Socio-Demographic Profile and the Health Status of Migrant Labourers in Mangaluru, Karnataka: A Cross Sectional Study

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Abstract

Background: Morbidity patterns among migrants vary with the type of migration and its scope for generation of health risk. Malaria, hepatitis, typhoid fever, and respiratory infection are found with a higher incidence among migrants. They have low rates of education and employment, lower salaries and less access to public health care services. This study was carried out to determine the socio-demographic profile and the health status of migrant labourers. *Methods & Material*: A cross-sectional study was carried for a period of one year from 01 January 2016 to 31 December 2016 within the Mangalore City Corporation (MCC) limits. MCC has six Urban Family Welfare Centre [UFWC]. A total of 855 migrant labourers from 675 families were included in the study. Informed written consent was obtained from the participants prior to the inclusion. Multi-stage sampling was designed to select the participants and a pre structured questionnaire was used to collect the data. SPSS 22 version software was used for statistical analysis and Chi-square test was used as test of significance for qualitative data. p-value of <0.05 was considered as statistically significant. *Results*: Majority of the subjects (76.7%) were in the age group <30 years, 85.8% were males, 52.6% were unmarried, 84.1% of them were illiterate, 89.6% were construction workers, 73.9% were earning between 1000 to 2000 rupees per week. Tobacco consumers were 52.51% and 63% were alcoholics. Out of these , 38.8% contracted illnesses within 3 months of coming to Mangaluru, 29.8% had past illness between 3 months to 1 year and 31.4% had past illness >1 year duration. Musculoskeletal disorders were the most common (48.3%) health problem. It was observed that 42% of the migrants visited private facility, 31.1% utilized government facility, 26% took treatment directly from pharmacy while 1% visited traditional healer for illness. Significant association was observed between Health care utilized and reason for utilization (p < 0.001). *Conclusion*: The study brought out that majority of respondents had migrated for economic reasons and lived in abysmal conditions doing physically demanding work. Their health was affected by the pattern of migration along with the ignorance of the available health facilities especially the public health services.

Keywords: Migrants; Health Status; Socio-Demographic Profile; Health Services.

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Introduction

The UN Convention on the Rights of Migrants defines a migrant worker as a "person who is to be engaged, is engaged or has been engaged in a

remunerated activity in a State of which he or she is not a national [1]." Migrant workers usually do not have an intention to stay permanently in the country or region in which they work. Although international migrants have retained roughly the same share of the global population for the last several decades, their absolute number reached an all-time high in 2015 – an estimated 244 million [2]. The Economic Survey of India - 2017 estimates that the magnitude of inter-state migration in India was close to 9 million annually between 2011 and 2016, while Census 2011 pegs total number of internal migrants at a staggering 139 million [3]. Uttar Pradesh and Bihar are the biggest source states while the major destination states are Delhi, Maharashtra, Karnataka [4].

Migrants constitute a very diverse group with different ethnic and socioeconomic backgrounds and are the most vulnerable community in India, for they neither get proper facilities nor adequate wages for their work [5]. They usually live in temporary or semi-permanent structures, which generally lack proper drainage, potable water supply and proper sanitation, making them vulnerable to many infectious diseases like malaria, hepatitis, typhoid fever, and respiratory infection. Further, lack of social support and high expectations from relatives are additional stressors leading to mental health problems and risky health behavior. In the absence of documentary proof of identity and local residence, regulations and administrative procedures exclude migrants from access to legal rights, public services and social protection programmes accorded to residents, on account of which they are often treated as second-class citizens. As a result, internal migrants face barriers in accessing subsidized food, housing and banking services [6].

Mangalore is well known for its industrial and commercial activities and is the only city in Karnataka to have all modes of transport; while New Mangalore Port handles export of nearly 75% of India's coffee, timber and cashew nuts, making it the hub for developmental activities. This attracts migrants from across the country to work in Mangalore [7]. However, the socio-demographic profile and health status of the migrant labourers here is not well understood. Limited studies undertaken here indicate high prevalence of communicable diseases among migrants in Mangaluru [8]. Hence, it becomes necessary to assess their morbidity profile and provide health care services specifically aimed at these migrants with a strong political commitment to improve their health status. In the backdrop of above, present study was conceived and undertaken to determine the socio-demographic profile and the health status of migrant labourers temporarily residing in Mangalore City Corporation (MCC) limits.

