in unprotected houses which is highly vector receptive thus introducing

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new and drug resistant strains[8]. Unique health problems of migrant workers are i) Spread of communicable diseases ii) Reproductive and Child Health iii) Child labour iv) Adaptation, adjustment and psychological disorders v) Occupational diseases etc[9]. Migration phenomenon will continue to increase anyways in coming years. Addressing their issues mainly relating to health is a matter that affects both the nation and the migrants. While available studies have primarily focused on TB and AIDS, or reproductive health of female migrants, limited research is done on over-all morbidity pattern. In this quest a cross-sectional study was planned to study the baseline socio-demographics, morbidity pattern and its associated factors.

Objectives

1. To assess the morbidity pattern of the migrant workers.

2. To determine the associated factors for the morbidity pattern.

Method

A cross-sectional study was conducted in Lingapayyakadu, that comes under the coverage area of Community Health Centre, Mulki, which was a health provision area of the Department of Community Medicine, K. S. Hegde Medical Academy, Mangalore from May 2017 to May 2018. Sample size was calculated based on previous study where the prevalence was 43% using $4pq/d^2$ formula which comes to 392[10]. Migrants working for more than 3 months and those who were above 18 years were included and among them those who were not willing to participate were excluded. The house list (sampling frame) of migrant workers was taken from the Mulki Town Panchayath. The households of the migrant workers were selected using lottery method of simple random sampling and all the migrant workers in the house who satisfied eligibility criteria and were present physically during the visit were considered. Pre-tested and semi-structured questionnaire containing socio-demographic factors, acute morbidity pattern in last 3 months and chronic morbidity pattern was used to collect the data by interview method. Morbidity pattern was assessed based on self-reported symptoms and hospital/laboratory records if available with the study participants during data collection. Informed consent was taken from participants and Institutional Ethics Committee clearance was taken from the institution. Data was entered into excel sheet and analysed using SPSS software version 16. Proportions and percentages were used for descriptive statistics. Chi-square test was used for inferential statistics. P-value less than 0.05 was considered significant.

Results

Socio-demographic factors:

Table 1 shows the socio-demographic factors depicting the distribution of study participants based on age, sex, education, occupation and working hours per day.

Acute morbidity:

Major acute morbidity among study participants (393) was musculoskeletal disorders (41.5%). Other acute morbidities include skin related problems (29.5%) , Gastrointestinal problems (19.3%), Respiratory problems (12.2%) and Fever of any origin (10.2%).

Over all 318 (80.9%) had some form of acute morbidity at least once in the past 3 months. **(Figure 1)**

Chronic morbidity:

37(9.4%) of the 393 study participants had Hypertension, 27(6.9%) were suffering from Diabetes Mellitus and 7(1.8%) were suffering from chronic heart disease other than hypertension. There was no reporting of any other chronic diseases like thyroid disorder, cancer etc. Overall, 63(16%) participants have some form of chronic morbidity. **(Figure 2)**

Associated factors:

Acute morbidity had significant association with age($p=0.046$), working hours per day ($p=0.017$) and occupation ($p=0.047$). It did not have any significant association with gender though acute morbidity was high among females **(Table 2).**

Table 3 depicts that chronic morbidity had significant association with age ($p<0.01$), gender ($p=0.046$) and education (<0.01). Chronic morbidity did not have any significant association with working hours per day, but it was high among participants whose working hours per day was less than 8 hours and participants who did not have debt.

Table 1: Socio-demographic factors of the study participants (N = 393)

Characteristic	Frequency (n)	Percentage(%)
Respondents	393	100
Age (in years)		
18-20	42	10.7
21-30	197	50.1
31-40	68	17.3
41-50	53	13.5
>50	33	8.4
Sex		
Male	270	68.7
Female	123	31.3
Education		
Illiterate	52	13.2
Primary	127	32.3
Secondary	161	41
PUC	42	10.7
Graduation	11	2.8
Occupation		
Skilled worker	5	1.3
Semi-skilled worker	167	42.5
Unskilled worker	221	56.2
Working hours per day		
<8	46	11.7
8-10	161	41
10-12	152	38.7
>12	34	8.6
Debt		
Yes	39	9.9
No	354	90.1

Table 2: Association of acute morbidity pattern with socio-demographic factors (N=393)

