Aging populations' quality of life: An emerging priority for public health system in Iran

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Abstract: Abstract: It is apparent that the biggest demographic and health transitions are related to aging population with an increase in the number of elderly people and disproportionate prevalence of chronic diseases with diminished quality of life (QOL). It is particularly important for policymakers and stakeholders to note that poor health is not an inevitable consequence of aging thus appropriate interventions are required. Because improving QOL is a major policy and lifestyle goal, understanding QOL has tremendous potential implications on designing social policies for well-being. In a cross-sectional study the QOL of 200 elderly people age above 60 were measured in Sari a typical city in Iran. SF-36 and GHQ-28 were used for data collection. The findings of this study have shown that the average QOL of elderly people is about 53.5%. More than half of respondents have found with possible mental illness. Those who were categorized with possible mental illness had statistically significantly lower QOL. Quality of life had significant relationship with both health and non-health related characteristics of respondents. It has concluded that mental health examination and support have high priority in improving and extending QOL of elderly people in Iran. A well coordinated program from all stakeholders with appropriate contribution of their role is recommended.
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1. Introduction

After decades that public health interventions and programmes have been successful in the control of communicable diseases and their threats, as major killers of patients particularly children and vulnerable groups, we have seen that life expectancy has increased more than three decades (Siegel and Doner, 2007). As a consequence the number of elderly people during recent years is increasing steadily particularly in developing countries such as Iran. Therefore, it is apparent that in these countries the biggest demographic and health transitions are related to aging population with an increase in the number of elderly people and change in the pattern of diseases. These changes are usually accompanied with an increase in demand for services that addresses non-communicable diseases (Minh et al., 2012). This indicates the shorter period to address the challenges of population aging, and thus, would require cost-effective use of limited available resources particularly in developing countries to meet the needs of older people (Momtaz et al., 2012). However, Iran still has a relatively young population and elderly population account something about 6% of its total population, but it is predicted that for coming decades it will increase rapidly (Mortazavi et al., 2012). For example, the proportion of elderly is projected to double in less than 20 years (Jogataee, 2005). It has also been predicted that by the year 2050 when the number of country's population fail to double but the population of elderly age above 65 will increase six fold (Mehryar, 2004).

The rapidly increasing number of elderly people in developing counties like Iran will place unprecedented demands on aging services and the nation's entire health care system. This is now an area of concern for policymakers and top managers of public health system of these countries who should react to it appropriately (Heydari et al., 2012). In developed countries, it has been mentioned that the growth of health care expenditure is largely due to substantial increase in aging population. This is not only because of increase in number and length of life of aging population, but because of disproportionate prevalence of chronic diseases with diminished quality of life (QOL) that require appropriate interventions. Therefore, it is particularly important for policymakers and stakeholders to note that poor health is not an inevitable consequence of aging. Nowadays there exist different public health strategies that could help elderly people and improve the quality of their life (CDC, 2009). But the prerequisite of any intervention to serve elderly people is a better understanding of their situation. To

respond the requirement for a better life for elderly people, the results of (QOL) measurement has significant effects on designing social policies for well-being (Elosua, 2011; Rouhani et al., 2012). QOL is defined as "an individual's perception of their position in life, in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns."(WHOQOL-Group, 1993). It has also been viewed as "an overall sense of well-being, when applied to an individual. It denotes a pleasant and supportive environment when it is applied to a community."(U.S. Department of Health and Human Services, 1998). Nowadays, improving the QOL of this fastest growing population group has become a global priority for policy (WHO, 2002). The understanding, measurement, and improvement of human experience have been major goals of individuals, researchers, communities and governments. The overall assessment of human experience has been commonly expressed by the term QOL across multiple disciplines including psychology, medicine, economics, environmental science, and sociology (Costanza et al., 2007). QOL as a general term is meant to represent either how well human needs are met or the extent to which individuals or groups perceive satisfaction or dissatisfaction in various life domains. Understanding QOL has tremendous potential implications because improving QOL is a major policy and lifestyle goal (Schuessler and Fisher, 1985). Nowadays research and policy interest for measuring and enhancing quality of life of elderly people is growing internationally. The underlying factors for this interest is mainly due to increasing numbers of older people, higher expectations of a good life within society, and policy interest in the potential for reducing public expenditure (Brown et al., 2004; Herrera Ponce et al., 2011). Give Iran's population transition with an expected substantial increase in the number of elderly people as mentioned earlier; information related to quality of life of elderly people is limited. The findings of this research could be useful in designing intervention studies that could eventually lead to application of strategies to promote QOL in elderly people in the region as well as other area with the similar socio-demographic and economic backgrounds.

