



Social functioning of elderly persons with malignant diseases

Socijalno funkcionisanje starijih osoba obolelih od malignih bolesti

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Abstract

Background/Aim. Malignant disease, its treatment and consequences of treatment can often lead to social marginalization and reduced quality of life. The aim of this research was to determine how elderly patients with malignant diseases function in their social environment. **Methods.** Sociodemographic questionnaire and interview were used to investigate a group of 49 elderly persons undergoing adjuvant chemotherapy treatment against early carcinomas (P1), and a group of 51 elderly persons with advanced stages of cancer undergoing systemic chemotherapy (P2). There were two cycles of assessment: one just before the beginning of the first cycle of adjuvant or systemic chemotherapy, and the other three months later. The research paradigm was based on the relation between individual treatment and the impact of the malignant disease on functional and social incompetence. The obtained findings were compared with the group of 50 healthy elderly people (K) who share the same relevant features but do not suffer from malignant diseases. **Results.** It was found that most healthy older people live in share house, whereas those who suffer from malignant diseases mostly live in separate households. In both groups of patients and

healthy group older people are mostly taken care of by their children. Individuals in both groups of patients have been frequently visited by their relatives during initial stages of treatment, unlike the elderly people in the control group. However, the difference did not reach a statistical significance. Three months after the beginning of chemotherapy, there was a statistically relevant difference in favor of the group undergoing adjuvant treatment. Home visits eventually become less frequent, whereas communication by telephone becomes more frequent. It was also found that visits by friends and neighbors are statistically more frequent among subjects who undergo adjuvant treatment, both before the treatment began and three months later when compared to other groups. **Conclusion.** Our research shows that elderly people are subject to social exclusion, especially those with malignant diseases. Special care should be dedicated to monitoring of social functioning during treatment of patients with malignant disease considering the detected trend of deterioration and significance for further recover and cure.

Key words:
old age assistance; neoplasms; patient care; social support; social behavior.

Apstrakt

Uvod/Cilj. Maligne bolesti, njihovo lečenje, kao i posledice tretmana, mogu često dovesti do socijalne marginalizacije i pogoršanja kvaliteta života. Cilj našeg istraživanja bio je da se proceni funkcionisanje starijih osoba obolelih od malignih oboljenja u njihovoj socijalnoj sredini. **Metode.** Primenjen je sociodemografski upitnik i metod intervjua na grupi od 49 starih osoba na lečenju od ranog karcinoma koje se nalaze na adjuvantnom hemioterapijskom lečenju (P1). Drugu grupu (n = 51) činile su stare osobe koje su se nalazile u odmaklom stadijumu bolesti i na sistemskom hemioterapijskom lečenju (P2). Istraživanje je sprovedeno kroz dva testiranja: prva procena vršena je neposredno pre otpočinjanja prvog ciklusa adjuvantne ili sistemske hemioterapije, a druga procena tri meseca kasnije. Istraživačka pa-

radigma bila je zasnovana na relaciji individualnog lečenja i posledica koje maligna bolest izaziva u oblastima funkcionalne i socijalne inkompentencije. Dobijeni rezultati poređeni su sa kontrolnom grupom od 50 starijih osoba (K), istih karakteristika, ali bez malignog oboljenja. **Rezultati.** Utvrđeno je da većina starijih zdravih ispitanika živi u zajedničkim domaćinstvima sa decom, dok ispitanici iz grupa obolelih od malignih bolesti češće žive u samostalnim zajednicama. U sve tri grupe brigu o starima najčešće su vodila deca. „Česte“ posete rodbine imale su obe grupe obolelih na početku lečenja, za razliku od kontrolne grupe starijih osoba. Ipak, ova razlika nije bila statistički značajna. U drugoj proceni, tri meseca od početka lečenja, dobijena je statistički značajna razlika u korist grupe na adjuvantnom lečenju. Kako vreme prolazi smanjivale su se kućne posete, a povećavala komunikacija telefonom. Takođe, utvrđeno je

da su posete prijatelja i komšija statistički značajno učestalije kod ispitanika koji su na adjuvantnom lečenju, kako pre otpočinjanja tretmana, tako i tri meseca nakon lečenja, u odnosu na ostale ispitivane grupe. **Zaključak.** Naše istraživanje pokazalo je da je socijalna isključenost prisutna u starijem dobu, a posebno kod obolelih od malignih bolesti. Posebnu pažnju potrebno je posvetiti praćenju socijalnog

funkcionisanja tokom lečenja obolelih od malignih bolesti, s obzirom na uočenu tendenciju njegovog pogoršanja i značaj za dalji oporavak i izlečenje.

