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Original Research Article

Are workers in construction sites of Mangalore city healthy? a cross-sectional study

Utsav Raj, Pracheth R.*, Nischith K. R.

Department of Community Medicine, Yenepoya Medical College, Mangalore, Karnataka, India

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***Correspondence:**
Dr. Pracheth R.,
E-mail: prach1986@gmail.com

ABSTRACT

Background: Construction site workers are prone to develop health problems due to poor living conditions. This is magnified by lack of timely access to health care. Thus, we sought to explore the health status of construction site workers.
Methods: A cross sectional study was conducted in construction sites located in an urban area of Mangalore, from September to November, 2015 among workers aged ≥18 years, with consent. Information was obtained through a pre-designed, pre-tested interview schedule.
Results: A total of 178 individuals participated in the study, which included 160 (89.80%) males. Majority, (80.80%), stated that they had experienced fever at least once in the past one year. Other major complaints were blocked nose (17.40%), followed by skin diseases (12.70%) and cough which was present in 12.30%. When the study participants had an illness, 65.70% visited a health facility. Majority (82.50%) preferred private doctors, 62.50% visited the doctor so that they could work better and earn more, and 37.0% were unable to afford the treatment due to high treatment cost.
Conclusions: The most common health complaint was found to be fever. Nearly half of the study participants had illness which required treatment in the last one year. More than half visited a health facility when ill. A high proportion (82.50%) preferred private health facility.

Keywords: Workers, Construction, Health, Cross-sectional

INTRODUCTION

With increasing industrialization, the construction industry provides employment to a large number of skilled and non-skilled workers, many of them migrant workers.[1] In general, workers account to 50% of the world's population and contribute significantly to the economic and social development of a country.[2] Moreover, the process of employment-driven migration has emerged, mainly from the less developed places to large cities, wherein the migrants get absorbed in low-paid jobs.[3] It has been found that the living conditions of these workers are poor with denial of basic amenities, making them prone to health problems. Additionally, the construction sites facilitate vector breeding with unprotected workers acting as potential baits.[4] Moreover, their long working hours may elevate the risk of occupational accidents and injuries. This high risk of health related problems may be magnified by issues with adequate and timely access to health care.[5] In this context, a cross-sectional study is planned in selected construction sites in the city Mangaluru to study the baseline socio-demographic profile and morbidity pattern of construction workers, to enable determination of appropriate interventions for the problems identified, along with an assessment of the factors influencing their health-seeking behaviour.

Objective

To assess the health status and health-seeking behaviour among workers at selected construction-sites in Mangaluru City.

METHODS

We adopted a cross-sectional study design to achieve the study objectives. The study was carried out in selected construction sites located in an urban area of Mangaluru City for a period of two months from September to November 2015. The Department of Community Medicine, Yenepoya Medical College, Mangalore, provides health care services in the study area on a daily basis, through an Urban Health Centre. The study area is considered as an underserved area is inhabited by more than 3,200 families with a total population of 21,541. The study population included workers aged ≥18 years working in the selected construction sites. The sample size was estimated by using the formula $n=Z^2*p*q/ e^2$.[6] Here n is the required sample size, Z is the standard normal deviate, which is equal to 1.96 at 5% significance level. The proportion of migrant workers who accessed health care in the selected construction sites "p" is taken as 50.0%.[10] The permissible error in the estimate of p: "e", was set at 15%. Using this formula which considers 95% confidence limits, the sample size is estimated to be 178 workers in the selected construction sites. A process of simple random sampling was conducted to select the study participants after reaching the concerned construction site. We sought to conduct a face-to-face interview of the study participants.. A pre-designed, pre-tested and validated proforma was used to collect the appropriate information. Self-reported health status of the study participants was assessed and graded. Moreover, information regarding the presence of chronic diseases, disabilities and injuries at work was collected. Information pertaining to socio-demographic profile, response to illness, preference for health care facility, health care facilities visited during illness, utilization of health insurance, type and severity of symptoms at present was enquired. Data was compiled and analyzed using the Statistical Package for Social Sciences (SPSS), Version 23 (Chicago. Inc). Descriptive statistics like percentages and proportions were used.

