

Comprehensive geriatric assessment test in elderly cancer patients

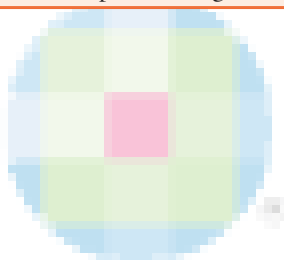
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Abstract

Background: Cancer is the first cause of the death among the people with 65–75 years age, and about 60% of cancers are diagnosed at age over 70. In this study, the impact of comprehensive geriatric assessments (CGAs) on the quality and the length of life in disabled elderly cancer patients were evaluated. **Patients and Methods:** In an interventional study, 70 patients with cancer were randomly divided into two treatment and control groups. The patients were evaluated during a 6-month study using CGA test. **Results:** The patient's mean age was 4.2 ± 67.1 years. It was shown that CGA intervention had no impact on physical activity tests, including instrumental activities of daily living and activities of daily living, but a significant improvement was shown in patient's psychological status using geriatric depression test. **Conclusions:** The results of the current study showed that CGA interventions have a positive effect on the quality of the life of the elderly cancer patients.

Key words: Comprehensive geriatric assessment, depression, elderly cancer patients



INTRODUCTION

The world population figures estimate a continuous growth in the global population rate. However, because of the decline in reproduction rate, the world population is getting older.^[1] Currently, 8.7% of the Iran population is over 65 years old, and the number of people with disability is not known. According to the figures, 10–30% of the world population are old.^[2–4]

Increasing the age is considered a predisposing factor for cancer, so it is expected to detect more cancer patient in the elder population. Cancer is the first cause of the death among the people with 65–75 years age, and about 60% of cancers are diagnosed at age over 70.^[5–7] To cure functional and cognitive disorders in the elderly people, in addition to conventional treatments, it is important to improve their quality of life by facilitating their independence in their daily activities and reducing anxiety and fears after disabilities.^[8–12] To fulfill this aim, a comprehensive geriatric assessment (CGA) system has been developed to investigate and detect the functional, mental, and social disabilities among older people.

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In the current study, to improve the quality of life, we used CGA to investigate the elderly patients with cancer in a group of Iranian patients.

PATIENTS AND METHODS

In a semi-trial study, all disabled elderly population suffering from cancer hospitalized in the oncology ward of Rasoul Akram Hospital were investigated.

In a nonrandom sampling method, patients were assigned to case and control groups (35 in each). Each patient was assessed at the beginning of the study and 6 months later. The patients in case group were assessed using a series of assessments including, instrumental activities of daily living (IADL), activities of daily living (ADL), geriatric depression scale (GDS), mini-mental state examination (MMSE), get-up and go tests, and mini nutritional assessment (MNA).

All the patients in both groups received usual cancer medications and psychiatric consultation.

ADL was used to assess the patient's independence in daily activities.

IADL was used to assess the skills necessary for independent life and daily functions.

Get-up and go test is to assess the ability of movement in the people who are able to walk alone. GDS (geriatric depression test) is used to measure the depression in the older patient. The patients who receive 5 points after answering to frequently asked questions can be regarded as depressed.

MMSE is a 30-point assessment method of screening for, and monitoring the progression of, dementia and delirium.

The MNA is a screening tool used to identify older adults (>65 years) who are malnourished or at risk of malnutrition and consists of 6 questions on food intake, weight loss, mobility, psychological stress or acute disease, presence of dementia or depression, and body mass index.

Description analyzer test, Chi-square test, and the ANOVA TEST were used to assess the results.

RESULTS

Seventy elderly patients with cancer and a mean age of 67.1 ± 4.2 years were studied. To determine disabilities and required interventions, the patients were assigned to case and control groups (35 in each) and CGA tests,

including MMSE–IADL–ADL–get-up and go–GDS, and MNA were used.

The mean age of patients in the case and the control groups were 66.6 ± 4.2 and 67.5 ± 4.4 years, respectively, that were not statistically different ($P = 0.41$).

Activities of daily living test results

As shown in Table 1, the differences between mean and median scores of ADL test, at the beginning and after 3 months follow-up in the case and the control groups, were not significant.

Instrumental activities of daily living test results

Table 2 shows the mean and median scores for IADL test, at the beginning and 6 months after follow-up in case and control groups. No significant differences were found between two groups.

Get-up and go test results

This test was used to evaluate the functional ability in the patients. At the beginning of the study, the percentage of disability in the case and the control groups was 34.3% and 31.4%, respectively ($P = 0.85$). After 6 months of follow-up, these figures were 31.4% and 28.6% that statistically were not different ($P = 0.79$).

GDS test results

To assess depression in the patients, GDS test was used. At the beginning of the study, depression in case and control groups was 28.6% and 31.4%, respectively ($P = 7.9$). Six months later, 11.4% in case group and 25.7% in control group were depressed ($P = 0.04$).