Ključne reči:
stare osobe, pomoć; neoplazme; nega bolesnika; socijalna podrška; socijalno ponašanje.

Introduction

Elderly people suffering from malignant diseases pose a huge medical, economic and social problem in every society, including Serbian. Bearing in mind that 60% of patients suffering from malignant diseases fall into this group efforts to integrate them into social environment seem quite justified^{1,2}. Successful social integration of these people implies their participation in family life and social environment, which is of immense importance for society^{3,4}.

Malignant disease, its treatment and the consequences of treatment can often lead to social marginalization and reduced quality of life⁵⁻⁷. Regardless of the evident progress in prevention, diagnostics and treatment of malignant diseases, most people still think that the words like "cancer" or "malignant disease" mean suffering, pain and death. Prejudice against cancer causes intensive psychological/emotional reactions and raise deepest existential fears, i.e. fear of death, of suffering and pain, uncertainty, change person's perception of future and life, raise fear of separation from beloved ones and from his/her social environment, fear of marginalization and of being stigmatized^{7,8}.

The stigma of malignant diseases comes from the historical and cultural idea of the unfortunate outcome, painful procedures used in diagnostics and treatment, as well as bad prognosis^{9,10}. The stigma that patient's family and the patient himself/herself will experience certainly depend on the environment in which the family lives, their level of education, culture, religion, prejudice and misapprehensions associated with malignant diseases^{9,11}.

Malignant disease can cause certain changes which pose potential threats and obstacles in everyday life of old persons and causes difficulties in their everyday functioning. People suffering from malignant diseases have their life plans shattered, experience changes in body schemes and in self-respect, change in social roles and lifestyle, concerns about money and financial status, and their everyday habits and other aspects of life become different (diet, physical ability, mobility, personal hygiene, communication, interpersonal relations etc.)^{8,11}.

Malignant disease and adverse effects of its treatment pose risk factors in the development of functional, cognitive and depressive symptomatology and psychiatric morbidity^{6,10,12}. The group which is particularly exposed to a higher risk of social exclusion and psychiatric morbidity comprises patients in late stages of malignant diseases, with bad performance status and bad pain control¹³⁻¹⁵.

This research included patients whose cancer treatment had just begun, both adjuvant and systemic, and whose per-

formance status and quality of life were good. Adjuvant cancer treatment follows radical surgeries in which the entire tumor mass has been recently removed, or radiation therapy delivered with curative intent. Systemic treatment is applied in different stages of malignant disease¹⁶. Depending on the stage of the disease and specific results expected after the treatment, it is possible to apply several kinds of systemic treatment^{17,18}. The aim of cancer treatment is to extend the patient's life, to improve the quality of his/her life and to reduce the symptoms of the disease. Recent researches have shown that adjuvant or systemic chemotherapy in elderly patients can be of benefit in terms of survival and overall quality of life^{13,14,19,20}.

Malignant disease and its treatment can further make worsen the problems and changes caused by the process of ageing (e.g. chronic diseases, changes in physical appearance, weakness of muscles, changes in bones, weak eyesight, poor hearing, decline of cognitive functions)^{21,22}.

Investigation of behaviour, social problems and difficulties of patients with malignant diseases performed in other countries in the past two decades were mostly focused on younger adults, which is the reason why there is a gap in understanding of complex psychosocial needs of old persons and of problems they are facing²³⁻²⁵. Geriatric medicine has recently become particularly focused on special education and rehabilitation. Effects which follow old age, quality of life of old people and effects of rehabilitation are being researched.

The aim of this paper was to determinate social functioning of elderly people suffering from malignant diseases and the possibilities for their social integration. Our research paradigm was based on the relation between individual treatment and the effects of malignant disease in the domains of functional and social competence.

