Correlation of Diet, Self-Care, and General Health Problems of Homeless People

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Abstract

The purpose of the study was to explore the characteristics and correlations of diet, self-care, and general health problems of homeless people and to identify correlations among general health problems. From October to November of 2016, 103 homeless people in Atlanta, Georgia were surveyed. A questionnaire was used to gather data on the respondent's diet, self-care, access to medical service, and general health problems such as stomachache, headache, insomnia, and depression. Data was analyzed using descriptive statistic analysis, correlation analysis, and multiple regression. Results showed that about 60% of Atlanta's homeless people have overall fair health and hygiene. Secondly, no significant correlation was found between food, self-care, and general health problems of homeless people. Thirdly, Homeless people have a high likelihood of having multiple diseases. Therefore, a more comprehensive and systematic medical examination and treatment should be provided to them.

Keyword: Homeless, Diet, Self-care, Health Problem, Medical Services

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1. Introduction

The impact of homelessness on a person's physical health is well documented[1]. A homeless person is an individual without permanent housing. He or she may live on the streets or stay in a shelter, mission, single room occupancy facilities, abandoned building or vehicle, or in any other unstable or non-permanent situation[2]. The term "Homeless" is not limited to those without a house but also includes those who have no relationships such as family[3].

Homeless people have a variety of health problems ranging from cold, or fever to more complex diseases. Researchers have consistently reported considerably higher rates of hypertension, respiratory illness, tuberculosis, HIV, infestations, and other diseases among homeless persons compared with the general population[4]

Regarding their lifestyle, the majority of the homeless people are exposed to the external environment, and they are vulnerable to diseases and infections due to overexposure to ultraviolet rays, extreme temperatures, and air pollution. They face difficulties in acquiring clean clothes, and their meals are often stale and consist of unsound ingredients.

Additionally, homeless people have to look for food at each mealtime and often have to get in line regardless of extreme weather. Every day, they must find a place to sleep[3]. Since they are homeless, they have to carry around their food and other belongings, and these items are easily stolen. All day, they worry about where to find food and where to sleep[5]. These circumstances provide mental and physical stress that may exacerbate a variety of diseases. Homeless people's lifestyle – lack of housing, lack of medical accessibility, and family disruption – is a source of tremendous stress for them[6-8].

Homeless people are often unable to acquire resources that help maintain health and prevent diseases, and these environmental factors may play an important role in worsening their conditions. Homeless adults reported they could get medical care only at an insufficient level, obtain food from garbage cans, and had minimal personal hygiene[9,10]. Consequently, poverty and homelessness contribute to ill health by creating barriers to sufficient self-care

and access to health services. Homelessness also causes heightened exposure to communicable diseases and parasites that can easily spread in crowded places like shelters. For example, untreated lice infections and insect bites frequently lead to serious, even life-threatening infections[11]. Lack of permanent housing interferes with basic self-care and treatment adherence. For example, inability to store medications makes it difficult to keep pills intact or meet refrigeration requirements. While these complications may give rise to insignificant health problems, the environmental limitations along with lack of access to medical services can seriously worsen the condition.

A study showed that 36% of the homeless people had either skin, leg, or foot problems, which is a significantly higher percentage when compared to the general population[12]. Another research reported that 68% of the homeless people have at least one health problem, and as homeless lifestyle continues, depression and mental problems are also likely to occur[13]. Due to various exposures, stress, lack of hygiene, and medical inaccessibility, they have a high likelihood of developing diseases and having multiple diseases.

Based on previous studies like these, the study's goals were to explore the characteristics and correlations of diet, self-care, and general health problems of homeless people and to identify correlations between different general health problems, such as stomachache, headache, insomnia, and depression[14].

The study focused on these five common health problems because for a homeless person, a mild illness can easily develop into a more serious disease when it is not treated in a timely manner. Furthermore, these mild health problems affect the quality of life of a large portion of the homeless population.

<Research Question>

1. What are the correlations between stomachache, headache, insomnia, and depression?
2. What are the characteristics of diet, self-care, access to medical services, and the overall health condition of the homeless people?
3. What are correlations between diet, self-care, access to medical services, and health problems of the homeless people?

2. Methods

2.1. Participants

From October to November of 2016, 103 homeless people in Atlanta were included in this study. Information about the study was provided before the research, and homeless people chose to participate. Over 4,000 people are homeless in Atlanta

2.2. Measures

Characteristics of food

Categories divided into junk food, old food, and fresh healthy food were used to determine characteristics of food consumption. "How many times have you eaten the following food in the past week?" was questioned to the respondent. Answers were rated on a 5-point Likert-type scale ranging from 1 to 5. For example, 1=none, 2=1~2 times, 3=3~4 times, 4=5~6times, 5=7times or more.