Ethical considerations

Approval from the Institutional Ethics Committee was obtained before conducting the study. Detailed information pertaining to the nature, objectives of the study and test procedures was provided to the study participants and written informed consent was obtained. Anonymity of the study participants was ensured. Strict confidentiality of the information collected was maintained.

RESULTS

A total of 178 individuals participated in the study, which included 160 (89.80%) males and 18 (10.20%) females. More than half (58.40%) of the respondents were aged 20-40 years and majority, (74.20%) were literates. Nearly half of them (45.30%) belonged to Class III socio-economic status of the Modified BG Prasad Classification. Nearly 44.40% of the workers were living in Mangalore form 6 months to 1 year. Majority (51.60%) of them work for 6-8 hours per day. These details are presented in Table 1.

Table 1: Socio-demographic profile of the study participants (n=178).

Variable	Number (n=178)	Percentage (%)
Sex		
Male	160	89.80
Female	18	10.20
Age in years		
18-19 years	33	18.50
20-40 years	104	58.40
41-59 years	29	16.20
≥ 60 years	12	6.70
Religion		
Hindu	139	78.0
Muslim	39	22.0
Education status		
Illiterates	46	25.80
Primary school (1^{st}-5^{th} standard)	89	50.0
High school (6^{th} -10^{th} standard)	30	16.85
Pre-university (11^{th}-12^{th} standard)	9	5.0
Diploma	4	2.20
Socio-economic status*		
Class I	4	2.20
Class II	43	24.20
Class III	81	45.30
Class IV	45	25.20
Class V	5	2.80
Living in Mangalore from		
≤6 months	36	20.20
> 6 months- 1 year	79	44.40
> 1-2 years	29	16.30
> 2 years	34	19.10
Hours of work per day		
<6 hours	20	11.20
6-8 hours	92	51.60
>8 hours	66	37.10

* Modified BG Prasad Classification, January 2016.

Majority, (80.80%), stated that they had experienced fever at least once in the past one year. Other major complaints were blocked nose (17.40%), followed by skin diseases (12.70%) and cough which was present in 12.30%. Majority of the study participants complained of more than one aliment in the last one year. It was observed that most of the workers were not suffering from any chronic disease. It was found that 8.40% had from asthma/bronchitis, 4.40% of the study participants were hypertensive and 35.40% had experienced injury at work in the last one year (Table 2).

Table 2: Health status and morbidity profile of the study participants (n=178).

Variable	Number (n=178)	Percentage (%)
Types of symptoms experienced in the last one year (multiple response)		
Fever	144	80.80
Cough	22	12.30
Running/blocked nose	31	17.40
Sore throat	11	6.10
Stomach ache	18	10.10
Body ache	11	6.10
Joint pain	10	5.60
Injuries	10	5.60
Skin problems	25	14.0
Chronic disease, if any		
Gastro intestinal disease	7	3.90
Hypertension	8	4.40
Asthma/ bronchitis	15	8.40
No disease	148	83.10
Injury at work in the last one year.		
Yes	63	35.40
No	115	64.60
Any illness that required treatment in the last one year		
Yes	92	51.60
No	86	48.40
Needed time off work due to illness in the last one year		
Yes	91	51.10
No	87	48.90

Table 3 highlights that when the study participants had an illness, 65.70% visited a doctor/health facility. Majority of the workers, 82.50%, preferred private doctors, 62.50% visited the doctor so that they could work better and earn more, 37.0% were unable to afford the treatment due to high treatment cost, 57.40% said high cost is deterrent in seeking care and 71.30% didn't visit the health care facility saying that illness was not severe.

Table 3: Heath seeking behavior of the study participants (n=178).

