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Disease Burden among Homeless Individuals with Low Living Standards at Bule Hora Town, Southern Ethiopia

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ABSTRACT

Background: Poverty is inability to attain minimum standards of living. Possibility of disease load is the effect of a health problem as measured by economic cost, death, injury, or other health indicators.

Objective: Objective of the research is to find out the disease burden among individuals with low living standards.

Materials and Methods: Community based random sample study was conducted among 121 homeless individuals between the age group of 15-45 years in BuleHora town. The questionnaire was given to collect data by interviewing them. In low-income nations; communicable disease accounts for more than 60 percent across many countries. On the basis of stratified sampling technique 4 kebele were selected and by using simple random technique 121 respondents were selected. The data was analyzed by finding the frequency, percentage of demographic characteristics, availability of basic amenities, and disease burden among homeless.

Results: The results showed that out of 121 respondents 112 (92.5%) of them are males and 9 (7.5%) of them are females. The most prevalent disease reported was malaria (34.68%) followed by headache (8.3%) and common cold (5.78%). All participants reported that they prefer modern medicine when they are sick and none of them reported to go for traditional healer for treatment. Among the total, 79.35 % of them visited clinics or hospitals and 20.65 % buy drugs from pharmacy.

Conclusion: In conclusion, the study proved that low living standards increase the disease burden among the homeless of BuleHora town and poor individuals were the most to be carriers of the disease. It impact on the nutritional status, hygienic condition as well on the access to health services of the homeless individuals.

Keywords
Disease Burden, Low Living standard, Homeless

INTRODUCTION

Low living standard refers to poverty which is characterized by shortage of food, a low life expectancy, a higher rate of infant mortality, low educational standard, enrolment and inadequate living condition [1].

The poverty level is disaster risk and its reduces peoples rebuilding capacity **[2]**. Disease of poverty is prevalent in poor than wealthier people [3]. Disease burden is the impact of a health problem as measured by financial cost, mortality, morality or other indicators **[4]**.

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Poverty and diseases are tied closely together with each or other factors aiding the other **[5].** The childhood diseases had high mortality rate in poor countries (5.2%) than in advanced country (0.2) **[6]**.

NEED FOR THE STUDY

The term "poverty" originated from the Latin word pauper meaning poor, which has its roots in the words pau-and pario that is "giving birth to nothing"; referring to unproductive livestock and farmland [7]. Poverty is characterized by in adequacy or lack of productive means to fulfill basic needs such as food, water, shelter, education, health and nutrition [8].
Poverty rate of Sub-Saharan Africa is an average of 41%, 27 countries were poorest among 28 in the world[10]. Ethiopia is one of the low income countries in the world. Recent estimates put per capita GNP at $110, which is one-fourth the average of Sub- Sahara Africa. Poverty, malnutrition and destitution are extremely high in Ethiopia [10].
Infectious diseases related poverty (IDoP) unreasonably affects the poorest population in the world and contributes to a cycle of decreased productivity ensuing from long-term illness, disability, and social stigma. HIV/AIDS have increased to 1.5 million, malaria rose to 1.17 million, tropical disease rose to 152,000 and Tuberculosis cases 1.2 million among all global death in 2010 [11].
Factors influences poverty in Africa is war, poor infrastructure, corruption and poor governance. Paucity is also caused by cultural and organizational factors. People are also said to lack access to relevant skills and knowledge, education and personal development that could improve their livelihoods. [7] Water and poverty are inseparably linked. Safe water shortage 748 million and inadequate sanitation affects 2.5 billion people [7]. Malnutrition related a consequence is due to poverty [12].

OBJECTIVE OF THE STUDY

Keeping in view the negligence of homeless people and disease burden among them in BuleHora town, the research was carried out with following objectives
To assess the socio-demographic characteristics of homeless people of BuleHora town
To identify the availability of basic amenities for the homeless people of BuleHora town
To describe the various self reported disease prevalent among homeless people of BuleHora town

METHODOLOGY OF STUDY:

Study area

BuleHora is a town in southern Ethiopia located on the paved Addis Ababa to Moyale high way in West Guji Zone of the Oromia region and located 467 km south (fig.1). It has altitude and longitude of 1716 m above sea level. It lies approximately between longitudes 380 15' E and 380 20' E and latitude 50 27` N and 50 32' N in western Guji Zone (EMA 1987). The annual temperature range is 15^{o}C land rainfall ranges from 500 – 1250mm (BuleHora district administration office report). The 2007 national census reported a total population of 27,820 for BuleHora, of whom 14,519 were male and 13,301 were women.