Methods and Material

Present study was a community based cross sectional study conducted for a period of one year from 01 January 2016 to 31 December 2016 within the MCC limits. MCC has six Urban Family Welfare Centre [UFWC]. All the areas under these six UFWC's were considered for the study. All migrant labourers temporarily residing under MCC limits for less than five years, were eligible for the study.

In the Census, if the place of birth or place of last residence is different from the place of enumeration, a person is defined as migrant. The migration was treated as a temporary, if the migrant intended to move again to the last usual place of residence or to any other place. If the migrant, in normal course, was likely to stay at the place of enumeration and did not plan to move out of the place of enumeration, it was treated as a permanent migration. Thus, 'nature of movement' is not a reflection of the period elapsed since they migrated, but depicts the intention of the migrants either to migrate out of the present place of enumeration sometime in the future or to stay permanently at the place of enumeration in the normal course. In present study a migrant labourer was defined as someone who was engaged or has been engaged in a remunerated activity or any activity for their sustenance in a place of which they were not a part of.

Permanent migrants (staying in Mangaluru for more than five years) and seriously ill individuals requiring hospitalization were excluded from the study. Prevalence of illness among migrant population was 34% as estimated from the pilot study. Using this prevalence, sample size was calculated using the formula:

$$n = 4\,\frac{pq}{d^2}$$

at 95% confidence limit, 5% alpha error and 10% precision, sample size of 855 was obtained. Complete enumeration of the randomly selected pockets from pre-identified migrant population pockets within MCC limits was done to reach the sample size.

Multi stage sampling design was employed. MCC limits consist of six UFWCs. Under each UFWC, migrant pockets had been already identified and mapped by the Govt. health staff. The approximate number of migrant labourers living under each pocket was not clearly defined. In the first stage, out of the six UFWCs, three UFWCs were selected randomly. In
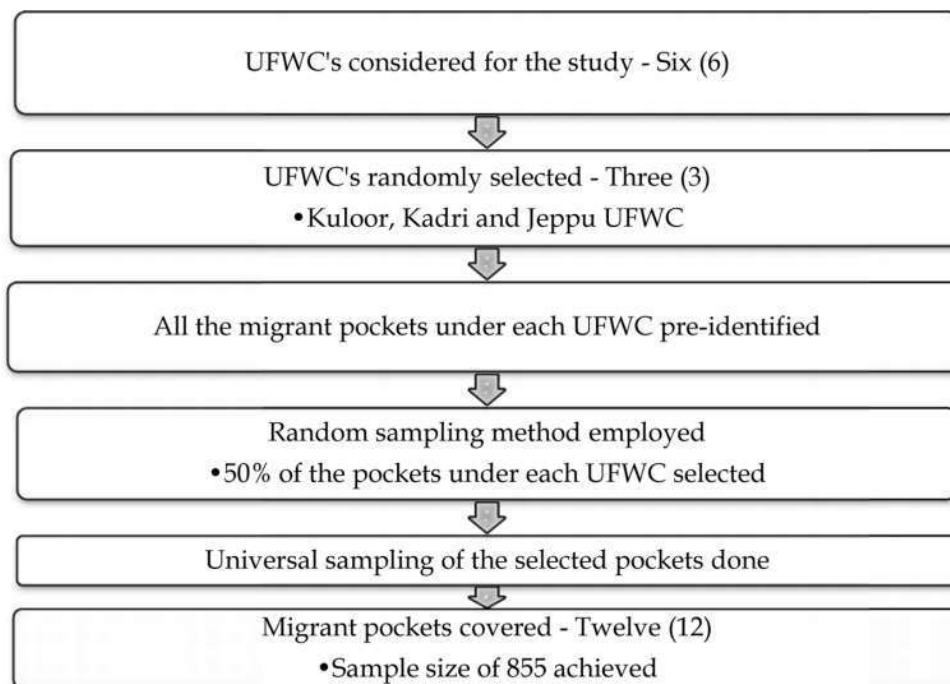
Fig. 1: Sampling technique of the study (n=855)

the second stage, 50% of the pre-identified migrant pockets under each of the three UFWCs were selected by random sampling method. All the migrant labourers residing in the selected pockets were included. Universal sampling of selected pockets was done till the sample size of 855 was achieved (Figure 1). A pre tested semi-structured questionnaire was used for collection of data. Informed written consent was obtained after explaining (in a language they know; interpreter known to the participant was used in case of unknown language) the purpose of study and assuring the confidentiality.