2. Material and Methods

This was a cross-sectional study carried out in early 2012 in Sari a typical city in the north of Iran. It was a household survey that continued till reach to the required sample size of 200 elderly people in their home. All respondents from both sex groups who were over age 60 entered in this study. Two questionnaire of health status measurement including SF-36 and GHQ-28 that their validity and reliability in the context of Iran were studied and confirmed before (Yaeghobi, 1995; Montazeri et al., 2005, Mohammadpour and Yosefi, 2008)), have been employed for measuring the quality of life and health situation of elderly people. GHQ-28 is usually used for studying mental health situation but SF-36 is a generic instrument for measuring quality of life. The score of quality of life measured by SF-36 is based on percentile that bigger percent represent for better quality of life. It has 8 subscales as different components of health related quality of life of individuals. They encompass Physical Functioning (PF), Role Physical (RP), Bodily Pain (BP), General Health (GH), Vitality (VT), Social Functioning (SF), Role Emotional (RE), and Mental health (MH) (Tajvar et al., 2008). But for GHQ-28 with 4 Likert scale as the 0 represent for no problem and 3 is the indication of worst situation, therefore, the highest the score observed the worse is the respondent's mental health status. The overall score of this instrument rank from 0 to 84. Also score 23 in this instrument is the cut-off point in which respondents with score above that level are categorised as individuals with possible mental health problems and people with score below that level are categorized as people with no mental illness. For this instrument, there are also 4 subscales including A (Biological Health), B (Anxiety), C (Social), D (Depression). On each component there are 8 questions therefore their scores rank between 0 to 24 for each component (Mokhtari and Ghasemi, 2010). Collected data were entered in excel program and with the use of SPSS software package and using correlation coefficient, independent samples t test and chi-squared test, variables of study were analysed.

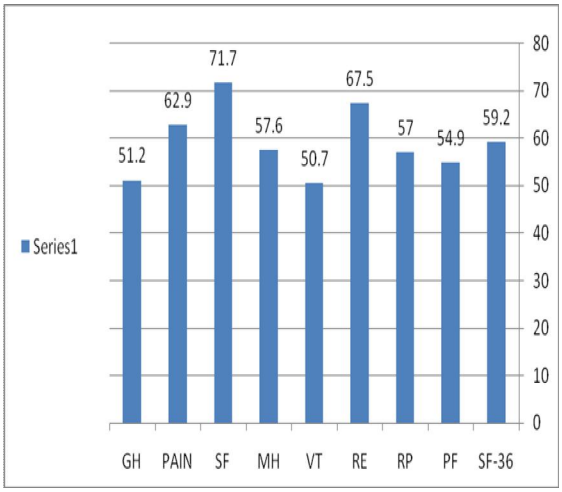
3. Results

We have measured the quality of life and mental health status of 200 elderly people on their living place in urban area of Sari in Iran. In terms of socio-demographic characteristics, they had different background. Table 1 shows socio-demographic characteristics of participants of this study.

As table 1 indicates, elderly people participated in this study had relatively a mix socio-demographic background. Quality of life of respondents measured by SF-36 on average was 53.5% (S.D=19.4). Mental health status score of participants measured by GHQ-28 on average was 25.9 (S.D=10.6). Quality of life of respondents and their health status in terms of their mental health are presented in two following graphs.

Table 1: Socio-demographic characteristics of elderly people in Sari-Iran 2012

Socio-demographic characteristics		Number	Percent
Age	<70 years	90	45.0
	≥70 years	110	55.0
Gender	Male	78	39.0
	Female	122	61.0
Coupling	Couple	128	64.0
	Single	72	36.0
Education	Illiterate	73	36.5
	Literate	127	63.5
Job	Retired	115	57.5
	Others	85	42.5
Housing	Private	12	6.0
	Other	188	94.0
Medical insurance	Covered	17	8.5
	Uncovered	183	91.5



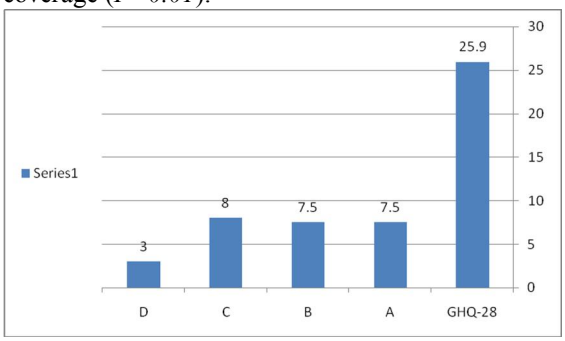
Graph 1. Quality of life of respondents (overall & dimensional) measured by SF-36 in Sari-Iran 2012.