Characteristics of self-care

To examine the respondent's frequency of tooth brushing, shower or bath, and changing into clean clothes, "How often do you do the following?" was questioned. Answers were rated on a 5-point Likert-type scale ranging from 1 to 5. For example, 1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Very often. Cronbach's α=.83

Using necessary medical services

To examine the respondent's access necessary medical services, "How often do you do the following?" was questioned. Answers were rated on a 5-point Likert-type scale ranging from 1 to 5. For example, 1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Very often. Cronbach's α=.83

General health problems

To examine the respondent's general health problems (stomachache, headache, insomnia, and depression), "How often have you experienced the following symptoms in the past 3

months?" was questioned. Answers were rated on a 5-point Likert-type scale ranging from 1 to 5. For example, 1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Very often. Cronbach's α=.83

Demographic variables of the study participants such as age, sex were included as covariates for the analysis.

2.3. Analysis plan

For data processing, SPSS 21.0 was used. Descriptive statistics, t-test, ANOVA, correlation analysis, and multiple regression analysis were examined

3. Results

3.1. Characteristics of Main Variable

3.1.1. Socio-demographic Characteristics

Of the respondents, 35(37.2%) people were in their 50's, and 27(28.7%) people were in their 40's. 66% of the respondents were middle aged (40's and 50's). 15% of them were in their 60's or over. Males accounted for 77% of the total respondents. There were more homeless men than women.

[Table 1] Socio-demographic Characteristics

Classification		Frequency (%)
Age	20's	6(6.4)
	30's	12(12.8)
	40's	27(28.7)
	50's	35(37.2)
	60's or over	14(14.9)
	missing data	9
Gender	Male	68(77.3)
	Female	20(22.7)
	missing data	15

3.2. Frequencies of variables

3.2.1 Frequency of diet

28.7% of respondents did not have junk food at all in the past week. 27.6% of them consumed junk food 1 to 2 times. Next, 26.4% consumed junk food 3 to 4 times, and 5% consumed junk food more than 7 times. Regarding consumption of old or spoiled food, 37.9% did not consume it, and this was the greatest portion of the answers. Next, 28.8% consumed it 1 to 2 times, 16.1% consumed it 3 to 4 times, and 5.7% consumed it more than 7 times. 27.8% of the respondents consumed healthy and fresh food 3 to 4 times in the past week while 17.8% of them did not consume any heathy and fresh food at all.

[Table 2] Frequency of diet

Item	Division	Frequency (%)
Junk food	None	25(28.7)
	1~2 times	24(27.6)
	3~4 times	23(26.4)
	5~6 times	10(11.5)
	7~ times	5(5.7)
Old or Spoiled food	None	36(37.9)
	1~2 times	22(28.8)
	3~4 times	14(16.1)
	5~6 times	10(11.5)
	7~ times	5(5.7)
Healthy & fresh food	None	16(17.8)
	1~2 times	22(24.4)
	3~4 times	25(27.8)
	5~6 times	13(14.4)
	7~ times	14(15.6)

3.2.2 Frequency of Self-care & Using medical service

Regarding tooth brushing, 36.7% of respondents answered "very often," 23.5% answered "often," 18.4% answered "sometimes," 10.2% answered "rarely," and 11.2% answered "never." Regarding showers or baths, 37.4% of answered "very often," 28.3% answered "often," 17.2%

answered "sometimes," 11.1% answered "rarely," and 6.1% answered "never."

Regarding changing clothes, 31.3 % answered "very often," 30.3% answered "often," 19.2% answered "sometimes," 13.1% answered "rarely," and 6.1% answered "never."

Regarding access to necessary medical services, 26.5% answered "very often," 24.5% answered "often," 15.3% answered "sometimes," 19.4% answered "rarely," and 14.3% answered "never."

[Table 3] Frequency of Self-care & Using medical service

Item	Division	Frequency (%)	Item	Division	Frequency (%)
Brushing teeth	Never	11(11.2)	Bath	Never	6(6.1)
	Rarely	10(10.2)		Rarely	11(11.1)
	Sometimes	18(18.4)		Sometimes	17(17.2)
	Often	23(23.5)		Often	28(28.3)
	Very often	36(36.7)		Very often	37(37.4)
Changing your clothes	Never	6(6.1)	Using necessary medical services	Never	14(14.3)
	Rarely	13(13.1)		Rarely	19(19.4)
	Sometimes	19(19.2)		Sometimes	15(15.3)
	Often	30(30.3)		Often	24(24.5)
	Very often	31(31.3)		Very often	26(26.5)

3.2.3 Frequency of General Health Problems

The most common general health problem that respondents experienced was "depression" with 11.2% answering "very often," 12.2% answering "often," and 20.4% answering "sometimes." The next most common symptom was "insomnia" with 6.3% answering "very often," 10.5% answering "often," and 20% answering "sometimes". Regarding stomachache, 7.1% answered "very often", 5.1% answered "often," and 18.4% answered "sometimes." Regarding headache, 5.2% answered "very often," 5.2 % answered "often," and 28.9% answered "sometimes."