Statistical Methods

Data was entered into Microsoft excel data sheet and was analyzed using SPSS 22 version software. Categorical data was represented in the form of frequencies and proportions. Chi-square test was used as test of significance for qualitative data. Continuous data was represented as mean and standard deviation. p value of <0.05 was considered as statistically significant after assuming all the rules of statistical tests.

Results

A total of 855 migrants and 675 migrant families were included in the study. These included 267

(39.6%) migrant families from West Bengal, 116 (17.2%) from within Karnataka. 37 (5.48%) from Tamil Nadu while remaining 225 (33.3%) families belonged to other states (Figure 2). Majority of families were Hindus (92%) and only 8% were Muslims. A total of 518 (76.3%) migrants hailed from nuclear families, 17.8% from joint families while remaining 1.3% were from three generation families. Majority i.e. 84.9% of the families migrated to earn better income, 6.1% due to poverty, while 4.7% migrated due to drought in their native place. Majority i.e. 516 (76.4%) of the families sent money home in the form of remittances while remaining 159 (23.6%) of the migrant families did not do so (Table 1).

In present study, majority of the subjects i.e. 76.7% were in the age group <30 years, 14.1% were in the age group 31 to 40 years while 2.1% of subjects were in the age group >50 years. Male migrants accounted for 85.8% of the total subject migrant's population while female migrants accounted for remaining 14.2%. Majority (52.6%) of the migrants were unmarried while remaining 46.8% of them were married. Literacy status of migrants was found to be very low i.e. 84.1% of migrants were illiterates, 12.2% were educated up to primary/middle level, while 3.5% had education up to high school. Majority of them migrated within one year (48.5%). Most common reason for migration was prior presence of known people from their native place i.e. 84.9%.

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Majority of the subjects were working as construction workers (89.6%), 4% in fishing and housemaid respectively and 2.4% were working as musician. The earnings of the migrants were also found to be low i.e. 23.5% were earning less than 1000 rupees per week, 73.9% were earning between 1000 to 2000 rupees per week and only 2.2% of the migrants were earning >2000 per week (Figure 3).
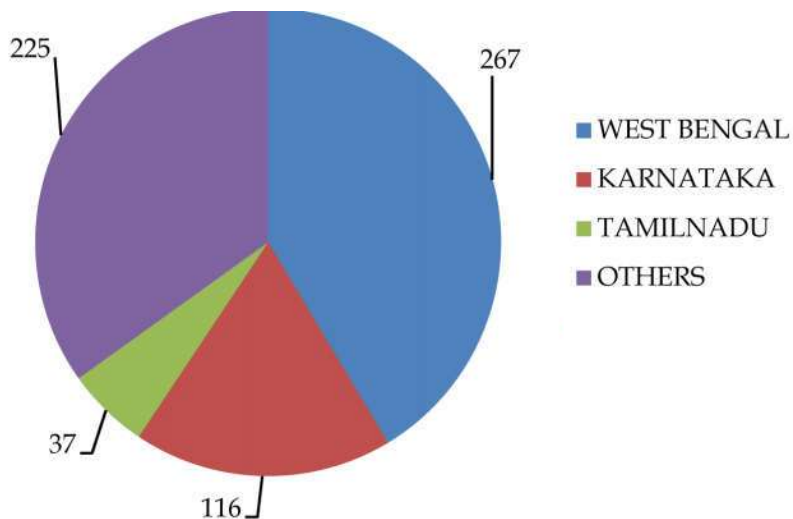

Fig. 2: Distribution of migrant families according to their domicile states (n=675).
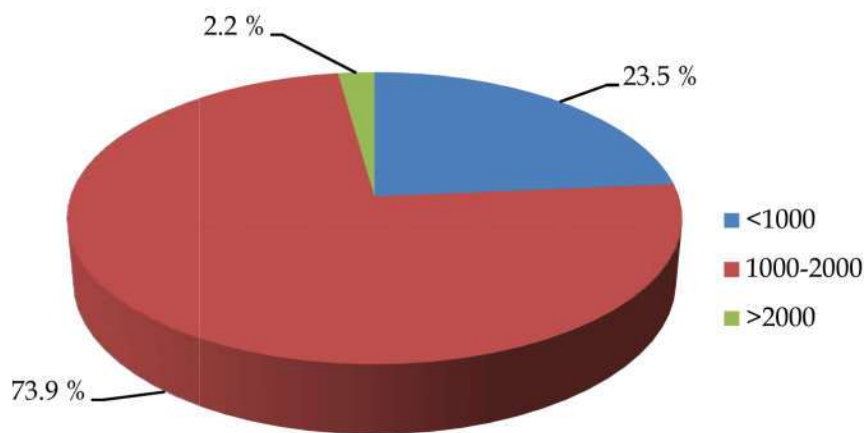