Methods

The research was conducted during the years 2011 and 2012 at the Medical Oncology Clinic, Institute for Oncology and Radiology of Serbia, Belgrade. There were 150 subjects of both sexes included in this research, aged between 65 and 79. There were 3 groups of examinees: the group of 49 older persons (P1) undergoing adjuvant chemotherapy treatment against early carcinoma; the group of 51 older persons with advanced stage cancer undergoing systemic chemotherapy (P2) and the control group (K) of 50 healthy older people. There were two criteria for the groups of patients: aged 65 and over, malignant disease diagnosed by histopathological verification, retained communicativeness, mobility and the

absence of mental or physical limitations. Both patients and the control group were uniform in terms of sex, age and education. The subjects of the control group were mainly recruited from the neighbours and acquaintances of the authors, with certain difficulties, since most of the healthy people refused to be tested and compared with malignant patients. First evaluation cycle was done just before the beginning of the first cycle of adjuvant or systemic chemotherapy and was repeated three months after the beginning of the treatment. The results obtained for malignant patients were compared with those pertaining to a group of healthy old persons (K) who shared the same features, but did not suffer from malignant diseases.

Our research was approved by the Ethics Committee of the Institute for Oncology and Radiology of Serbia and its Scientific Committee. All the subjects signed consent forms.

The sociodemographic questionnaire, previously described in the reference of Berat ³, and interview were used

rank sum test were used to check the differences. The level of significance was set to $p = 0.05$.

Results

Sociodemographic characteristics of the patients from both groups of malignant patients and the healthy control group are represented in Table 1. Although the majority of elderly people from this study were women, both sexes were distributed in the same ratio in all the groups. The youngest subject was 65 years old, and the oldest one was 79, while the median age was 69.5. Most of the subjects in all the three groups were aged 65. The level of education was also equally distributed in all the three groups, showing that more than half of the patients had secondary school. Marital status showed that more than 60% of patients were married, and more than one quarter widowed. Predominantly, the patients from both groups and elderly people from the healthy group were from the urban and suburban communities.

Table 1

Sociodemographic characteristics of the patients					
Patient's characteristics	Total n (%)	P1 n (%)	P2 n (%)	K n (%)	Test
Gender					
men	29 (19.33)	9 (18.37)	11 (21.57)	9 (18)	$\chi^2 = 0.25$; $p = 0.88263$
women	121 (80.67)	40 (81.63)	40 (78.43)	41 (82)	
Education					$\chi^2 = 0,037$ $p = 1$
primary school	39 (26)	13 (26.53)	13 (25.49)	13 (26)	
secondary school	78 (52)	25 (51.02)	27 (52.94)	26 (52)	
equivalent to US Community college	15 (10)	5 (10.2)	5 (9.8)	5 (10)	
university	18 (12)	6 (12.24)	6 (11.76)	6 (12)	
Marital status					
domestic partnership	2 (1.33)	0 (0%)	1 (1.96)	1 (2)	
widowed	40 (26.67)	11 (22.45)	13 (25.49)	16 (32)	
divorced	10 (6.67)	4 (8.16%)	4 (7.84)	2 (4)	
married	91 (60.67)	30 (61.22)	32 (62.75)	29 (58)	
single	7 (4.67)	4 (8.16)	1 (1.96)	2 (4)	
Type of community					
urban	104 (69.33)	40 (81.63)	36 (70.59)	28 (56)	
suburban	36 (24)	5 (10.2)	9 (17.65)	22 (44)	
rural	10 (6.66)	4 (8.16)	6 (11.76)	0 (0)	
Age (years)					
average (\pm SD)	70.39 (\pm 4.29)	70.43 (\pm 4.36)	70.37 (\pm 4.28)	70.38 (\pm 4.32)	$\chi^2 = 0.002$ $p = 0.9989$
median (range)	69.5 (65–79)	70 (65–79)	69 (65–79)	69.5 (65–79)	

P1 – elderly ongoing adjuvant chemotherapy (n = 49); P2 – elderly ongoing systemic chemotherapy (n = 51); K – healthy elderly (n = 50).

in this research. The sociodemographic questionnaire covered basic demographic features: sex, age, marital status, place of living and level of education. The interview provided answers concerning social estimate: telephone communication with relatives, visits by relatives and friends, living in the same household, eldercare. Medical records of malignant patients were checked to retrieve data about the diagnosis, clinical stage of the disease, type of treatment and associated illnesses.