As graph 1 depicts, average score of quality of life was 53.5% with lowest score on dimension VT (Vitality) and highest score on dimension SF (Social Functioning).

As graph 2 indicates, in overall the mean score of the mental health status was above the cut-off point 23 an indication of mental health problem of respondents. Respondents had better situation on dimension D (depression) while on other dimensions had almost similar status.

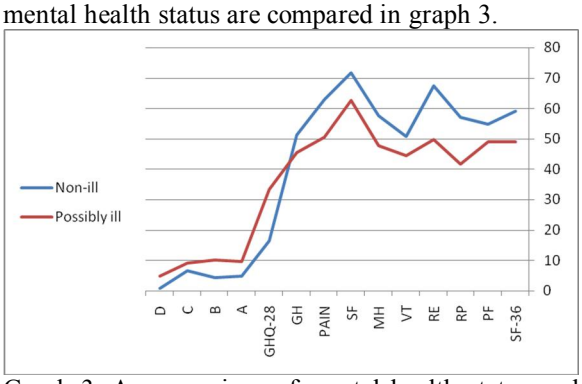
Further analysis on mean score of GHQ-28 has revealed that more than half of respondents (55.5%) were possibly mentally ill with mean score of 33.4 where the remaining had a mean score of 16.5.

Statistical analysis did not show any significant relationship between the score of GHQ-28 and those socio-economic variables presented in table 1. However there was statistically significant correlation between quality of life obtained by SF-36 and some of those indicators so that, better quality of life was observed among those elderly people who were in younger age (*P=0.01*), not retired (*P=0.007*), literate (*P=0.01*), and those with health insurance coverage (*P=0.01*).



Graph 2. Mental health status of respondents (overall & dimensional) measured by GHQ-28 in Sari-Iran 2012.

Also there was statistically significant relationship between the mental health status of respondents and their quality of life (*P=0.000*) so that, the group who were recognised with mental problems had lower quality of life (on average 48.0%) compared to other group (mean score 59.2%). Overall and dimensional scores of quality of life and mental health status are compared in graph 3.



Graph 3. A comparison of mental health status and quality of life of possibly mentally ill and non-illness participants in Sari-Iran 2012.

As the above graph shows, not only total score of respondents measured by both instruments were quite different, but also on different components of each questionnaire they had the same situation. Statistical analysis has shown that except on one dimension of SF-36 (PF or Physical Functioning), on all other components, the difference between two groups was statistically significant (P≤0.05). Analysis on the scores of items of instruments also was performed that is presented in table 2.

Table 2: Correlation between scores (overall & dimensional) measured by two instruments (presented by *'r'* & *'p value'* in Sari-Iran 2012

Variables/ *'r' & 'p value'*	GHQ-28	A	B	C	D
SF-36	***-.054 .000***	***-.236 .001***	***-.222 .001***	***-.158 .025***	***-.144 .034***
PF	-.048 .499	-.134 .058	-.089 .209	-.006 .930	.100 .158
RP	***-.169 .017***	-.117 .100	***-.148 .037***	-.106 .137	-.137 .053
RE	***-.188 .008***	-.130 .067	***-.189 .007***	-.069 .335	***-.163 .021***
VT	***-.233 .001***	***-.197 .005***	***-.208 .003***	-.106 .135	***-.173 .015***
MH	***-.349 .000***	***-.253 .000***	***-.339 .000***	***-.196 .005***	***-.253 .000***
SF	***-.139 .049***	***-.194 .006***	-.067 .344	-.105 .141	-.057 .421
PAIN	***-.257 .000***	***-.262 .000***	***-.187 .008***	***-.273 .000***	-.080 .261
GH	***-.255 .001***	***-.223 .002***	***-.152 .032***	***-.160 .023***	***-.145 .040***

As table above reveals, in the majority of cases there were a significant correlation between scores measured by SF-36 and GHQ-28. In terms of overall scores the strongest correlation (negative) was between total score of GHQ-28 and mental health (MH) of respondents measured by SF-36 (r=0.4).

