Relationship between general health and economic factors in Ilam Province

Ali Sayehmiri[1], Kourosh Sayehmiri[2], Maryam Behzadifar[3], Mandana Sarokhani[2], Ali Delpisheh[2], Meysam Behzadifar[2*]

1. Department of Economic, Ilam University, Ilam, Iran
2. Research Center for Prevention of Psychosocial Injuries,Ilam University of Medical Sciences, Ilam, Iran
3. Department of Economics, Faculty of Social Sciences, Razi University, Kermanshah, Iran

[*]**Corresponding author:** Tel: +98 9381235517; fax: -
Address: Department of Epidemiology, Faculty of Health, Ilam University of Medical Sciences, Ilam, Iran
E-mail: m_behzadifar67@yahoo.com
Received; 2014/12/5 revised; 2015/01/20 accepted 2015/02/14

Abstract

Introduction: Public health is a life quality concerning a person's emotional, mental, moral states and biological fitness that helps him to be able to adapt to the surrounding environment and do sufficient amount of physical, mental, and social work.
Materials and methods: In this cross sectional study, 903 families from different cities of Ilam were selected through multistage cluster sampling. The families were selected from each city separately and each head of family was interviewed. The instruments for data collection included general and economic questionnaires and the General Health Questionnaire (GHQ).
Results: The participants of the study had an average age of 32.67±9.45and an average general health of 28.48±12.1. There was a negative and meaningful correlation between monthly income and social contribution disturbance ($p<0.05$, $r = -0.1$) and a direct and meaningful correlation between monthly income and general health ($p<0.05$, $r = 0.1$). According to the results of Logistic Regression Model, desired general health for married people was 1.98 times more than single individuals, 0.46 times more for males than females, and for groups with medium or poor economic conditions it was 0.84and 0.82times more than those with good economic conditions
Conclusion: In order to improve people's mental health, it is recommended that health care officials take this matter for granted more than ever through the implementation of programs such as life skills training, stress resistance skills training, and helping individuals to be able to adapt themselves to their life environment.

Keywords: General Health, Economic Factors, General Health Questionnaire, Ilam

Introduction

General health is a life quality concerning a person's emotional, mental, moral states and biological fitness that helps the person to be able to adapt to the surrounding environment and do sufficient amount of physical, mental, and social work (1). Factors that are effective in health include individual and genetic factors such as age, gender, occupation and social class, environmental factors, lifestyle, and the quality and extent of presented services (2). Healthiness is a multi-dimensional term including not only physical health, but also joy and welfare (3). Most psychiatrists, psychologists and mental health scholars disregard positive dimensions of healthiness (4). Health promoting behaviors, as one of the most

determining health criteria, are recognized to be the background factor in protection against many diseases and in direct link with health promotion and disease prevention (5). Statistics provided on the main causes of mortality indicate that 53% of mortalities result from lifestyle and insanitary behaviors (6, 7). About 60 years ago, the World Health Organization (WHO) defined healthiness as the state of complete physical, mental and social welfare rather than just being healthy. A decade later, Jahuda (1958) questioned the notion that if one is not mentally sick, it is a criterion for mental health and proposed a multiple criteria model for determining mental health. Unfortunately, considerable progress in the application of this view in either theoretical or practical fields wasn't seen for a long time (8). Healthiness is a positive term emphasizing social, personal resources and physical capacities. Although health sector is an active and protective part in cross-portioned interactions and should be much more regarded for interaction with other health care organizations (9), health promotion is not just the responsibility of the health sector; rather, it goes beyond the healthy lifestyle of the public and leads to the development of a society that aims at protecting people's health.

Social and economic inequalities and their effect on health is a highly regarded issue these days, as health promotion in unhealthy societies is much harder than treating unhealthy people in healthy societies (10). Health inequality is a certain type of difference in healthiness in which vulnerable social groups and those constantly facing undesirable social conditions and discrimination experience much more serious health risks than those living in desirable social conditions (11). Intense income inequalities indicate a decrease in the income earned by members of society which can have negative effects on people's health. Moreover, societal inequalities will increase the sense of relative deprivation among people and influence mental healthiness of the society (12).