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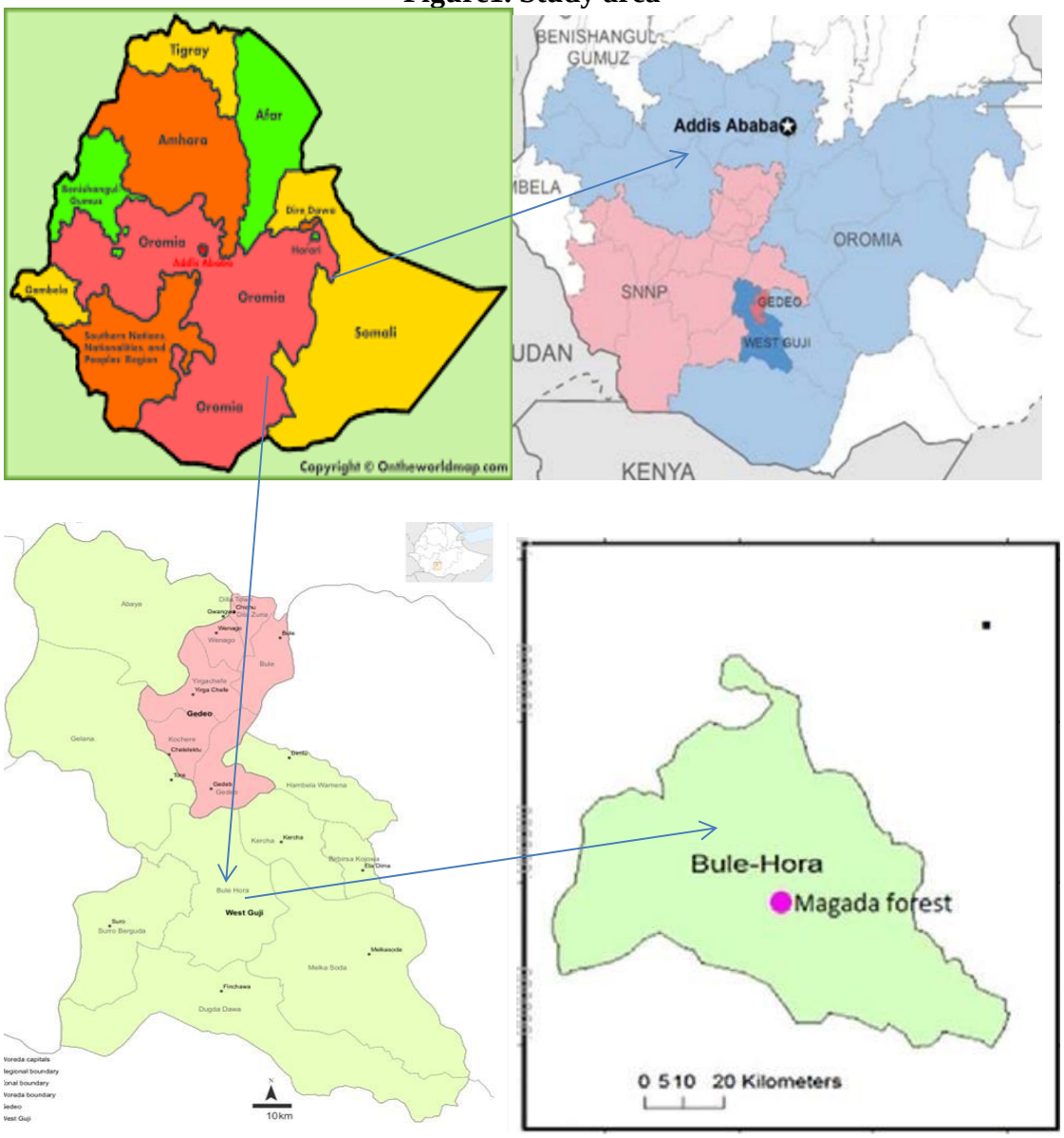
Figure1. Study area



Study design

The community based cross sectional studies with qualitative approach was carried to collect all information of disease burden among individuals with low living standard in BuleHora town.