4. Discussions

Based on the finding of this research, the majority (55.5%) of elderly people who have participated in this study had possibly mentally illness. Expectedly the quality of life of this group was significantly lower than the other group. Also, as indicated in table 2, the strongest correlation between score obtained by GHQ-28 as an indication of mental health status and components of SF-36 was related to MH or mental health of respondents that is in the line with the finding of other authors (Failde et al., 2000). Therefore we can more confidently rely on the mental health situation of participants as being categorised. This situation indicates that appropriate intervention is required both for the treatment of elderly people's mental illness and for the improvement of their quality of life. In the other words in the case of Iran, it needs to be emphasised that not only the increasing number of elderly people as discussed earlier is an area of concern, but also taking the mental health statues of these population into account, adds the importance of appropriate interventions to change the situation. Although the overall quality of life elderly people in this study is low, they are more weak on the item of VT (vitality and happiness) the item that could be an indication of all aspects of their life either related to health or other features of their living conditions (Anastasia et al., 2003; Wagert et al., 2005; Fagerström et al., 2007). Being vital, energetic and happy is not only related to other conditions of an individual's life but also can affect other dimensions of quality of life positively and result to a better level of life satisfaction as discussed by Beyaztas et al.,2012. The score of quality of life obtained in this study (53.5) is close to the finding of another study (Aghanori et al., 2012) that reported the quality of life of elderly people 55.7 in other part of the country. They have concluded gender and lack of recreational facilities as important factors affecting quality of life of elderly people. However the mental health status of elderly people in our study was not associated with socio-demographic variables, but quality of life of studied population has statistically significant relationship with some of those characteristics including age, education, job, and insurance coverage. Therefore quality of life of respondents was not only associated with their mental health situation, but also with some of non-health related factors. Tajvar et al., 2008, have found age, gender, education and economic status as determinants of poor quality of life of elderly people in Tehran. Correlation between quality of life of elderly people and socio-demographic factors was also found in different studies in Iran (Abbasimoghadam et al., 2009; Tajvar et al., 2008; Vahdaninia et al., 2005; Rafati et al., 2004; Bazrafshan et al., 2008). Such finding was reported in both developed and developing countries as well. For instance in China (Qin, 2007) the author found that subjective quality of life of elderly people is related to both health and socio-cultural factors. Minh et al., (2010) in their study have found an association between socio-economic background and quality of life of older adults in rural area of Vietnam and Indonesia. In another study conducted among elderly people in US and Canada, it has been found that household income was associated with quality of life of elderly people in US but not in Canada (Huguet et al., 2008). Rodrigo et al., (2007) have found a negative correlation between stress and quality of life of elderly people in Nebraska. Netuveli and Blane, (2008) mentioned dementia and depression as major factors affecting the quality of life of elderly people. Our findings are potentially useful for policymakers and decision makers, as pointed out by other authors, (Qin, 2007; Brown et al., 2004; Herrera Ponce et al., 2011), to understand that for helping elderly people and promoting their quality of life interventions must have a broader base and include other aspect of their daily life particularly their happiness and life satisfaction rather than a narrow perspective of health services. Such multifaceted interventions and programs require a good inter and intra-sectoral cooperation of related regional and national organisations. The thing that is usually rare in

developing countries particularly in Iran. Researchers on their interventional study of helping elderly people's quality of life in Tehran (Mortazavi et al., 2012) have found that physical activity has significant impact on mental health and then on the quality of life of elderly people. Where providing opportunities for physical activities of elderly people such as walking programmes, jogging, and some age specific exercises seems to be quite possible in any country, but it is not very common among elderly people in Iran. Given the importance of physical activity on all aspects of health and well-being of elderly people more effort need to put in place to change the situation.