Descriptive statistics was used to present the significant parameters and dependence on the parameter itself: frequency, percentage, mean, median, standard deviation (SD) and range. For the dependence of the parameters Pearson's χ^2 test, Fisher's exact test, Kruskal Wallis test and Wilcoxon

Most subjects from the group of old patients with early carcinoma who underwent adjuvant treatment suffered from breast carcinoma (26 out of 49, 53%) and from colorectal carcinoma (19 out of 49, 38%). On the other hand, most subjects from the group of old people with disseminated diseases who underwent systemic treatment suffered from breast carcinoma (18 out of 51, 35%) and gynecologic carcinoma (15 out of 51, 29%).

As presented in Table 2, there was a statistically significant difference in the frequency of category 'living in the same household' between the groups. Most older people with no malignant diseases came from the suburban areas and usually lived in the same household with their children, whereas the patients with malignant diseases more often

lived single in independent households (Fisher's exact test P1 vs K: $p = 0.00327$, and Fisher's exact test P2 vs K: $p = 0.00515$) (Table 2).

Table 3 shows that the majority of subjects in both groups of patients (P1 and P2) were most frequently visited by their children at the beginning of the treatment. On the

Table 2

Elderly people living in the same household					
Living in the same household	Total n (%)	P1 n (%)	P2 n (%)	K n (%)	Fisher's exact test
With children	59 (39.33)	14 (28.57)	15 (29.41)	30 (60)	$p = 0.00605$
With others (parents, brother, sister etc.)	4 (2.67)	1 (2.04)	2 (3.92)	1 (2)	
Single	84 (5)	32 (65.31)	33 (64.71)	19 (38)	
Other	3 (2)	2 (4.08)	1 (1.96)	0 (0)	

P1 – elderly ongoing adjuvant chemotherapy (n = 49); P2 – elderly ongoing systemic chemotherapy (n = 51); K – healthy elderly (n = 50).

Care for the older people was most often provided by their children, that was the case in all the three groups independent from their health status (Figure 1).

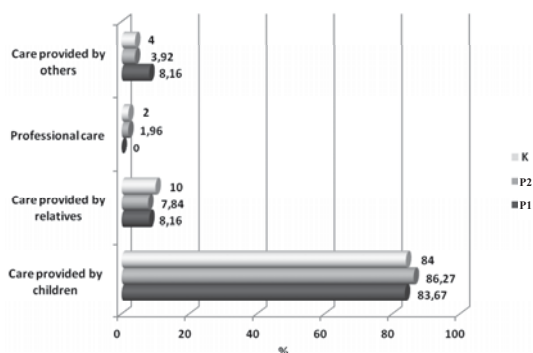


Fig. 1 – Care for elderly healthy people (K) and malignant patients (P1, P2).

other hand, the older people from the control group were rarely visited by their children, but the difference was not statistically significant. In the second evaluation cycle, three months after the therapy had begun, there was a statistically significant difference in the categories of answers among the groups ($p = 0.00141$). Our results show a statistically significant decrease of “Often” visits, and consecutive increase of “Rare” visits by relatives in both P1 and P2 groups, compared to the control group (P1 vs K, Fisher's exact test: $p < 0.001$ and Fisher's exact test P2 vs K: $p = 0.0486$). As time went on, home visits become less frequent, and telephone communication increased.

Table 4 represents the results concerning telephone communication. In the first evaluation cycle, there was a statistically significant difference in the frequency of categories of answers between the groups, whereas there was no statistically relevant difference in the second evaluation cycle. In

Table 3

Visits by relatives to the elderly patients						
Cycle	Total n (%)	P1 n (%)	P2 n (%)	K n (%)	Fisher's exact test	
1st	often	39 (26)	15 (30.61)	16 (31.37)	8 (16)	$p = 0.19083$
	rarely	81 (54)	28 (57.14)	24 (47.06)	29 (58)	
	almost never	29 (19.33)	6 (12.24)	10 (19.61)	13 (26)	
	never	1 (0.67)	0 (0)	1 (1.96)	0 (0)	
2nd (after 3 months)	often	31 (20.67)	12 (24.49)	11 (21.57)	8 (16)	$p = 0.00141$
	rarely	98 (65.33)	36 (73.47)	33 (64.71)	29 (58)	
	almost never	17 (11.33)	0 (0)	4 (7.84)	13 (26)	
	never	3 (2)	1 (2.04)	2 (3.92)	0 (0)	

P1 – elderly ongoing adjuvant chemotherapy (n = 49); P2 – elderly ongoing systemic chemotherapy (n = 51); K – healthy elderly (n = 50).