Age (in years)	**Acute morbidity**		**Total (N=393, 100%)**	**p-value**
	Yes (N=318, 80.9%)	**No (N=76, 19.1%)**		
18-20	34 (81%)	8 (19%)	42 (100%)	
21-30	149 (75.6%)	48 (24.4%)	197 (100%)	
31-40	60 (88.2%)	8 (11.8%)	68 (100%)	0.046
41-50	44 (83%)	9 (17%)	53 (100%)	
>50	31 (93.9%)	2 (6.1%)	33 (100%)	
Working hours per day				
<8	30 (65.2%)	16 (34.8%)	46 (100%)	
8-10	129 (80.1%)	32 (19.9%)	161 (100%)	0.017
10-12	131 (86.2%)	21 (13.8%)	152 (100%)	
>12	28 (82.4%)	6 (17.2%)	34 (100%)	
Occupation				
Skilled worker	2 (40%)	3 (60%)	5 (100%)	
Semi-skilled worker	133 (79.6%)	34 (20.4%)	167 (100%)	0.047
Unskilled worker	183 (82.8%)	38 (17.2%)	221 (100%)	
Sex				
Male	212 (78.5%)	58 (21.5%)	270 (100%)	0.073
Female	106 (86.2%)	17 (13.8%)	123 (100%)	

Table 3: Association between chronic morbidity pattern with socio-demographic factors (N=393)

Age (in years)	**Chronic Morbidity**		**Total (N=393, 100%)**	**p-value**
	Yes (N=63, 16%)	**No (N=330, 84%)**		
18-20	2 (4.8%)	40 (95.2%)	42 (100%)	
21-30	4 (2%)	193 (98%)	197 (100%)	
31-40	14 (20.6%)	54 (79.4%)	68 (100%)	<0.01
41-50	24 (45.3%)	29 (54.7%)	53 (100%)	
>50	19 (57.6%)	14 (42.4%)	33 (100%)	
Sex				
Male	50 (18.5%)	220 (81.5%)	270 (100%)	0.046
Female	13 (10.6%)	110 (89.4%)	123 (100%)	

Cont... **Table 3: Association between chronic morbidity pattern with socio-demographic factors (N=393)**

Education				
Illiterate Primary Secondary PUC College	26 (50%) 16 (12.6%) 15 (9.3%) 4 (9.5%) 2 (18.2%)	26 (50%) 111 (87.4%) 146 (90.7%) 38 (90.5%) 9 (81.8%)	52 (100%) 127 (100%) 161 (100%) 42 (100%) 11 (100%)	<0.01
Working hours per day				
<8 8-12 12-14 >14	9 (19.6%) 29 (18%) 19 (12.5%) 6 (17.6%)	37 (80.4%) 132 (82%) 133 (87.5%) 28 (82.4%)	46 (100%) 161 (100) 152 (100%) 34 (100%)	0.499
Debts				
Yes No	4 (10.3%) 59 (16.7%)	35 (89.7%) 295 (83.3%)	39 (100%) 354 (100%)	0.30

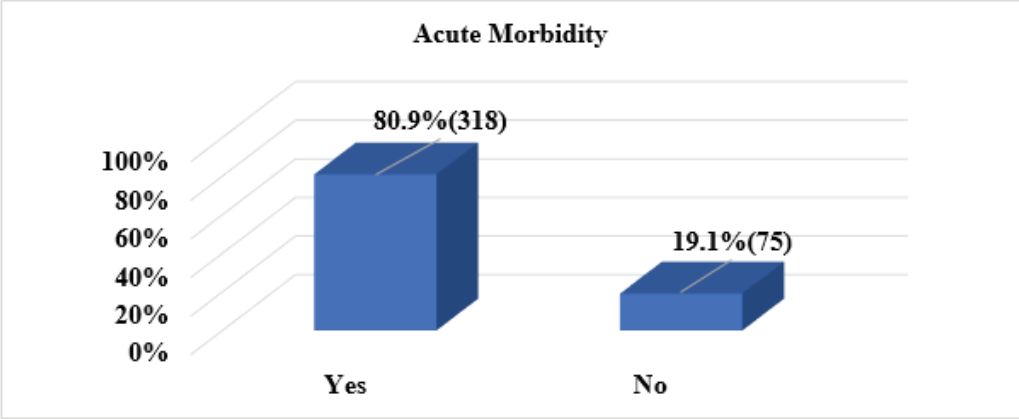

Figure 1: Proportion of acute morbidity in past 3 months among the study participants (N=393)