Study population

For this study, the target population was people living in streets without a shelter and persons with no place of usual residence who move frequently between various types of accommodations and low living standard individuals in BuleHora.

Annals of R.S.C.B., ISSN:1583-6258, Vol. 25, Issue 3, 2021, Pages. 7681 - 7693
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Sampling techniques

The study was conducted using, stratification over-simple random techniques /sampling/ of BuleHora. Because the target population forces to use stratification and it increase precision, separate estimates and administratively suit and it would determine the sample size of Blue Hora. In BuleHora, 121 sample sizes were taken over 1000 target population of low living standards individuals by using the following formula [13].

$$n=\frac{NZ^2PQ}{d^2(N)+Z^2PQ}\text{(Cochran, 1997)}$$

$$n=\frac{1000(1.96^2)(0.9)(0.1)}{(0.05^2)(1000)+(1.96^2)(0.9)(0.1)}=, 121 \text{ the sample size.}$$

Where:
n = total sample size
N = Total number of individuals with low living standards in BuleHora town.
Z = standard normal deviation at the required confidence level that corresponds to 95% equal to 1.96
d = statistical significance (Allowable error) (0.05)
P = the proportion of the population estimated to have characteristics being measured (From previous studies or studies in comparable P. i.e. 0.9
Q = 1-p i.e.1-0.9= 0.1)
Simple random technique was used to select thee participant. As calculated from Cochran formula the sample size was 121 peoples. From each kebele 40 peoples were selected, totally 121 was selected as a sample size to represent all individuals with low living standards in BuleHora.

Methods of data analysis

The data was analyzed by finding the frequencies proportions off socio-demographic variables, availability of basic amenities, self reported disease among homeless people.

RESULTS:

Sociodemographic Variables Table: 1 Sex

Sex	Age (years)	Frequency	Percentage
Male	15-20	82	67.7
	21-45	30	24.8
Female	15-20	-	-
	21-45	9	7.5

Majority of them were males 82 (67.7%) within the age group of 15-20years and 30 (24.8%) were also males within the age group of 21-45 years and 9(7.5%) were females within the age group of 21-45years (Table.1).

Annals of R.S.C.B., ISSN:1583-6258, Vol. 25, Issue 3, 2021, Pages. 7681 - 7693
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Table: 2 - Marital status

Marital Status	Sex	Age	Frequency	Percentage(%)
Single	M	15-20	82	67.7
		21-45	30	24.8
	F	15-20	-	-
		21-45	-	-
Married	M	15-20	-	-
		21-45	-	-
	F	15-20	-	-
		21-45	-	-
Divorced	M	15-20	-	-
		21-45	-	-
	F	15-20	-	-
		21-45	9	7.5

The respondents in this category of Marital status were single males 82 (67.7%) within the age group of 15-20 years and 30 (24.8%) were also single males within the age group of 21-45 years and 9 (7.5%) were divorced females within the age group of 21-45 years (Table.2).
Majority participant were illiterate out of that 62 (51.24%) were males within the age group of 15-20 years and 30 (24.8%) were also males within the age group of 21-45
years and 9 (7.43%) were females within the age group of 21-45 years. And only 20 (16.53%) males within the age group of 15-20 years had 1st cycle primary education (Table.3).