Fig. 3: Distribution of the study population as per weekly income (n=855)

Table 1: Profile of migrant families included in the study (n=675)

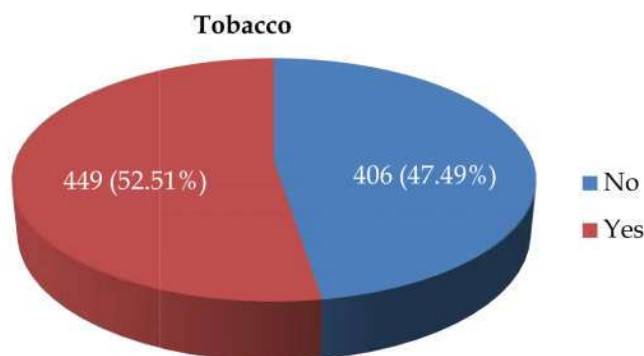| Variables		Frequency	%
Religion	Hindu	622	92%
	Muslim	53	8%
Type of Family	Nuclear families	518	76.3%
	Joint family	148	17.8%
	Three generation family	9	1.3%
Reason for migration	Poverty	104	15.4
	Better income	549	81.3
	Drought	22	3.0
Nature of Remittance	Remit	516	76.4%
	Do not Remit	159	23.6%

In present study tobacco consumers (in any form) were 449 (52.51%), which included 328 males and 121 females, while 406 (47.49%) were non-tobacco consumers. Among tobacco consumers 361 (80.4%) were beedi smokers, 77 (17.14)% smoked cigarette, 196 (43.7%) used gutkha while and 63 (14.03%) consumed quid. Out of 121 women who used tobacco 111 (81.7%) smoked beedi while remaining 10 (8.3%) consumed tobacco in the form of chewing a quid. Alcohol consumption was also found to be high among the migrants i.e. 537 (63%) of subjects consumed alcohol. Among alcoholics 315 (58.7%) consumed alcohol twice weekly, 160 (29.8%) consumed weekly while 62 (11.5%) consumed daily.

Significant association (p<0.001) was observed between tobacco consumers and alcoholics. Out of 449 tobacco consumers 391 (72.9%) consumed alcohol in the study (Figures 4-7)

In the study population 38.8% of the study subjects reported ill within 3 months, 29.8% had past illness of 3 months to 1 year duration while 31.4% had past illness of >1 year duration. Among recent illness (<3 months), musculoskeletal symptoms ranked 1st with 160 (48.3%), while fever accounted for 18.7% of the cases. Among past illnesses of more than 3 months duration, malaria was the major disease and accounted for 116 (45.4%) of the cases (Table 3).

Table 2: Socio demographic profile of migrant population in the study (n = 855)

Socio Demographic Profile		Frequency (%)
Age distribution	<30 years	656 (76.7)
	31-40 years	120 (14.1)
	41-50 years	61 (7.1)
	>50 years	18 (2.1)
Gender	Male	734 (85.8)
	Female	121 (14.2)
Marital status	Unmarried	449 (52.6)
	Married	400 (46.8)
	Separated	3 (0.3)
	Widowed	3 (0.3)
Educational status	Illiterate	719 (84.1)
	Primary School	52 (6.1)
	Middle School	52 (6.1)
	High School	30 (3.5)
	PUC	2 (0.2)
Duration of Migration	≤6 Months	210 (24.6)
	6 Months – 1 Year	204 (23.9)
	1 – 3 Years	171 (19.9)
	3 – 5 Years	106 (12.4)
	5 – 10 Years	85 (9.9)
	10 – 20 Years	36 (4.3)
	>20 Years	43 (5.0)
Reason for migration	Earn better Income	725 (84.9)
	Poverty	52 (6.1)
	Drought	40 (4.7)
	Contractor's Advice	38 (4.3)