Efficient human power plays a determining role in the socioeconomic development of societies. Thus, taking various aspects of human life into consideration, particularly young manpower, is an important factor in such development. Some common health problems in human life include depressive disorders, anxiety problems, and physical unhealthiness which are of great significance in terms of their economic consequences. Therefore, this study was conducted in 2013 to investigate the relationship between general health and economic factors in Ilam.

Materials and methods

In this cross sectional study, 903 families from different cities of Ilam were selected through multistage cluster sampling. The families were selected from each city separately and each head of family was interviewed. The families' general and economic status was determined using a researcher-made questionnaire consisting of demographic questions (i.e. job status, income, and living expense) which was designed and rated based on Likert Scale. The standard General Health Questionnaire (GHQ) was used to determine the participants' general health. This questionnaire is a test with multiple and self-executing nature designed to investigate non-mental disorders found among the existing social states over the month before. In this study, a short questionnaire including 28 questions was used. This questionnaire consisted of 4 subtests. Questions 1-7 were designed to measure physical signs, 8-14 to measure anxiety and sleeplessness, 15-21 to measure social dysfunction, and 22-28 to measure depression. The questions were multiple items and there were two scoring methods. The first method was the Traditional By-modal method in which the choices are measured based on 0-0, 1-1 and the individual's score ranges from 0 to

28. In the second method, the answers were measured based on Likert (0, 1, 2, 3) in which the individual's score ranges from 0 to 84. The cut-off point obtained for this questionnaire in several studies in Iran is between 21 and 23 (13). In this study, the cut-off point of 23 was used. As a result, the total score between 0 to23 was considered as desired general health, and the total number of 24 and above as inappropriate general health. The reliability of this questionnaire has been proven in different studies (14-17). The Cronbach's Alpha was used to determine the reliability of the test which was 0.93 for all the questions.

The data were analyzed using SPSS software version 21 and Eviews by conducting t-test, the Pearson correlation coefficient and Logistic Regression.

Results

In this study, 903 people from Ilam were investigated with an average age of 32.67±9.45 and the age range of 18-78. The general health means score for the people under investigation was 28.48±12.1. Most of the participants were females (57.8%) considering gender, married (80.9%) considering marital status, unemployed (49.1%) considering job status, earned less than 500000 tomans per month (31.9%) in terms of income status, had a bachelor's degree (43.5%) in terms of education, lived in cities (80.7%) in terms of residence location, and were in a medium status in terms of economic status (50.4%). Other demographic information is shown in table 1.

Table 1. Demographic characteristics of the study population

Variable	Status	Percent
Sex	Male	42.2
	Female	57.8
Marital Status	Single	19.1
	Married	80.9
Job	Unemployed	49.1
	Employed	48.1
	Retired	2.8
	Less than 500	31.9
Income (thousands of Tomans)	500-750	22.4
	750-1 million	30.3
	More than 1 million	15.4
Education	Under Diploma	10.9
	Diploma	17.5
	Associate Degree	19
	Bachelor	43.5
	Masters and more	9.1
Palace Residence	City	80.7
	Village	19.3
Economic situation	Average	32.2
	Well	50.4
	Bad	17.4

According to the findings of the present study, there was a significant relationship between public health with marital status (p = 0.02), personal house (p = 0.002), personal vehicle (p = 0.04) and education (p = 0.04), while there was no significant relationship between public health and the other demographic components including family size (p = 0.98) and residence location (p = 0.06) (Table 2).

Table 2. associated public health with variables population and economic based on the test-T test

Variable	Status	Public Health		
		Mean	Std	P-value
Marital Status	Single	30.31	12.44	0.02 *
	Married	27.96	11.87	
Family size	Equal & less than 4	28.85	12.57	0.98
	More than 4	28.54	12.2	
Personal house	Yes	27.22	11.84	0.002 *
	No	29.83	12.31	
Personal vehicle	Yes	27.58	12.27	0.04 *
	No	29.21	11.87	
Palace Residence	City	28.86	11.97	0.06
	Village	26.91	12.51	
Education	Under diploma	29.73	12.77	0.04 *
	Upper diploma	27.92	11.81	

* Significant at a level of less than 0.05

The findings of this study indicated that age had a direct correlation with income (r = 0.07), physical signs (r = 0.03), anxiety (r = 0.01), social dysfunction (r = 0.02), and it had a negative correlation with depression (r = -0.05) and general health (r = -0.006). However, there is no significant statistical relationship between age and the so-called components. It was also indicated that monthly income had a negative correlation with physical signs (r = -0.06), anxiety (r = -0.06), social dysfunction (r = -.1), depression (r = -0.08), and a direct correlation with general health (r = 0.1), while it only had a significant statistical relationship with social dysfunction ($p<0.05$) and general health ($p<0.05$) (Table 3).