Table :3. Education

Education	Sex	Age	Frequency	Percentage (%)
Illiterate	M	15-20	62	51.24
		21-45	30	24.8
	F	15-20	-	-
		21-45	9	7.43
Primary	M	15-20	20	16.53
		21-45	-	-
	F	15-20	-	-
		21-45	-	-

Table: 4 Income in Birr/Day

Birr /day	Sex	Age	Frequency	Percentage (%)
10-25	M	15-20	62	51.24
		21-45	6	4.9
	F	15-20	-	-
		21-45	8	6
25-50	M	15-20	20	16.53
		21-45	22	18

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	F	15-20	-	-
		21-45	-	-
>50	M	15-20	-	-
		21-45	2	1.7
	F	15-20	-	-
		21-45	1	0.83

Majority of respondents had an earnings of 10-15 Birr/day out of that 62 (51.24%) were males of age 15-20 years and 6 (4.9%) were also males of age 21-45 years and 8(6%) were females of age 21-45 years. And respondents getting an income of 25-50 Birr/day were males and they were 20 (16.53%) of age 15-20 years and 22 (18%) of age 21-45 years respectively. While a small proportion had wages of > 50 Birr/day out of that 2(1.7%) were males of age group 21-45 years and 2 (1.7%) were females of age group 21-45 years (Table.4).

Table: 5 Occupation

Occupation	Sex	Age (years)	Frequency	Percentage (%)
Civil	M	15-20	20	16.53
Servant		21-45	-	-
	F	15-20	-	-
		21-45	1	0.83
Laborer	M	15-20	60	49.59
		21-45	-	-
	F	15-20	-	-
		21-45	-	-
Carrier	M	15-20	2	1.65
		21-45	26	21.48
	F	15-20	-	-
		21-45	-	-
Beggary	M	15-20	-	-
		21-45	4	3.3
	F	15-20	-	-
		21-45	8	6.61

Mostly the respondents were male laborers 60 (49.59%) of the age group 15-20 years. And the respondents who were civil servants were 20 (16.53%) males of age group 15-20 years and 1 (0.83%) female of the age group 21-45 years. The respondents who were carriers were males out of that 26 (21.48%) were within age group of 21-45 years and 2 (1.65%) were within the age group of 21-45 years respectively.4 (3.3%) of the males of the age group 21-45 years and 8(6.61%) of the females of the age group 21-45 years had beggary as occupation (Table.5).

Availability of basic amenities

Mostly homeless (83.5%) was buying the municipal piped water and about 16.5 % of them were getting water by begging from others (Table.6). None of study participant had access to toilets (Table.7). (72.5%) had the habit of washing hands before and after meals however; the same proportion of them (72.5%) did not wash hands after toilet (Table.8). Only 7 individuals (5.79%)

Annals of R.S.C.B., ISSN:1583-6258, Vol. 25, Issue 3, 2021, Pages. 7681 - 7693
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had night clothes to protect themselves from cold (Table 9). Moreover, homeless (81.25 %) and (83.75%) of homeless had very rarely access to animal products (meat, egg, fish etc) and fruits respectively (Table 10). Among all individuals only 23.75 % of them accessed to eat food three times per day which was dominated by bread (Table 11,12).

Table 6. Accessible to clean water

Water supply			
Variables	**Sex**	**Frequency**	**Percentage %**
Well water	M	-	-
	F	-	-
Piped water (buying)	M	95	78.5
	F	6	5
Bono	M	-	-
	F	-	-
River	M	-	-
	F	-	-
Beginning from others	M	17	14
	F	3	2.5

Table 7. Accessible to toilet

Toilet facility			
Variables	**Sex**	**Frequency**	**Percentage %**
Clean private toilet	M	-	-
	F	-	-
No toilet at all	M	112	92.5
	F	9	7.5
Public toilet with poor	M	-	-
Sanitation	F	-	-

Table 8. Hand washing habits

Hand washing habits					
Variables	**Response (N=121)**	**Sex**	**Age**	**Frequency**	**%**
	Yes	M	15-20	59	48.76
			21-45	20	16.5
Washing hands		F	15-20	-	-
before and after			21-45	9	7.5
meal	No	M	15-20	23	19
			21-45	10	8.24
		F	15-20	-	-
			21-45	-	-
	Yes	M	15-20	5	4.13

Annals of R.S.C.B., ISSN:1583-6258, Vol. 25, Issue 3, 2021, Pages. 7681 - 7693
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			21-45	21	17.35
		F	15-20	0	0
			21-45	8	6.61
Washing hands after toilet =121	No	M	15-20	77	63.63
			21-45	9	7.5
		F	15-20	0	0
			21-45	1	0.83