5. Conclusion

Quality of life of elderly people in the studied population is low. Low level quality of life of elderly people is associated with both health and non-health related factors. However, elderly people's quality of life was associated with both health and non-health related factors i.e. mental health and socio-demographic characteristics, but mental health of these people was not significantly different across different socio-demographic group. This means elderly people of all socio-demographic groups should be considered as candidate for mental health examination and assisted with appropriate mental health support. This could be a priority for public health system in Iran to invest more on mental health issues of elderly people in its entire primary health care network. Based on the finding of this research and existing literature, it is apparent that the quality of life of elderly people in Iran needs major improvement. It means adding life to years of elderly people and making their life with vitality and happiness is quite obvious. Improving the quality of life of elderly people and bringing vitality and satisfaction to their life require both social and health interventions. This demands a well coordinated program of all stakeholders with appropriate contribution of their role. Therefore, regional and national level organisations require investing more in this area of health as well as social services to help this vulnerable population. Appropriate attention should be paid to social programmes and services such recreational facilities and networking. Improving life satisfaction and happiness seems to be in the highest priority in improving quality of life of elderly people in Iran.

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References

1. Abbasimoghadam, M.A., Dabiran, S., Safdari, R., Djafarian, K. Quality of life and its relation to socio-demographic factors among elderly people living in Tehran. *Geriatr Gerontol Int*. 2009; 9(3): 270-5.
2. Aghanori, A., Mahmoodi, M., Salehi, H., Jaeferian, K. Assessing quality of life of elderly people covered by health centers of urban area in Markazy province, Iran in 2011, *Salmand Iranian Journal of Ageing,* 2012; 22 (6): 20-29.
3. Anastasia, E., Maria, K., Grace, C. Subjective quality of life in old age in Greece: The effect of demographic factors, emotional state and adaptation to aging. *Eur Psychologist*. 2003; 8: 178-91.
4. Bazrafshan, M.R., Hosseini, M.A., Rahgozar, M., Sadat Maddah, S.B. Quality of elderly's life in Shiraz, Jahandidegan club. *Salmand Iranian Journal of Ageing*. 2008; 3(7): 33-41.
5. Beyaztas, F.Y., Kurt, G., Bolayir, E. Life satisfaction level of elderly people: a field study in Sivas, Turkey. *J Pak Med Assoc*. 2012; 62 (3): 221-225.
6. Brown, J., Bowling, A., Flynn, T. *Models of Quality of Life: A Taxonomy, Overview and Systematic Review of the Literature*. European Forum on Population Ageing Research. 2004.
7. CDC. Healthy aging, improving and extending quality of life among older Americans: At a glance. National center for chronic disease prevention ans health promotion. 2009. http://www.cdc.gov/aging
8. Costanza, R. et al., Quality of life: An approach integrating opportunities, human needs, and subjective well-being. *Ecological Economics*. 2007; 61: 267-276.
9. Elosua, P. Subjective values of quality of life dimensions in elderly people. A SEM preference model approach. *Soc Indic Res*. 2011; 104: 427-437. DOI 10.1007/s11205-010-9752-y
10. Fagerström, C., Holst, G., Hallberg, I. R. Feeling indered by health problems and functional capacity at 60 years and above. *Arch Gerontol Geriatr*. 2007; 44: 181-201.
11. Failde, I., Ramos, I., Fernandez-Palacín, F. Comparison between the GHQ-28 and SF-36 (MH 1-5) for the assessment of the mental health in