Table 1: Comparison of mean ADL test in two study groups

Stage of study	Case group		Control group		P
	Mean score	Median score	Mean score	Median score	
Beginning of the study	4.05±0.59	4	4±0.64	4	0.7
Third month of follow-up	3.5±0.23	3	3.7±0.42	3	0.2

ADL: Activities of daily living

Table 2: Comparison of mean IADL test between the two study groups

Stage of study	Case group		Control group		P
	Mean score	Median score	Mean score	Median score	
Beginning of the study	5.3±0.63	5	5.4±0.69	5	0.59
Six months of follow-up	3.6±0.47	3	3.5±0.5	3	0.33

IADL: Instrumental activities of daily living

Mini nutritional assessment test results

MNA test was used to evaluate the nutritional status of patients. At the start of the study, 22.9% of patients in the case group had a normal nutritional status, 48.6% of patients were at the risk of eating disorders, and 31.4% were malnourished, which statistically were not different ($P = 0.94$).

After a 6-month follow-up and intervention in the case group, it was found that 28.6% of patients had a normal nutrition, 45.7% of patients were at the risk of eating disorders, and 25.7% of patients had eating disorders. These figures for control group were 51.4% and 34.3%, respectively, which statistically were not different ($P = 0.33$).

Mini-mental state examination test results

To determine memory function in patients, MMSE test was used and based on their mental disabilities; patients were categorized into three groups of, normal, moderate, and severe sufferer. At the beginning of the study, 77.1% were normal, 8.6% had a severe mental disorders, and 14.3% showed the signs of a moderate mental disorders in the case group. These figures for control group were 74.3%, 8.6%, and 17.1%, respectively, which statistically were not different ($P = 0.94$).

Six months later, these figures in the case and control groups were 82.9% and 71.4% (for normal patients), 11.4% and 5.7% (for moderate signs), and both 5.7% (for severe signs), respectively, which were not significantly different ($P = 0.44$).

Comparison of mortality rate

The mortality rate in the case and control groups after 6 months were 11.4% and 14.3%, respectively, which statistically were not different ($P = 0.72$).

Comparison of hospitalization rate

The mean and average of the length of hospitalization in the case and control groups were 4.2 ± 1.2 and 4 and 4.6 ± 1.4 and 4 , respectively, which statistically were not different ($P = 1.00$).

DISCUSSION

The definition of elderly is often given as a cut-off age for patients of 65 years. However, this pension age definition is too simplistic. Thus, “the elderly” are a highly heterogeneous population.^[13] In the current study, the role of CGA on the quality and the length of life were evaluated in 70 elderly patients with cancer.

The patients were divided into two groups, 35 in each, based on the results of the assessments interventions were performed. Statistically, no significant difference was found

between the mean ages of two groups; thus, the age factor did not considered as a confounding factor. To assess physical activity of patients, ADL, IADL, and get-up and go tests were used.

In the case group, the nutritional interventions led physical activity of patients remained stable, but physical activity in the control group significantly deteriorated. CGA is a well-established tool for assessing elderly patients to establish their health status, and risks of morbidity, mortality, and toxicity.^[14]

Similar results have been shown by Extermann *et al.* on 10,315 patients^[5] indicating that CGA interventions have no significant role on physical activity improvement. In another study on 15 patients with breast cancer, Extermann *et al.*^[12] showed that nutritional intervention after 6 months had no significant effect on physical activity. One limitation of our study is that we did not determine the cancer stage. Nutritional interventions usually have no significant improvement effect in cancerous patients, but they can help to maintain the level of activity and performance in these. CGA was used to assess the effects of interventions on the behavior of the patients, showing a significant reduction in the frequency of depression in the case group. Because of the high prevalence of depression in cancer patients, these interventions can reduce the frequency of depression and improves the quality of life and performance of patients.

Using GDS test on 10,315 cancer patients, Extermann *et al.*^[5] showed that a 12 months CGA intervention resulted in a significant role on the behavior of the patients. We used the MMSE test to assess the memory impairments and mental function in patients showing no changes in case and controls groups after 3 months follow-up. Similar studies have also shown that the CGA interventions have no effect on memory disorders and mental performance, including Extermann *et al.*^[5] that showed CGA intervention has no effect on the MMSE test scores.

It has been shown that the CGA interventions slightly reduced mortality rate in the case group as compared to the control group, which was not statistically significant. Other studies showed positive effects of the CGA interventions on mortality rates.^[15,16] A profound effect of CGA interventions in reducing the mortality rate of patients has been shown by Extermann *et al.*,^[5] during 12 months follow-up study. The differences in the effect of CGA interventions on mortality rate might be related to the different follow-up period used in our study and previous work.

The effect of CGA interventions on the rates and the length of hospitalization in our study were lower than

work of Extermann *et al.*^[5] that again this differences may cause by different follow-up time between the studies and increasing the follow-up may change the figures.

CONCLUSION

Our study showed that CGA interventions have a little effect on the physical activity in cancer patient, but depression levels were significantly reduced. To better understand the role of CGA interventions on different aspects of cancer patient's life, longer periods of follow-up, up to two years, may be useful.

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Conflicts of interest

There are no conflicts of interest.

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