Table 4

Telephone communication with the elderly patients						
Cycle	Total n (%)	P1 n (%)	P2 n (%)	K n (%)	Test	
1st	never	2 (1.33)	1 (2.04)	1 (1.96)	0 (0)	Fisher's exact test $p = 0.00417$
	often	30 (20)	14 (28.57)	11 (21.57)	5 (10)	
	rarely	34 (22.67)	15 (30.61)	13 (25.49)	6 (12)	
	when necessary	84 (56)	19 (38.78)	26 (50.98)	39 (78)	
2nd (after 3 months)	often	20 (13.33)	6 (12.24)	9 (17.65)	5 (10)	Pearson χ^2 $\chi^2 = 2.162$ $p = 0.70604$
	rarely	22 (14.67)	8 (16.33)	8 (15.69)	6 (12)	
	when necessary	107 (71.33)	35 (71.43)	33 (64.71)	39 (78)	

P1 – elderly ongoing adjuvant chemotherapy (n = 49); P2 – elderly ongoing systemic chemotherapy (n = 51); K – healthy elderly (n = 50).

the first evaluation cycle there was a statistically relevant difference in frequency of categories of answers between the groups undergoing adjuvant treatment (P1) and the group of healthy subjects (K) (P1 vs K Fisher's exact test: $p < 0.001$). The control group showed that telephone communication described as 'when necessary' was more frequent than in the group of subjects undergoing adjuvant treatment (P1), which more frequently opted for 'often' and 'when necessary'. Adult children and other relatives often call to learn about the condition of the patient during initial stages of therapy, but in the course of time, the calls 'when necessary' become more frequent (first vs second evaluation cycle, Wilcoxon signed rank test with continuity correction: $p = 0.0005$)

Table 5 shows a statistically relevant difference in the frequency of categories of answers among the groups. It was particularly obvious at the beginning of the treatment and remained the same three months after the treatment, and the results referred to the group undergoing adjuvant treatment (P1) and to the control group (K), which was statistically relevant (first evaluation cycle P1 vs K: $p = 0.00298$, and the second evaluation cycle P1 vs K: $p = 0.00119$). This result suggests that friends, neighbours and colleagues pay frequent visits and offer their help to subjects suffering from malignant diseases. There was no statistically relevant difference when other groups were compared.

nies suffering and death, and people suffering from either curable or incurable malignant diseases are usually placed on the margins of the social care.

Reduced social contacts can be seen from the data obtained after the analysis of visits to relatives, friends, neighbours or colleagues, regular telephone communication, etc. As the results show, concern about a suffering friend or neighbour is more frequent when therapy begins, but as the treatment continues and the disease progresses, telephone communication becomes prevalent. This confirms that highest concern and support for the old patient remain to be a duty of the family. The results of the control group of older people that do not suffer from malignant diseases show that friends and neighbours do not visit them frequently and confirm that the older population becomes increasingly alienated. This kind of alienation is becoming increasingly frequent in Serbia, as well as in other countries. Our research shows that most of the older people with no malignant diseases come from suburban areas and most often live in the same household with their children. Most subjects are taken care of by their children. The scientific literature shows that adult children are the most important source of support and social relations, next to spouses, and that emotional support during illness is even more important than financial support^{4,6}. Married old people are happier, they cope with the

Table 5

Visits by friends and neighbours to the elderly patients

Cycle of assessment	Total n (%)	P1 n (%)	P2 n (%)	K n (%)	Fisher's exact test
1st cycle					
often	20 (13.33)	13 (26.53)	5 (9.8)	2 (4)	$p = 0.01472$
rarely	69 (46)	23 (46.94)	23 (45.1)	23 (46)	
almost never	58 (38.67)	13 (26.53)	21 (41.18)	24 (48)	
never	3(2)	0 (0)	2 (3.92)	1 (2)	
2nd (after 3 months)					
often	4 (2.67)	0 (0)	2 (3.92)	2 (4)	$p = 0.00766$
rarely	95 (63.33)	39 (79.59)	33 (64.71)	23 (46)	
almost never	46 (30.67)	9 (18.37)	13 (25.49)	24 (48)	
never	4 (2.67)	1 (2.04)	2 (3.92)	1 (2)	

P1 – elderly ongoing adjuvant chemotherapy (n = 49); P2 – elderly ongoing systemic chemotherapy (n = 51); K – healthy elderly (n = 50).

