Comparison of life quality in military and non-military men with hypertension

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Abstract
Aims: Hypertension is one of the most important causes of chronic disability in the world and can affect patients’ quality of life in different aspects considering its chronic and progressive nature. The aim of this study was to compare the quality of life in hypertensive military and non-military men.

Methods: This descriptive cross-sectional study was performed on 200 hypertensive men (100 military and 100 non-military individuals) who were selected by convenience sampling method in 2010 in Tehran. The quality of life was measured using the standard short form (SF-36). Data was analyzed by SPSS 15 software using independent T-test and Chi-square test.

Results: Mean age was 43.31±7.35 in the military group and 46.34±9.26 in the non-military group. Mean systolic and diastolic blood pressure was 142.33/90.06 in the military group and 148.84/95.98 in the non-military group. The general score of life quality was significantly higher in the military group compared to the non-military group (p<0.001).

Conclusion: Quality of life is at a higher level in military hypertensive patients compared to non-military hypertensive individuals. Therefore, more attention should be paid to the early detection and treatment based on the quality of life in non-military hypertensive individuals.

Keywords: Quality of Life, Risk Factors, Hypertension, Military, Non-Military

Introduction
Hypertension has always been stated as one of the most important health care problems in the world [1]. The results of conducted researches have shown that hypertension is so increasingly growing in all counties, especially in Iran [2, 3, 4] and the prevalence has been estimated as 20% [5, 6]. The results of researches conducted have shown that 20% of the adult population of South Korea, about 16% of over 30 years old population of Italy and 11.1% of southwest residents of Saudi Arabia [7], 33% of people in England, Sweden, and Italy, and 55% of people in Germany face with hypertension [8].

Hypertension will affect the patients’ quality of life through its chronic and progressive process and the deficits in their ability [4, 9]. During the recent 20 years, paying attention to the life quality of hypertensive patients has been regarded as a general attitude and a purpose in health care system of different countries [10, 11]. Various studies have shown that hypertension reduces the quality of life [12, 13, 14]. Ahangari et al. showed in their study that the quality of life in hypertensive patients is significantly lower than healthy people [15]. In fact, life quality is the individual’s unique understanding and is a way to state personal emotion about the health situation or another aspect of personal life and is determined only through the patient’s ideas by using standard tools [16].

One of the important and effective factors in people’s quality of life is their occupation and work environment [17]. Circumstances of work environment can affect individuals’ quality and quantity of life and profession in some ways [18, 19]. According to some experts, some part of efficiency product quality reduction in some countries is due to the reduction of life quality the changes of which appear in staff’s interests and priorities [20]. The quality of occupational life is necessary for any type of organization for attracting and retaining the employees [21]. Psychological atmosphere is one of the important components of satisfaction with occupational life and quality of life [19]. In military environments, the probable fields of stress and psychological pressure will increase due to special sensitivity and dangers that exists in such centers [22]. These stresses directly affect the cardiac function and
increase the risk factors of heart diseases (such as hypertension); in turn, decrease people’s quality of life [23]. In this regard, Emeni and Karampouryian showed in their study that when the occupational stress is less, the person has a better quality of life therefore, takes the advantage of better psychological health while dealing with customers [24]. The results of a research conducted in Australia showed as the employee’s income rises, his quality of life will increase [25]. In another study Montazeri et al. showed that people’s quality of life will increase through increasing the level of education, family’s income, house ownership and employment [26]. Regarding the above mentioned facts and considering that military occupations are different on the basis of physical environment, workload and responsibility and that these factors can affect people’s quality of life, this study was conducted with the purpose of comparing the quality of life of military hypertensive individuals and the similar nonmilitary group.

Methods

This is a descriptive, cross-sectional comparative study carried out in 2010. The research community included 200 hypertensive men in Tehran, 100 of whom were military and the other 100 were non-military individuals. The sample size was determined by formula and the subjects were chosen through probable available sampling method. The inclusion criteria were male gender, age of above 30 years old, the definite diagnosis of hypertension by physician or the blood pressure above 140.90 mmHg, lack of military occupation experience for the non-military group, being employed in military environments for the military group, lack of mental illness and tending to participate in the research.

Sampling in the military group was performed after obtaining the agreement of people in charge among hypertensive military individuals and those who referred to military clinics. Moreover, the sampling in the non-military group was performed among hypertensive employees of the Ministry of Education and clinics, parks and houses. After explaining about the stages of the research and necessary concepts and after getting the participants’ informed consent, the demographic information form and the 36-question standard quality of life questionnaire were given to them in the same session. Besides, the research centers were assured about the confidentiality, anonymity and privacy of the study. The performance of this research was confirmed by the medical ethics committee of the related Medical science university.

The subjects’ blood pressure was measured twice in the sitting position from right hand and after at least a 10-minute break. People who had a systolic hypertension over or equal to 140 mmHg and those who had a diastolic blood pressure over or equal to 90 mmHg or those who were diagnosed to have hypertension and took anti-hypertensive drugs were categorized as hypertensive patients. In order to measure the validity of the standard mercury manometer, another standard mercury manometer was used for the daily check of its measurement accuracy. The data collection tools included two demographic information questionnaires, and the standard health related quality of life questionnaire (SF-36) that was translated by Dr. Montazeri et al. and its cultural conformity, as well as its validity and reliability have been frequently verified by Iranian researches. Moreover, the above mentioned questionnaires were used many times by Iranian and foreign researches [28, 29, 30, 31, 32, 33]. The demographic information questionnaire included age, marital status, education level, job, and the amount of income and expenditures. The SF-36 questionnaire examined the different dimensions of quality of life such as physical efficiency, the limitations of role playing, physical pains, general health, happiness, and freshness, social efficiency and mental health [34]. The scoring of the questionnaire was performed using Likert scale that can fluctuate from 0 to 100. Zero shows the lowest level and 100 shows the highest level of quality of life. Finally, the data were analyzed by SPSS 15 software. Independent T-test and Chi-square test were used to compare the quantitative data with those of normal distribution and Chi-square for qualitative data. p<0.05 was regarded as the significance level.