Table 3. Correlation between age, income, public health and subtests public health.

	Age	Income	Physical symptoms	Anxiety	Social dysfunction	Depression	Mental health
Age	1						
Income	0.07	1					
Physical symptoms	0.03	-0.06	1				
Anxiety	0.01	-0.06	**0.61	1			
Social dysfunction	0.02	*-0.01	**0.29	**0.08	1		
Depression	-0.05	-0.08	**0.47	**0.57	**0.23	1	
Public health	-0.006	*0.1	**0.8	**0.8	**0.48	**0.81	1

* Significant at a level of less than 0.05
** Significant at less than 0.01

According to the results of Logistic Regression, the desired health for married individuals was 1.98 times more than single individuals (OR = 1.98, 95% CI = 1.63-2.5). The desired general health in terms of job status for employed and retired individuals was respectively 0.69 and 0.93 times more than unemployed ones. In terms of age group, the desired health for age groups of 25–29, 30–34, 35–39, 40–44, 45–49, and above 50 years were 1.7, 1.3, 1.2, 1.1, 1.2, respectively and 1.4 times more than the age group below 25 years old. In terms of monthly income, the desired general health for groups earning 500– 750 thousand tomans, 750 thousand–1 million tomans, and above 1 million tomans were respectively 1.17, 1.2, 2.17 times more than the group earning below 500 thousand tomans. Also considering economic status, the desired general health for average-income and low-income groups were respectively 0.84 and 0.82 times more than good-income

groups. However, general health only had a statistically significant relationship with marital status (P<0.01) (Table 4).

Table 4. Results of logistic regression between public health and economic- population factors, regardless of confounding factors.

		OR (CI% 95)	**P -value**
Sex		1.5(1.15-1.98)	**0.003
Marital Status		1.98(1.63-2.5)	*0.04
Job	Unemployed	Ref	0.12
	Employed	0.69(0.37-1.27)	0.24
	Retired	0.93(0.3-2.8)	0.9
Economic situation	Bad	Ref	0.84
	Average	0.84(0.46-1.5)	0.57
	Well	0.82(0.35-1.9)	0.66
Life Satisfaction	Bad	Ref	**0.000
	Average	2.8(1.7-4.6)	**0.000
	Well	4.6(3.2-6.4)	**0.000
Age (year)	<25	Ref	0.45
	25-29	1.7(1.6-2.7)	*0.02
	30-34	1.3(0.7-1.8)	0.59
	35-39	1.2(0.7-2.1)	0.38
	40-44	1.1(0.6-1.9)	0.72
	45-49	1.2(0.6-2.5)	0.49
	>50	1.4(0.68-3.03)	0.33
Income (thousands of Tomans)	Less than 500	Ref	0.059
	500-750	1.17(0.63-2.1)	0.6
	750-1 million	1.2(0.72-2.3)	0.39
	More than 1 million	2.02(1.01-4.07)	*0.04

* Significant at a level of less than 0.05

** Significant at less than 0.01

However, after eliminating the confounding variables under investigation, general health only had a statistically significant relationship with gender and life satisfaction (P<0.01) in a way that desired general health for males was 0.46 times more than females (OR=0.46 , 95%, CI=0.29 – 0.72). Also, those with average life satisfaction (OR=2.5, 95%, CI=1.6-4.06) and good life satisfaction (OR = 4.4, 95%, CI = 3.2 – 5.95) had a higher level of general health than those who were dissatisfied with their lives (Table 5).

Table 5. Results of logistic regression between public health and economic- population factors, considering confounding factors.