Table 9. Availability of night clothes

Having night clothes					
Variables	**Response (N=121)**	**Sex**	**Age**	**Frequency**	**%**
	Yes	M	15-20	4	3.3
			21-45	2	1.65
Having of night cloths =121		F	15-20	0	0
			21-45	5	4.13
	No	M	15-20	78	64.46
			21-45	28	23.14
		F	15-20	0	0
			21-45	4	3.3

Table 10. Access to animal products and fruits

Access to animal products and fruits					
Variables	**Duration**	**Sex**	**Age**	**Frequency**	**Percentage %**
	Weekly	M	15-20	-	-
			21-45	-	-
		F	15-20	-	-
			21-45	4	3.3%
	Monthly	M	15-20	-	-
			21-45	-	-
		F	15-20	-	-
Access of animal products (egg, fish, milk and meat).			21-45	-	-
	In 2 month	M	15-20	8	6.61%
			21-45	9	7.5%
		F	15-20	-	-
			21-45	2	1.65%
	Very rarely	M	15-20	74	61.1%
			21-45	21	17.36%
		F	15-20	-	-
			21-45	3	2.48%
Access to eat fruits	2 month	M	15-20	7	5.79%
			21-45	9	7.5%
		F	15-20	-	-
			21-45	4	3.3%

Annals of R.S.C.B., ISSN:1583-6258, Vol. 25, Issue 3, 2021, Pages. 7681 - 7693
Received 16 February 2021; Accepted 08 March 2021.

	Very rarely	M	15-20	75	61.85%
			21-45	21	17.35%
		F	15-20	-	-
			21-45	5	4.13%

Table 11.Accessibity of food

Access to food 3 times a day					
Variables	**Response (N=121)**	**Sex**	**Age**	**Frequency**	**%**
Getting of food 3 times a day=121	Yes	M	15-20	20	16.52
			21-45	5	4.13
		F	15-20	-	-
			21-45	5	4.13
	No	M	15-20	62	51.35
			21-45	25	20.6
		F	15-20	-	-
			21-45	4	3.31

Table 12. Most frequently eaten food

Most frequently eaten food					
Variable	**Type**	**Sex**	**Age**	**Frequency**	**%**
Most frequently eaten food (Bread)	Bulie	M	15-20	12	9.91
			21-45	15	12.4
	Bread	F	15-20	-	-
			21-45	12	9.91

Prevalent diseases among homeless

From the total 121 homeless, 88 (72.73%) of them reported that they have been suffering from different diseases. The diseases reported more prevalently was malaria (34.68%) followed by headache (8.3%) and common cold (5.78%) (Table13). All participants reported that they prefer modern medicine when they are sick and none of them reported to go for a traditional treatment. Among the total, 79.35 % of them visited clinics or hospitals but 20.65 % buy drugs from the pharmacy for the treatment (Table.14).

Table 13. The most prevalent self-reported diseases

Associated disease	**Sex**	**Age**	**Frequency**	**Percentage (%)**
Bird disease =2	M	15-20	2	1.65%
		21-45	-	-
	F	15-20	-	-
		21-45	-	-

Annals of R.S.C.B., ISSN:1583-6258, Vol. 25, Issue 3, 2021, Pages. 7681 - 7693
Received 16 February 2021; Accepted 08 March 2021.

Liver disease =2	M	15-20	-	-
		21-45	2	1.65%
	F	15-20	-	-
		21-45	-	-
Skin ulcer =4	M	15-20	2	1.65%
		21-45	-	-
	F	15-20	-	-
		21-45	2	1.65%
Itching= 2	M	15-20	-	-
		21-45	2	1.65%
	F	15-20	-	-
		21-45	-	-
Abdominal pain=3	M	15-20	3	2.48%
		21-45	-	-
	F	15-20	-	-
		21-45	-	-
Eye pain=4	M	15-20	4	3.31%
		21-45	-	-
	F	15-20	-	-
		21-45	-	-
Asthma =4	M	15-20	2	1.65%
		21-45	2	1.65%
	F	15-20	-	-
		21-45	-	-
Typhoid=6	M	15-20	6	5%
		21-45	-	-
	F	15-20	-	-
		21-45	-	-
Headache=10	M	15-20	6	5%
		21-45	2	1.65%
	F	15-20	-	-
		21-45	2	1.65%
Malaria =42	M	15-20	33	27.2%
		21-45	6	5%
	F	15-20	-	-
		21-45	3	2.48%
Common cold =7	M	15-20	3	2.48%
		21-45	4	3.3%
	F	15-20	-	-
		21-45	-	-
Disable on his hand =2	M	15-20	-	-
		21-45	2	1.65%
	F	15-20	-	-
		21-45	-	-
No disease =33	M	15-20	21	17.36%
		21-45	10	8.26%