Variable	Number (n=178)	Percentage (%)
Response to illness		
Visit a doctor/health facility	117	65.73
Take traditional medicine Take own medication	36	20.22
Stopped work	23	12.92
	2	1.10
Health care facility visited when ill		
Government Private	21	11.70
Alternative medicine	147	82.50
	10	5.80
Reasons for seeking health care from a health facility(multiple response)		
To work better	110	62.50
To take better care of body	37	21.0
Due to friends /relatives advice	20	11.30
Because illness affects life	16	9.0
Others	2	1.0
Medical care needed for any illness, the treatment for which they were unable to afford in the last 1 year		
Yes	66	37.0
No	112	63.0
Is high cost a deterrent to seeking health care?		
Yes	102	57.40
No	76	42.60
Reasons for not visiting the health care facility(multiple response) Illness is not severe enough		
Unable to pay expenses	127	71.30
No time	6	3.30
Long distance	19	10.60
Long waiting time	38	21.30
Poor service	15	8.40
Afraid of complicated procedures	49	27.50
Others	4	2.20

DISCUSSION

Information on the existing disease pattern and health-seeking behaviour is essential to provide need-based health care delivery to any population.[7] Mangalore, a fast growing city of India is having numerous on-going construction activities. A developing country like India faces public health problems like communicable diseases, malnutrition, poor environmental sanitation, and inadequate medical care. Furthermore, globalization and rapid industrial growth in the last few years have resulted in emergence of occupational health-related issues.

Our study showed that a wide majority of the labourers belonged to male gender (89.80%). This finding was similar to a study conducted by Golsheyder et al, which showed that 94.0% of the construction site workers were males.[8] In the present study, more than half (65.70%) visited a health care facility, when ill. Overall, 82.50% visited a private facility, while 11.70% opted for a government health facility as the first priority health care provider for their illness. Thomas et al also reported similar findings, in which 60.0% of the workers approached private health care facilities and 20.0% preferred government health facilities.[9]

Our study highlighted that about 35.40% of the study participants suffered from injuries of some form in the past one year or more, which is similar to the findings of another study conducted by Joseph et al which showed that 31.0% of the workers suffered from injuries at construction sites. A high percentage (65.70%) sought medical care when ill, which was higher when compared to the study by Joseph et al (37.0%). Of the respondents, 84.0% utilized private medical services, citing proximity as the major reason. In comparison, the study by Joseph et al reported that only 48.0% accessed private health facilities.[10] Musculoskeletal problems was reported by a very low percentage (5.60%). On the contrary, a study by Joshi et al reported that 19.90% experienced musculoskeletal problems. [11] The maximum morbidity (80.80%) among construction site workers was due to acute febrile illness. This could be attributed to a high prevalence of malaria. This find was much higher when compared to a study by Adsul et al, which reported febrile illness to be found among only 21.11%.[6] On the contrary, the high prevalence of malaria was consistent with the findings of a study carried out by Venugopalan et al, which found the slide positivity rate of among migrant construction workers in Mangalore to be 6.28%.[12]

High cost was found to be a major deterrent in seeking health care among 57.40% of the workers. In comparison, Lee et al reported that inadequate finances hindered health care access among male migrant workers. They found a significant degree of indebtedness associated with self-reported financial barriers to seeking health care.[13]

Thus, the construction site workers, particularly migrant workers are likely to face many health problems, as they are away from home environment. Poor living conditions, extra hours of work with lack of rest, financial problems and poor access to health care, along with health hazards of materials used for construction, have further compounds this issue.

Our study concludes that the most common symptom experienced among the study participants was fever (80.0%), followed by running nose (17.40%) and cough (12.30%). Skin problems were reported by 14.0% of the study participants. Around 35.40% experienced injury in workplace and 51.0% needed time off work due to illness. More than half (65.73%) visited a health facility when ill. Nearly 82.50% preferred a private health facility. Around 58.0% felt that high cost was a deterrent to seeking health care.

This study provides valuable insights regarding the health issues faced by the construction site workers. Concerted efforts are required to provide access to affordable and equitable health care services to this vulnerable population. The district health and family welfare department should conduct regular health checkups for the construction site workers. Non-governmental organizations can supplement the efforts taken by the government by conducting awareness campaigns and health camps to safeguard the health of the construction site workers.

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