		OR (CI% 95)	P -value
Sex		0.46(0.29-0.72)	*0.001
Life Satisfaction	Bad	Ref	*0.000
	Average	2.5(1.6-4.06)	*0.000
	Well	4.4(3.2-5.95)	*0.000

* Significant at less than 0.01

Discussion

Healthiness is regarded as one of the main human rights, so all people should have access to the resources necessary for health care. Nowadays, general health promotion is a major goal in the development of the third millennium and the main provider of health care services in developing countries. In this respect, efficiency of the public sector is highly significant (18). In the present study, there was a significant statistical relationship between general health and education (p = 0.04). Likewise, in the study by Ghasemi & et al (19), there was a significant relationship between general health and education in a way that individuals having a diploma or higher degrees were healthier in terms of general health. Hadianfar & et al (20) and Ansari & et al (21) also showed such a relationship in their studies. It seems that those who had higher education proved to be more successful in using appropriate methods to cope with tension to adapt themselves to the existing conditions. Therefore, they would have fewer problems concerning general health through better control of the existing life conditions.

The findings of this study indicated that monthly income had a negative correlation with physical signs, anxiety, social dysfunction and depression, which it had a direct correlation with general health. While monthly income had a significant relationship only with social dysfunction ($p<0.05$) and general health ($p<0.05$), there was no significant relationship between age and the so-called components. In the study by Mohammadbeigi & et al (22), no significant relationship was seen between age and general health, whereas a significant relationship was seen between the two components in the studies conducted by Sadeghi & et al (23) and Mary Noni & et al (24) in a way that the older individuals gained higher scores from the General Health Questionnaire. Khatun & et al in Bangladesh (25) and Zarbakhsh & et al in Iran (26) showed a positive and significant relationship between income and general health so that that high-income family proved to be healthier in terms of general health. It seems that low income deprives some people of using health care services. This may evidently affect people's general health.

In this study, after eliminating the confounding variables under investigation, general health only had a significant statistical relationship with gender and life satisfaction ($P<0.01$) in a way that the desired general health for males was 0.46 times more than females (OR= 0.46, 95%, CI=0.29 – 0.72). Also, those with average (OR = 2.5, 95%, CI = 1.6 – 4.06) and good (OR = 4.4, 95%, CI = 3.2 – 5.95) life satisfaction had a better general health than those who were dissatisfied with their lives. In the study by Moradian & et al (27), the desired general health for males was 0.58 times more than females, while it was not statistically significant. According to Mottaghipoor & et al (28), the variable of gender proved to have an independent and significant relationship with the rate of mental disorder affliction. Also, the possibility of mental disorder affliction in females was higher than males (OR = 2.1, 95%, CI = 1.5 – 2.7). Most studies consider biological and environmental factors, personal experiences, and the difference in social roles of females and males as strong grounds for mental disorder affliction in females. In the study conducted by Mohammadbeigi & et al (22), there was a significant relationship between the participants' general health and life satisfaction. Thus, for each unit of increase in life satisfaction, the participants' general health would increase 2.58 times. Life satisfaction was a supporting factor against mental disorder symptoms in the present study. Such a fact was also obtained in the study conducted by Bayram & et al (29) in Turkey.

Conclusion

Given the fact that the participants of the present study had a high general health mean score and their health status was almost worrying, it is recommended that health care officials pay more careful attention to this issue than ever through the implementation of programs such as life skills training, stress resistance skills training, and helping individuals to be able to adapt themselves to their life environment in order to promote mental health.

Acknowledgments

We wish to sincerely thank the Research Center for Prevention of Psycosocial Injuries and Deputy of Research and Technology at Ilam University of Medical Sciences and all subjects whose full cooperation we enjoyed during this study.