[Table 4] Frequencies of general health problems

Item	Division	Frequency (%)	Item	Division	Frequency (%)
Stomachache	Never	40(40.8)	Headache	Never	35(36.1)
	Rarely	27(27.6)		Rarely	24(24.7)
	Sometimes	18(18.4)		Sometimes	28(28.9)
	Often	5(5.1)		Often	5(5.2)
	Very often	7(7.1)		Very often	5(5.2)
Insomnia	Never	46(48.4)	Depression	Never	36(36.7)
	Rarely	14(14.7)		Rarely	19(19.4)
	Sometimes	19(20.0)		Sometimes	20(20.4)
	Often	10(10.5)		Often	12(12.2)
	Very often	6(6.3)		Very often	11(11.2)

3.3. The correlation of food, self-care, and general health problems

There were no correlation between food, self-care, and general health problems of homeless people that was statistically significant.

3.4. The correlation of general health problems

stomachache, headache, insomnia, and depression were correlated to each other. stomachache was correlated to headache and insomnia ($p<0.01$). Headache was correlated to insomnia and depression ($p<0.01$). Insomnia was correlated to depression ($p<0.01$).

[Table 5] Frequencies of general health problems (P<.01)

	Stomachache	Headache	Insomnia	Depression
Stomachache	1			
Headache	.368**	1		
Insomnia	.276**	.606**	1	
Depression	.194	.448**	429**	1

4. Conclusion & Discussion

This research explored the characteristics and correlations of diet, self-care, and general health problems of homeless people and identified correlations among general health problems. Main conclusions are as follows.

Firstly, regarding diet, 55% to 65% of the respondents consumed junk food and old spoiled foods less than 1 to 2 times a week. However, more than 17% of the respondents consumed junk food and old spoiled food 5 to 6 times a week. 17.8% of them did not consume healthy and fresh food at all, and 70% consumed healthy and fresh food less than 3 to 4 times a week. Therefore, the efforts of the state government, non-governmental organizations, and citizens are needed to lower the amounts of junk food and old spoiled food provided to the homeless people and increase the amounts of healthy and fresh food that can be provided to the homeless people.

Regarding self-care, 21.4% rarely or never brushed their teeth, and 34.4% took a bath sometimes or less often. About 1 in 4 people rarely or did not change clothes. 60% of the people had overall fair hygiene. 50% of the people replied that they did not have necessary access to medical services

Regarding general health, depression was found to be the most serious problem. 23% had depression very often, and over 20% had it sometimes. The solution requires a psychological approach such as counseling, but since these services are not one-time sessions, a more systematic approach is needed to provide continuous assistance. 12% to 17% of the people replied "often" or "very often" to experiencing stomachache, headache, or insomnia.

Secondly, no significant correlation was found between diet, self-care and general health problems of homeless people. This shows that the health problems of the homeless people occur regardless of their environmental factors such as diet and self-care. Therefore, biological individuality has to be considered in order to understand their health problems. For example, even though homeless people are exposed to the same external environment, the incidence of general health problems is assumed to be different, depending on the

individual's immune system and physical adaptive ability.

Thirdly, stomachache was correlated to headache and insomnia ($p<0.01$). Headache was correlated to insomnia and depression ($p<0.01$). Insomnia was correlated to depression ($p<0.01$). Based on these results, the homeless people have a high likelihood of having two or more health problems and therefore require comprehensive screenings for their health[15-17].

Fourthly, over 66% of the homeless people in Atlanta were middle aged (40's to 50's) according to this research. 14.9% of them were in their 60's or older. 81% of the people in 40's to 60's were male. 77% of those surveyed were male. State governments and non-governmental organizations that provide health care and social services to homeless people in Atlanta should establish policy measures that take into account the health and social adjustment of older men in their middle ages or older. On the other hand, women who account for 23% of the homeless people should be protected from risks such as physical and sexual violence and physical vulnerability[17]. In particular, it is necessary to provide comprehensive maternity welfare services to homeless young women who are raising children.

Although this study has important implications for the relations between diet, self-care, and general health problems of homeless people, it is limited in sampling and use of measure. Only one homeless population in Atlanta was included in this study, so the results of this study have difficulty to be generalized to all homeless population in various regions. Also, the period of progress of this research was from October to November. According to seasons, the answers of respondents may be somewhat different, so seasons can be an influential variable.

The measures for this research were reconstructed very easily and simply to self-check for homeless people. A few homeless people were illiterate and a considerable number of people were burdened by the long reading. Realistically, the survey should be easy and simple in order to get responses, but it was not verified in scientific methodology. In the future, the research should be more scientifically verified and have fairer sampling.

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