Fig. 4: Distribution of the study population as per tobacco consumption (n= 855)

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Table 3: Health status of migrant population

Illness	Type of Illness	Frequency (%)
Illness (n=855)	Recent illness (within 3 months)	331 (38.8%)
	Past illness (before 3 months to 1 year)	255 (29.8%)
	Past illness (>1 year)	269 (31.4%)
Recent Morbidity pattern (n=331)	Fever	62 (18.7%)
	Gastrointestinal	27 (8.2%)
	Skin	18 (5.4%)
	Musculoskeletal	160 (48.3%)
	Malaria	10 (3.2%)
	*Others	54 (16.2%)
Past illness (before 3 months to 1 year) (n=255)	Fever	38 (14.8%)
	Gastrointestinal	23 (9%)
	Skin	20 (7.8%)
	Musculoskeletal	47 (18.4%)
	Malaria	116 (45.4%)
	*Others	11 (4.6%)

*Others include Injuries, Hypertension, Diabetes, Menstrual, Headache, Respiratory, Urinary and Eye problems

Table 4: Association between health care utilization and the reason for utilization (n=855)

Type of Health Care Facility Utilized	Reason for Utilization				Frequency (%)
	Cheap No. (%)	Accessible No. (%)	Popular No. (%)	On advise No. (%)	
Private facility	7 (1.6)	159 (86.4)	53 (77.9)	140 (80.0)	359 (42.0)
Government facility	223 (52.1)	7 (3.8)	7 (10.3)	29 (16.6)	266 (31.1)
Pharmacy	197 (46.0)	17 (9.2)	6 (8.8)	2 (1.1)	222 (26.0)
Traditional Healer	1 (0.3)	1 (0.6)	2 (3.0)	4 (2.2)	8 (0.9)
Total	428	184	68	175	855

Table 5: Distribution of the study population as per alcohol and tobacco consumption (n=855)

Alcohol Consumption	Tobacco		Total (%)
	Yes No. (%)	No No. (%)	
Yes	391 (72.9)	146 (27.1)	537 (100)
No	58 (18.2)	260 (81.8)	318 (100)
Total	449 (52.5)	406 (47.5)	**855 (100)**

p-value = <0.001
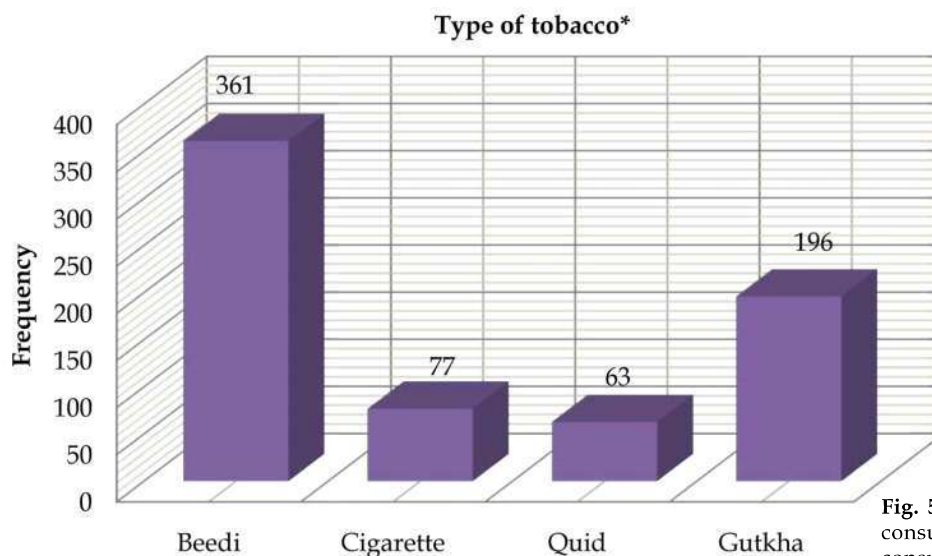
Fig. 5: Distribution of the tobacco consumers as per type of tobacco consumption (n=449)
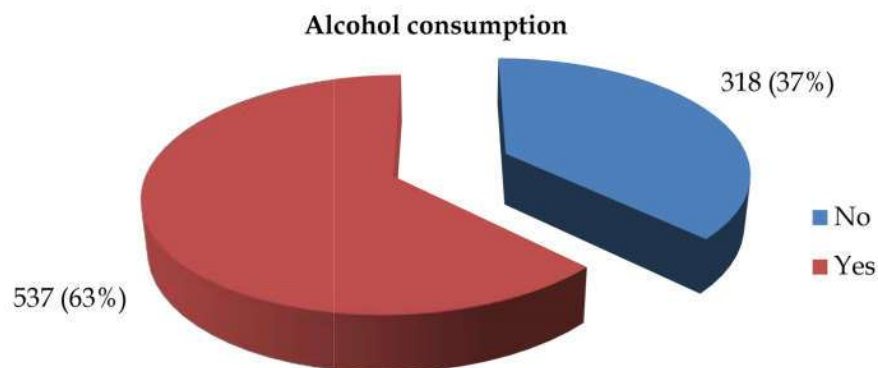
Alcohol consumption