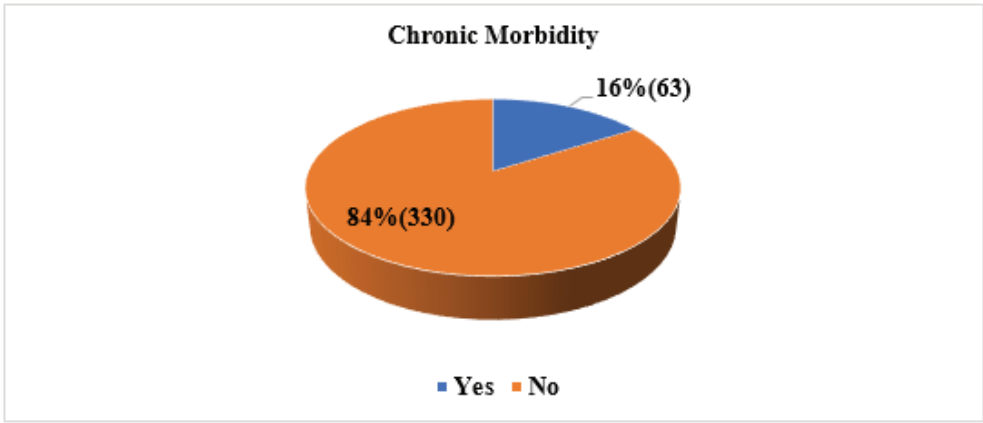

Figure 2: Proportion of chronic morbidity among study participants (N=393)

Discussion

According to this study among 393 migrants 68.7% were males indicating that the share of male migrants is more which is similar to a study done by Mitra A et al[13]. In the present study, majority of the study participants literacy status was primary (32.3%) and secondary (41%) which is similar to a study done by Trupti Bodhare et al[14]. In the present study, 11.7% of the study participants worked for less than 8 hours per day whereas majority of them (88.3%) worked for more than 8 hours per day with 41% working for 8-10 hours per day, 38.7% working for 10-12 hours per day and 8.6% working for more than 12 hours per day. This is similar to a study done by Guddi Tiwary et al[15]. In the present study, 56.2% were un-skilled workers, 42.5% were semi-skilled worker and only 1.3% were skilled worker. This is dissimilar to the studies done by Pratik K. Jasani et al[16] where 76% were un-skilled and 24% were skilled workers and Balakrishna B. Adsul et al[17] where 79.4% were un-skilled workers and 20.6% were skilled. This might be because of the difference in the categorization of the occupation of the study participants (Semi-skilled category was not used in both the above-mentioned studies). In the present study 41.5% had musculo-skeletal problems This is similar to studies done by Mohopatra R[18] where 40% of the migrant workers had musculo-skeletal problems and Dr K. G. Kiran et al[10] where 43.3% had musculo-skeletal problems. In this study 19.3% of the study participants had Gastro-intestinal problems. This finding is similar to a study done by Sandeep H et al[19] where 23.6% have gastro-intestinal problems. Skin conditions have contributed 29.5% which is similar to studies done by Pratik K Jasani et al[16] (25.6%) and Dr K. G. Kiran et al[10] (22.6%). 10.2% of the study participants in the present study had fever of any origin in the past 3 months. This is similar to a study done by Hiteshree C Patel et al[20] where 12.9% of the study participants had fever. Overall 80.9% of the study participants had some form of acute morbidity in the past 3 months. This is similar to studies done by Sithara R. S. et al[21] where 79.1% of the study participants had some form of acute morbidity in past 3 months and Surabhi KS et al[22] where 87% of the study participants had acute morbidity. The prevalence of hypertension among the study participants was 9.4%. In the studies done by Utsav Raj et al[23] and Balakrishna B. Adsul et al[17] the prevalence of hypertension was 4.4% and 3.4% respectively. The prevalence of hypertension was high in the present study. This could be because of a greater number of younger study participants in the former studies and there are various studies which show significant relationship between age and hypertension[24]. In the present study, 6.9% were diabetics and 1.8% had heart diseases (other than hypertension). In a study done by Safraj Shahul Hameed et al[25] 15.1% of male study participants were diabetics and 10.1% of female study participants were diabetics whereas 7.1% males and 4.4% females had cardiac conditions. In the present study acute morbidity was more among study participants aged more than 50 years (93.9). This could be because as the age progresses the capacity to work decreases. The study participants who worked for more than 10 hours per day had more acute morbidity as it involves lot of strenuous work and exposure to dust and harm physical and chemical agents. Unskilled workers were the majority population to have acute morbidity (82.8%) as they have to work in difficult conditions and for longer periods. Chronic morbidity was highest among study participants aged above 50 years (57.6%). There are well known studies which show that the chronic morbidities increase as age progresses. In the present study males (18.5%) had more chronic morbidity than compared to females (10.6%).

Conclusion

This study concludes that majority of the study participants had acute morbidity (80.9%). Musculo-skeletal problem was the most common compliant followed by dermatological problems, gastrointestinal problems and respiratory problems. Small proportion of participants had chronic morbidity like hypertension (9.4%), diabetes mellitus (6.9%) and cardiovascular problems except hypertension (1.8%).

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Ethical Clearance: Taken from the Institutional Ethics Committee

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