Annals of R.S.C.B., ISSN:1583-6258, Vol. 25, Issue 3, 2021, Pages. 7681 - 7693
Received 16 February 2021; Accepted 08 March 2021.

	F	15-20	2	1.65%
		21-45	-	-

Table 14.Homeless individual's preference for medical treatment in BuleHora town.

Way of treatment		Sex	Age	Number of respondents (frequency/ %)
	Clinic/hospital	M	15-20	69(57%)
			21-45	21(17.35%)
		F	15-20	-
Modern			21-45	6(5%)
medicine	By buying	M	15-20	13(10.67%)
	From		21-45	9(7.5%)
	Pharmacy			
		F	15-20	-
			21-45	3(2.48%)
Traditional	Traditional	M	15-20	-
medicine	Healers		21-45	-
		F	15-20	-
			21-45	-

DISCUSSION

The socio-demographic data collected in the present study indicate that a great proportion of homeless were teen age males who might join the homeless lifestyle during their young age. Deprived health is commonly associated with residence less, especially long-term residence less and acute or street home. Attributing Factors such as long time exposure to outdoor linked with drug abuse and street life has detrimental impact and life span. [14]. Accordingly homelessness leads to chronic diseases, disrupts continued health facility services, hinder availability of health care and standard of relationship with health care workers [15,16].

Divorced suggesting that divorce could be vital social factors to displace women to follow the homeless life style but this needs further investigation. This could be well explained with a study which shows women were strongly disadvantaged with divorce in terms of losses in household income and associated increases in the risk of poverty(17)

Since homelessness is linked with low economical and educational status as it was observed in this study, the only job available for homeless as a source of income was daily laborer particularly for male participants. Since daily laborer demands hardworking, female homeless participants preferred beggary as a daily income. It is correlated with another article which showed 72% homeless is either illiterate or poor in education and majority of the males were casual/daily laborers (64.7%) (18)
Homeless individuals had poor hygienic condition which is expressed as lack of access to clean water, toilet and poor habit of hand washing. These poor hygienic
conditions might dispose them at a higher risk of infectious diseases and they contaminate the with human feces, open field defecation is an important source of infection. It was correlated with

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another study which showed individuals who sleep outdoor reported fewer hygiene-related self-care practices [(19)]

A reliable study was done in south Africa which showed illnesses related with poor living conditions [(20)]. Homelessness also had poor nutritional status with insufficient daily food and balanced diet with minimum consumption of proteins, carbohydrates, vitamins and minerals from animal products and fruits. It is consistent with this study which showed 70% of homeless youth had very low ingestion of vitamins and minerals (21). International proof indicated that homeless had very poor physical and mental health [22] and the importance of issue admitted by World Medical Association (WMA) [23]. The risk of dying early among homeless is threefold to fourfold that of general public [24]. Highest mortality associated with alcohol and drug use [25] and physical illness [26].

CONCLUSION

The main issue encountered by homeless individual is shortage of a stable home that causes direct and harmful impact on health. Not only does homelessness cause health problems, it prolongs and impairs poor health by seriously obstructing efforts to treat disease and reduce disability. The immediate need for focused health care and other prompt interventions is readily recognized, identify that the health issues of the homeless are indistinguishably entangled with broad socio-economic problems that require prolonged multidimensional approach. Medical care and other assistances along with temporary housing can only aid to ease some of the signs and outcomes of homelessness. Unique actions are need to address house, income planning and discharge strategies to minimize homelessness. Health care needs for the homeless as other poor people. Health care should be easily accessible by them, thereby avoiding high prevalence acute and chronic disease.

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