Fig. 6: Distribution of the study population as per alcohol consumption (n = 855)

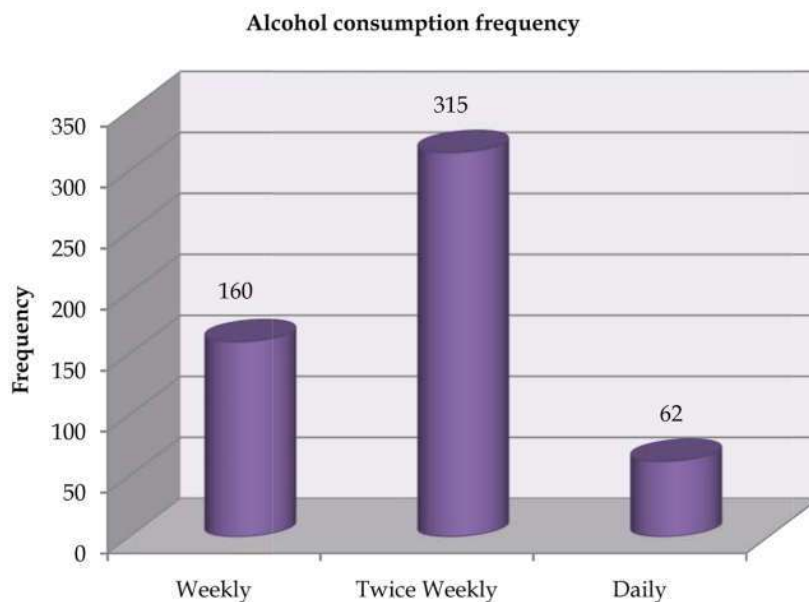**Alcohol consumption frequency**

Fig. 7: Distribution of the alcohol consumers as per frequency of alcohol consumption (n=537)

In present study 42% of the subjects visited private health care facilities for their health problems, 31.1% utilized government facility, 26% took treatment from pharmacy while 1% visited traditional healers. The main reason cited by the study subjects for choosing a private health facility was accessibility (86.4%); while the reason cited for visiting a pharmacy was availability of cheap medicines (46.0%).

There was significant association (p<0.001*) between Health care utilized and reason for utilization. Migrants who chose cheaper health care, visited government facilities and pharmacy, people who choose accessible health care, visited private facility (Table 4).

Not surprisingly, prevalence of tobacco use was found to be much higher among alcoholics i.e. 72.9%

as compared to non- alcoholics i.e. 27.1% and this association was found to be statistically significant (p -value < 0.001). Table 5.

Discussion

Migration is an integral part of population dynamics. While migration is an important livelihood strategy, it also has serious negative repercussions and makes the migrants vulnerable to many health problems, besides being exposed to several difficult and unsafe conditions and occupational hazards. Poor living condition, lack of job security, meager salary, inability to fulfill their own needs and exploitation by contractors are the other factors which further contribute to their stress.

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Consequently many of them resort to drinking, drug abuse, unsafe sexual behavior and domestic violence. Paradoxically, they are the ones who need proper health care services the most, instead they usually rely on unqualified medical practitioners and pharmacy shops, and make huge out of pocket (OOP) expenditure of health, though it is entirely preventable.

In the present study a total of 855 migrants were included from 675 migrant families. Majority of them had migrated from West Bengal and from various parts of Karnataka. Most of the migrants (92%) were Hindus and majority of them (76.3%) belongedto nuclear families.