Discussion

Malignant disease, the way it is treated and long rehabilitation often exclude the patient from his/her social environment and in the end significantly reduce social contacts. The results pertaining the frequency of visits and the extent to which communication with social environment is retained confirm this view.

The results showed that both elderly people suffering from malignant diseases, so as healthy ones were often subject to so exclusion. Home visits and interest in patient's health were more frequent when the therapy began, but eventually, this interest and care often faded, which was particularly the case in the group of subjects suffering from disseminated diseases. The patients suffering from malignant diseases remind others of the fact that possibilities for therapy are limited and that life is transient. Serbian culture de-

treatment more easily and live longer than their peers who are divorced or widowed^{4, 13, 26}.

According to Gelder et al.²⁷ most of older persons live in their own homes, almost half of them live with spouse, and almost 10% of the older live with their children. Some of them live alone and are lonesome. These unsatisfactory social forms are typical of most Western countries, while in certain other cultures, for example Chinese or Indian, old people enjoy much respect and can often expect to live with their children. In Western countries, most middle-aged people want to live in a separate household, but this kind of independence will take its toll when they become weak and helpless, because there will be less assistance^{4, 28}. Our research shows that older people in the group P1 had much more support from friends and neighbours when the treatment began, and this difference was statistically significant when compared to the other groups. This is in accordance

with research carried out by other authors^{8,28}. As time passes, home visits become less frequent, whereas telephone communication becomes more frequent. Our research also shows that social contacts become reduced even in the control group of older people with no malignant diseases. Numerous factors impacted the quality of life of older people in the former Yugoslavia. Many years of financial crisis, drop in living standards, poverty, unemployment and alienation made life difficult for old people, which had an impact on their mood and social ties^{3,29}.

Another research with similar results was carried out by Durđević and Nikolić⁸ and it covered 100 subjects suffering from malignant diseases out of who 90% maintained close relations with their friends, and the highest degree of satisfaction was to keep close ties with family members and siblings. Additionally, 33% of the subjects faced difficulties when planning their budget, and 25% of them was in the need of other people's support. A study by Thomé and Hallberg³⁰ on people with and those with no malignant diseases, both groups aged above 75, shows that people with malignant diseases have a significantly lower quality of life, whereas their health, social, business and emotional functioning is worse compared with healthy subjects. Women with malignant diseases develop more health symptoms, face more financial difficulties and have less social support than healthy ones. Novaković and Pečenica²⁹ investigated neglect of old people in Bosnia and Herzegovina analyzing 2,000 subjects between 1993 and 2004. The results show that relatives of old persons contact them on a daily basis in 31.57% of cases, once a week in 18.68% of cases, never in 4.45% of cases, and sometimes in 45.30% cases. Relatives of 10.44% of the elderly provide financial support, domestic assistance in 6.24% of cases, farming assistance in 3%, and 28.17% of the old refuse any kind of assistance or support. Generally, contacts with children and relatives are insufficient and foster loneliness. Almost 80% of old people do not have enough support from their relatives.

In case of people suffering from malignant diseases, social support encompasses both emotional and instrumental support, e.g. transportation, cooking meals for them or assistance in everyday activities. Inadequate levels of any of these forms of social support increase risk of psychosocial problems and difficulties, which has a particular impact on persons suffering from disseminated diseases^{4,18,29}. Petrak et al.³¹ compared demographic features of Istria with other regions in Croatia, their health status, satisfaction with life, needs and availability of various care services, and found out that satisfaction with one's life was lower if self-perception of one's health was worse, functional ability is weaker and if there was a lack of emotional and instrumental support. Data obtained from the foreign scientific literature show that social services input is provided mainly to the over-65s, who are three times more likely to receive social service than community health service³². Interviews with our subjects and their family members show that most of them rely on health services, and that most of them are not even aware of other kinds of services or support. These data show that education of the old raise

their awareness of the network of social support which should be further developed.