Results

The age means in military and non-military groups were 43.31±7.35 and 46.34±9.26, respectively. Systolic and diastolic blood pressure was 142.33 and 90.06 mmHg respectively and blood pressure was 148.84 and 95.98 mmHg, respectively. The scores of different dimensions of quality of life in two military and non-military groups are stated in Table 1. The general score of quality of life was significantly higher in military group in comparison with the non-military group (p<0.001; Table 1).
Discussion

If one considers a score in the 0 to 100 range in SF-36 questionnaire as the index, mean of 50 with the standard deviation of 10 can be considered as the acceptable norm of society [35, 36]. In the present study, the mean of quality of life scores were at a suitable range (over 50) that were compatible with the results of similar Iranian and foreign researches [30, 37, 38, 39]. The quality of life in military environments is related to individuals’ characters, interpersonal relationship, range of compatibility with subjects and frequent military activities, and it’s not related to the occupational position of these people [29]. In the present study, the mean score of quality of life in the military group is more than that of the non-military group that this result can be due to the higher percentages of employees and the coordination between income and expenditure in the military group in comparison with the non-military group. It is obvious that economic problems affect the individual’s general welfare; therefore, the quality of life can be affected as an index of health and general welfare. In Zaki’s study, it was stated that the socioeconomic situation affects the quality of life. Moreover, in Vahdani-Nia’s study, employed people have higher quality of life in comparison with unemployed people [41]. The study results of Parande et al. [42] and those of Cynthia [43] showed that good socioeconomic situation increases the quality of life. The results of several other studies indicate that the quality of life is higher in people who have more income [44, 45, 46, 47].

Another reason for higher quality of life in military group in comparison with non-military group can be higher age and blood pressure mean in the non-military group in comparison with those of military groups in this study. One of the factors that affect the quality of life is people’s age [48]. Considen et al. showed in a study that older employees have a lower level of life quality in comparison with younger ones [49]. The studies have shown that higher blood pressure and getting older cause the reduction of quality of life in hypertensive people [50, 51].

In the present study the educational level of military group was higher than that of non-military group, and it can be a reason for higher quality of life in military group compared to that of the non-military group. Montazeri analyzed Tehran citizens and showed that there is a significant relationship between the level of education and the quality of life, and people with higher education reported higher levels of quality of life [27]. The results of other several studies showed that increasing of the level of education has a positive effect on the quality of life. These findings show that education is highly significant as a positive point in enjoying a healthy life with high quality [44, 52, 53]. The score of quality of life in this research is higher in military group in comparison with other similar foreign studies [54, 55, 56, 57]. Moreover, in the present research, the score of quality of life in non-military group is more than researches performed by Ahangari, Hofman and Fujisawat on hypertensive patients [15, 58, 59]. The findings of the present study showed that the mean of quality of life in mental dimension is less in both military and non-military groups in comparison with the physical health. Circumstances in military environment can act as environmental factors of mood disorders’ arousal that can finally result in behavioral disorders and reduction of quality of life especially in mental dimension [60]. Mosiagin et al. [55] and Holte et al. [54] showed in two studies performed respectively on military people and non-military hypertensive patients that the score of quality of life is significantly more in physical dimension in comparison with the score in mental dimension. Other similar studies reported similar results with those of the present study [50, 61, 62, 63].

Table 1- The comparison of mean and standard deviation of different dimensions of life quality in military and non-military hypertensive patients by independent T-test

<table>
<thead>
<tr>
<th>Patients→</th>
<th>Quality of life dimensions</th>
<th>Military</th>
<th>Non-military</th>
<th>Level of significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical activity</td>
<td>14.77±84.65</td>
<td>20.12±83</td>
<td>0.05&gt;</td>
<td></td>
</tr>
<tr>
<td>Limitation in physical role</td>
<td>26.23±84</td>
<td>35.71±84</td>
<td>0.05&gt;</td>
<td></td>
</tr>
<tr>
<td>Physical ache</td>
<td>17.89±85</td>
<td>18.37±76.84</td>
<td>0.001&lt;</td>
<td></td>
</tr>
</tbody>
</table>
| General health conception | 16.84±58.40 | 16.98±51.91 | 0.001< |}

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64, 65, 66].

Regarding the results of this study, it’s necessary to perform suitable planning for screening people in order to take a small step toward the promotion of health level and quality of their lives by identification of susceptible and hypertensive individuals, family planning and psychology counseling, creating sport facilities and equipment, recreational tours, setting physical activity classes, swimming, fitness and relaxation. Since there is little study on this field in Iran, performing other studies with similar purposes is suggested in other cities of Iran to compare the results.

**Conclusion**

The quality of life is higher in military hypertensive patients compared to non-military patients. Therefore, it’s necessary to pay more attention to early identification and treatment based on the quality of life in non-military hypertensive patients.

**References**

47- Ko GT, Wai HP, Tsang PC, Chan HC. Hong Kong men with low incomes have worse health-related quality of life as judged by SF-36 scores. Hong Kong Med J. 2006;12(5):351-4.