patients with ischemic heart disease. *European Journal of Epidemiology*. 2000; 16(4): 311-316.
12. Heydari, J., Khani, S., Shahhosseini, *Z.* Health-related quality of life of elderly living in nursing home and homes in a district of Iran: Implications for policy makers. 2012. *Indian Journal of Science and Technology*. 2012; 5(5): 2520-2525.
13. Herrera Ponce, M. S., Barros Lezaeta, C., Fernández Lorca, M.B. Predictors of quality of life in old age: A multivariate study in Chile. *Population Ageing*. 2011; DOI 10.1007/s12062-011-9043-7.
14. Huguet, N., Mark S. Kaplan, M. S., Feeny, D. Socioeconomic status and health-related quality of life among elderly people: Results from the Joint Canada/United States Survey of Health, *Social Science & Medicine*. 2008; 66: 803-810.
15. Jogataee M: The Elderly World Day. *Monthly Magazine of University of Social Welfare and Rehabilitation Science*. 2005; 11: 2.
16. Mehryar, A. H., Ahmad-Nia, S. Age-structural transition in Iran: short and long term consequences of drastic fertility swings during the final decades of twentieth century. CICRED Seminar. Paris, 23-26 February 2004. Available at:http://www.cicred.org/Eng/Seminars/Details/Seminars/Popwaves/PopwavesMehryarAhmad-Nia.pdf
17. Mohammadpour, A. R., Yousefi, Z. Factor analysis of SF-36 Persian version Health-Related Quality of Life questionnaire in Iran. *World Applied Science Journal*. 2008; 3(4): 548-554.
18. Minh, H.V., Ng, N., Byass, P., Wall, S. Patterns of subjective quality of life among older adults in rural Vietnam and Indonesia. *Geriatr Gerontol Int*. 2012; 12**:** 397–404.
19. Mokhtari, F., Ghasemi, N. Comparison between metal health and quality of life of elderly people resident and non-resident in elderly home, *Salmand Iranian Journal of Ageing, 2010;* 18(5):53-63
20. Momtaz, Y. A., Hamid, T. A., Ibrahim, R. Unmet needs among disabled elderly Malaysians. *Social Science & Medicine*. 2012; 75: 859-863.
21. Montazeri, A., Goshtasebi, A., Vahdaninia, M., Gandek, B. The Short Form Health Survey (SF-36): translation and validation study of the Iranian version. *Qual Life Res*. 2005; 14(3): 875-82.
22. Mortazavi, S. S., Mohammad, K., Ardebili, H. E., Beni, R. D., Mahmoodi, M., Keshteli, A. H. Mental disorder prevention and physical activity in Iranian elderly. *Int J Prev Med*. 2012 March; 3(Suppl1): S64–S72. PMCID:PMC339931.
23. Netuveli, G. Blane, D. Quality of life in older ages. (2008). *British Medical Bulletin*. 2008; 85: 113–126 DOI:10.1093/bmb/ldn003
24. Qin, Huali, "Adding Life to Years: Predicting Subjective Quality of Life among Chinese Oldest-Old" (2007). *Gerontology Theses*.Paper4. http://digitalarchive.gsu.edu/gerontology_theses/4
25. Rafati, N., Mehrabi, Y., Montazeri, A. Quality of life among Kahrizak charity institutionalized elderly people. *Journal of School of Public Health And Institute of Public Health Researches* 2004;2(3): 67-76.
26. Rodrigo, R., Potter, J. J., Leach, C. K. "Perceptions of Quality of Life, Sense of Community, and Life Satisfaction among Elderly Residents in Schuyler and Crete, Nebraska" (2007). *Architecture Program: Faculty Scholarly and Creative Activity*. Paper4. http://digitalcommons.unl.edu/arch_facultyschol/4
27. Rouhani, S., Kheirkhah, F., Salarieh, I., Abedi, S. Quality of life, its early change and retention in MMT program in Iran: Evidence for policymakers and service providers. Life Science Journal. 2012; 9(3):2633-2638
28. Schuessler, K.F., Fisher, G.A. Quality of life research and sociology. *Annual Review of Sociology*. 1985; 11: 129–149.
29. Siegel, M., Doner, L. L. Marketing public health: strategies to promote social change, Second Edition. Jones and Bartlett Publications. Boston. USA. 2007.
30. Tajvar, M., Arab, M., Montazeri, A. Determinants of health-related quality of life in elderly in Tehran, Iran. *BMC Public Health*. 2008; 8(1): 323.
31. U.S. Department of Health and Human Services. *Healthy People. 2010*. Washington, DC: U.S. Government Printing Office. 1998.
32. Vahdaninia, M.S., Gashtasbi, A., Montazeri, A., Mafton, F. Health quality of life in elderly: population based survey. *Payesh Health Monitor*. 2005; 4: 113-120.
33. Wagert, P.H., Ronnmark, B., Rosendahl, E., Lundin-Olsson, L., Gustavsson, J. M., Nygren, B. Morale in the oldest old: the Umea 85+study. *Age Ageing*. 2005; 34: 249-55.
34. WHOQOL-Group. Study protocol for the World Health Organization project to develop a Quality of Life assessment instrument (the WHOQOL). *Q Life Res*. 1993; 2: 153–159.
35. World Health Organization. *Active Aging: A Policy Framework*. Geneva: World Health Organization, 2002.
36. Yaeghobi, N. Epidemiology of mental disorder in urban and rural area of Someehsara. Quarterly Journal of Thinking and Behavior (Andisheh Va Rftar). 1995; 1(4):381-389.

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