References

1. Moniz C, Gorin SH. Health and health care policy: a social work perspective. United States: Allyn and Bacon; 2002. P. 260-262.
2. Hatami H, Razavi M, Eftekhar ardebili H, Majlesi F, Seyed nozadi M, Parizad MJ. Handbook of Public Health. Tehran: Arjmand; 2008. P.1918-06.
3. Lareson JS. The measurement of health: Concepts and indicators. New York: Green Wood Press; 1991. P.10-12.
4. Seligman MP. Positive psychology: Fundamental assumption. Washington: The psychologist; 2003. 16 P.127-126.
5. Andrews GA. Care of older people: promoting health and functioning in an aging population. Br Med J. 2001;322(7288):728-39.
6. Habibi-Sola A, Nikpour S, Seyedoishohadi M, Haghani H. A survey of health promoting be-haviors and quality of life among elderly. J Ardabil Univ Med Sci. 2008;8(1):29-36.
7. Ahmadi F, Salar A, Faghihzadeh S. life among elderly in Zahedan city. Hayat 2005;22(1):67-73.
8. Bayani A, Godarzi H, Mohammad kochaki A. The relationship between psychological well-being and general health in students of Islamic Azad University City. Knowledge Res Psychol. 2008;35:164-53.
9. Ollila E, Ståhl T, Wismar M, Lahtinen E, Melkas T, Leppo K. Health in All Policies in the European Union and its member states. Helsinki: Kasma ;2006. P.15-17.
10. Pickering J, Haworth J, Graham H. Is wellbeing local or global? A perspective from ecopsychology. Basingstoke: Palgrave Macmillan; 2007. P.149-162 .
11. Braveman P. Health disparities and health equity: concepts and measurement. Ann Rev Pub Health. 2006; 27(1):167–94.
12. Kawachi l, Berkman L, . Income inequality and health Social epidemiology. London: Oxford University Press; 2000. P.76-93.
13. Abasi A. Evaluation of student mental health Yasuj university of medical sciences. Med Purificat. 2001;43(1):38-4.
14. Noorbala AA, Bagheri yazdi SA, Mohammad K. The validation of general health questionnaire - 28 as a psychiatric screening tool. Hakim Res J. 2009;11(4):47-53.
15. Goldberg DP, Hillior V. A scale version of general health questionnaire. Psycho Med. 1979;9(5):131-45.
16. Hasheminazari SS, Khosravi G, Faghihzadeh S, Etemadzadeh SH. A survey of mental health among fire department employees by GHQ-28

questionnaire in 2005 in Tehran- Iran. Hakim Res J. 2007;10(2):56-64.
17. Halvani GH, Morovati MA, Baghiani MH. Determining the general health status of workers of Kuushk main. Koomesh. 2007;8(4):261-7.
18. Omigbodun OO. Stressors and psychological symptoms in students of medicine and health professions in Nigeria. Soc Psychiatry Psychiatr Epidemiol. 2006;41(5):415-21.
19. Ghasemi E, Mohammad Aliha J, Bastani F, Samiei N, Haghani H. General health status in women with coronary artery disease. Koomesh. 2013;14(4):474-82.
20. Hadianfard M, Hadianfard H. Mental status of geriatric patients with chronic locomotor dis-eases. Iranian J Psychiatr Clin Psychol. 2004;9(3):75-83.
21. Ansari H, Bahrami L, Akbarzade L, Bakhasani NM. Assessment of General Health and Some Related Factors among Students of Zahedan University of Medical Sciences In 2007. Tabib Shargh. 2007;4(2).65-71
22. Mohammad Beigi A, Mohammad Salehi N, Ghamari F, Salehi B. Depression symptoms prevalence, general health status and its risk factors in dormitory students of Arak universities 2008. Arak Med Univ J. 2009;12(3):116-23.
23. Sadeghi R, Zarei M, Akbari H, Khan beygi M. Mental health status and its related factors in women referred to health centers. J Health Care. 2001;13(4): 142-9.
24. Marinoni A, Degrate A, Villani S, Gerzeli S. Psychological distress and its correlates in secondary school students in Pavia, Italy. European J Epidemiol. 1997;13(5):779–86.
25. Khatun SA, Rahman M. Socio – Economic Determinants of Low Birth Weights in Bangladesh: A multivariate approach. Bangladesh Med Res Counc Ball. 2008; 34(3):81-6.
26. Zarbakhsh-Bhari M, Hoseinian Simin, Afrooz Gh, Hooman H. The Comparison Of Many Biological Characteristics, Economical Conditions, General Health(Mental), Of Mothers With Low And Normal Birth Weight At Gilan Province. Health Payavard. 2012;5(5):91-9.
27. Moradian Sorkhkalaee M, Eftekhar H, Nejat SH, Saeepour N, Esmaeel Shemirzadi S. The State of Mental Health of Students of Tehran Medical Sciences University in The Academic Year 2010-2011. Faraz. 2012;14(2): 112-18.
28. Motaghipor Y. General mental health survey in an area of Tehran: Tehran Lipid and Glucose Study. Ira J Endocrinol Metab. 2005;7(4): 132-141.
29. Bayram N, Bilgel N. The prevalence and socio-demographic correlations of depression, anxiety and stress among a group ofzx university students. Soc Psychiatry Psychiatr Epidemiol. 2008;43(3):667–72.