Most common reason for migration was to earn livelihood and better income.Most of the migrants (76.4%) sent money home in the form of remittances. Some major determinants of remittances were size of the household, number of dependents (elderly people and children) and purpose (clearing debts, productive investment and consumption among others). Large families usually sent more members to urban areas to increase their earnings.

In a similar study by Saggurti et al in Maharashtra, it was observed that migrants predominantly came from Uttar Pradesh (38 percent), Bihar (15 percent), Madhya Pradesh (13 percent), Chhattisgarh (6 percent), and Karnataka (3 percent) [9]. However, in a study based on '1991 and 2001 census migration data' by K.C. Das and Subhasis Saha, entitled "Internal Migration and Regional Disparities in India", it was brought out that majority (87%) of the migration was within the state while only 13% was interstate [10].Surabhi K. S. et al. and Lingaraju M. et al. in their studies on religion of migrants in Tamil Nadu and Karnataka respectively, also made similar observations and observed that majority of the migrants were Hindus [11-12].

Saggurti N. et al. in their study at Maharashtra observedthat better income opportunities, poverty and unemployment in their home stations are important reasons for migration. Deshingkar P and Bird K observed that the motive behind migrating to the city is to facilitate more earning than migrants would be able to within traditional primary economic activities at their native place. In the present study, all the respondents did not want to stay back in Mangalore in the future. This emphasizes the temporary nature of their migration and the impermanence nature of migration [13,14].

In the present study majority of the subjects (76.7%) were in the age group of <30 years, 85.8% of them were males, 52.6% were unmarried and 84.1% of

migrants were illiterate. Further, 48.5% of the migrants had come less than one year back and their main occupation were construction, fishing and housemaids. Majority (73.9%) of the migrants were earning between 1000 to 2000 rupees per week.

Saggurti N et al. and Bino Paul GD & Denzil Fernandes in their studies also observed that majority of migrants were in the age group 19 to 29 years and 15 to 34 years respectively. Age distribution of migrants thusreflects a predominantly young population who are up and ready to face the risks of migration which it poses in the process of earning money [13,15].

Bino Paul GD & Denzil Fernandes in his study in Goa observed that majority of migrants were unmarried [15]. Lingaraju. M in his study also made similar observations and found majority of the migrants as unmarried, while Surabhi K.S. et al. in their study at Kochi observed that three-fourths of the migrants were unmarried [11-12]. They also observed that unmarried workers were more among the male migrants while widowed/separated were more among the female migrant population. Lingaraju M. in his study in Bangalore, also found high levels of illiteracy among migrants while Bino Paul GD & Denzil Fernandes in his study in Goa found only 26.23% of them were illiterate [12,15].

Saggurti N. et al. in their study observed that most common causes for migration and stay in their presentlocation were contractor's advice, attraction to the place, known place of destination and long-term work contracts [13]. It was also observed that construction (of roads and buildings) was the main type of work generally available to migrant labourers. Similar findings were also brought out in "Migration in India. NSS Report No. 533" (2007) which revealed that nearly 43% migrants were engaged in construction, while agriculture and manufacturing employed 20% and 17% migrants respectively [16]. These patterns of employment indicate that migrants are often willing to take on any job including those which are dangerous.

Deshingkar P and Bird K in their study, observed that poor income by women migrating from West Bengal to Delhi to work as housemaids suggested thatthey moved out due to extreme poverty [14]. Saggurti N. et al. observed in their study that the average monthly income of male migrants in Karnataka was 4,485 rupees [13].Bruce Ninhis study in Canada observed that migrants with either low income or lower middle income were at greater risk of poor health. With a hazard ratio of 3.76, the greatest

risk was associated with the lowest income group [17]. In the present study there were 449 (52.51%) tobacco users (in any form) while remaining 406 (47.49%) did not use tobacco in any form. Among tobacco users majority of them 361 (80.4%) smoked beedi while 196 (43.7%) used gutkha. Among 121 women migrants 10 (8.3%) of them used tobacco in the form of chewing a quid. Further, 537 (63%) of the migrants consumed alcohol while 315 (58.7%) of these consumed alcohol twice weekly. Further, the prevalence of tobacco use was found to be much higher among alcoholics i.e. 72.9% as compared to non-alcoholics i.e. 27.1% and this association was also found to be statistically significant (p-value <0.001).

Surabhi K.S in their study observed that 36% of the migrants were smokers and majority of the smokers were males. A small percentage (12%) of tobacco users also consumed gutkha. They also found that majority of male migrants were alcoholics. This can be attributed to the male dominance and youthful nature of participants [11].

In present study 38.8% of the migrants had recent lness (within 3 months) while 29.8% had past illness (between 3 months to 1 year). Further, among recent illnesses, musculoskeletal symptoms ranked 1st with 160 (48.3%) while among past illnesses, malaria was the major illness accounting for 45.4% of the cases. According to Mukherjee et al., a very common health problem that migrants face is malaria. It is only when construction project is towards completion the mosquito problem reduces significantly [18].

Common illnesses observed by Surabhi K.S. et al. (2007) [11] in their study were fever (81%), headache (71%), URTI (16%) and musculoskeletal problems (11%). Chandrima et al. (2006) [19], observed that malaria, hepatitis, typhoid fever, and respiratory tract infections were quite common among migrants. Musculoskeletal problems were also high due to their occupation.Comlan et al in their study among migrants in Gabon (Africa), reported musculoskeletal disorder (28.9%), fatigue (24.2%) and stress (16.1%) as common health problems among their study subjects [20].

Mean number of days of illness among the recently ill (<3months) migrants were found to be 3.67 days. This was important considering the fact that their daily wages will be deducted if they did not go for work and a considerable amount would be lost. Consequently, the migrants could report for work without recovering fully which in turn could worsen their physical condition and health.

Non-communicable diseases (NCDs) like diabetes and hypertension were not major problems among migrants though the same required further exploration. This could possibly be due to non-sedentary lifestyle of the migrants and young age.

As regards utilization of public health facilities by migrants, it was observed that only 31.1% utilized government facility while 67% of them visited a private facility or took treatment from pharmacy or traditional healers. Main reasons given for choosing a health care facility were cheap cost of treatment (50.1%), easy accessibility (21.5%) and popularity (7.9%) of private health care providers. A significant association (p<0.001*) was also found between Health care utilized and reason for utilization.

Bontha V et al. observed in their study that for curative services, migrants heavily depended on private practitioners, including unqualified practitioners and spent large portions of their earnings [21].Surabhi K.S. et al. also observed that 37% of the migrants visited private facilities, 30% went to a pharmacy shops and only 20% of them visited a government hospital to seek treatment [11]. Mukherjee et al. observed that migrants usually go to the nearby hospitals, run by the local administration, or health posts when they are unwell while Thakur J.S. et al. observed that most of the migrants would often buy drugs from drug store if they think their health problems were minor [19,22].

Conclusion

Migrants constitute a significant proportion of urban population. They generally live in abysmal and poor sanitary conditions which makes them vulnerable to a host of communicable diseases. Besides, meagre salary, lack of job security, inability to fulfil their family needs, exploitation by contractors further contribute to their stress. Despite the fact that they need the health services the most, most of them visit unqualified medical practitioners and spend huge proportion of their earnings in seeking treatment.Needless to say that there is an urgent requirement of "Health Care Interventions" for migrants in India which are accessible and available to them at all times so as to ensure that their daily livelihood is not compromised.

Recommendation

Migrant population, being a non-native population, is vulnerable and is exposed to many

health problems. In the absence of permanent identity of residence proofs, local regulations usually exclude them from access to public services and social protection programmes accorded to local residents. Its time that local bodies, Stateand National organizations recognize their needs. A 'Migrant I.D. Card' may be issued which can be renewed after a stipulated time, which in turn will ensure improved coordination of employment, health facilities and practices. Focused efforts are necessary to improve their health and living conditions.

Awareness has to be increased on the health care facilities and personal care. An overall equitable development of infrastructure and opportunities is required to reduce the rural to urban, intrastate and interstate migration. We need further research on the socio-demographic patterns of migrants, economic determinants and specific health problems for policy making and its implementation.

Limitations

Present study had the limitations which are inherent to any cross sectional study, as the temporalities, causation of the diseases and their outcomes could not be recorded.Besides, the actual incidence of many diseases may have been missed. Diagnosis made in the study population was largely based on history and clinical as no laboratory investigations were carried out. Lastly, probability proportional to size sampling could not be done as the population size in each of the pockets was not clearly defined.

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Conflict of Interest

There are no Conflict of interest.

Source of Funding

None

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