In most cases older people are afraid they might become a burden to the others, that they might become dependent on other people's assistance, of effects of the treatment, pain and other symptoms of the disease which might have a negative impact on their life quality. They also express fear that they will not finish certain tasks, fear of death and dying. It is widely known that old people who were successful in several fields, who lived active lives and have more social contacts are mostly healthier^{4,10}. The literature also shows fewer cases of psychiatric morbidity during the treatment of patients with malignant diseases who enjoy higher degree of social participation¹³⁻¹⁵.

In the field of special education and rehabilitation, geriatric assessment involves assessments of life habits (level of achievement), kinds of necessary assistance and the degree of pleasure (personal hygiene, general physical abilities, interpersonal relations, mobility, maintaining the household etc.), assessment of socioeconomic status and social support^{3,8,22}. These factors are important for assessing whether an old person can live independently and the extent to which he/she needs experts' assistance. By identifying financial sources we can assess their income, i.e. superannuation, or if there are other sources of support and to determine if they are sufficient for living expenses. Assessment of the environment involves living conditions, i.e. location, proximity and availability of various services, such as clinics, post office, supermarket etc. and their impact on the person's independence^{4,33}.

Conclusion

The results of this study confirm that malignant diseases and their treatment often contribute to the exclusion of elderly patients from their social environment and in the end seriously reduce his/her social contacts. This exclusion becomes increased with time during chemotherapy, and is present as a decrease in the frequency of visits by their relatives, as well as friends and neighbours, comparing to the social contacts of healthy elderly people. The probable cause of this reduction of social contacts is unreadiness of the relatives and friends to cope with the long lasting malignant disease of the elderly.

These findings point to the importance of the special education and rehabilitation care of old people with malignant diseases, based on early identification of psychoemotional and social difficulties, requiring preventive interventions. Interventions should be focused on informing patients and their families about the available support within society, about proper life habits (diet, physical activity, recreation, personal hygiene etc.), psychosocial interventions by way of encouraging to take personal care and maintenance of social contacts, legal and financial advice, contacts with social services, contacts with various associations and non-government organizations. Adequate geriatric assessment in the period after the beginning of the treatment and palliative care would enable continuous monitoring and adequate treatment in future on-

ological clinical practice, which would improve the quality of life of old persons, may increase social competence and integration. Future research should be focused on the assessment of certain psychosocial interventions and their impact on the quality of life of old persons. Studies on old persons who manage to recover from malignant diseases could help us complete the picture about the problems and difficulties of old people after the treatment.

Conflicts of Interest

The authors indicate no potential conflicts of interest.

Author contributions

All the authors contributed to the design of the review, extraction and compiling of the data, drafting and critical revision of the manuscript.

R E F E R E N C E S

1. *Syse A, Veenstra M, Aagnes B, Tretli S.* Cancer incidence, prevalence and survival in an aging Norwegian population. *Norsk Epidemiologi* 2012; 22(2): 109–20.
2. *Fallah M, Kharazmi E.* Global cancer incidences are substantially under-estimated due to under-ascertainment in elderly cancer cases *Asian Pac J Cancer Prev* 2009; 10(2): 223–6.
3. *Berat S.* Prehabilitation of old persons suffering from malignant diseases [specialist work]. Belgrade: Faculty of Political Science; 2010. (Serbian)
4. *Hopburn WK.* Social Gerontology. In: *Tallis RC, Fillit HM*, editors. *Brocklehurst's Textbook of Geriatric Medicine and Gerontology*. 6th ed. London: Churchill Livingstone; 2003. p. 183–91.
5. *Smedslund G, Ringdal GI.* Meta-analysis of the effects of psychosocial interventions on survival time in cancer patients. *J Psychosom Res* 2004; 57(2): 123–31.
6. *Derks W, de Leeuw R, Winnubst J, Hordijk GJ.* Elderly patients with head and neck cancer: physical, social and psychological aspects after 1 year. *Acta Otolaryngol* 2004; 124(4): 509–14.
7. *Stein DK, Syrjala LK, Andrykowski AM.* Physical and psychological long-term and late effects of cancer. *Cancer* 2008; 112(11 Suppl): 2577–592.
8. *Đurđević A, Nikolić S.* Profile of handicap situations in cancer patients. *J BUON* 2009; 14(3): 435–40.
9. *Sarbone A, Kagawa-Singer M, Terret C, Baider L.* The illness trajectory of elderly cancer patients across cultures: SIOG position paper. *Ann Oncol* 2007; 18(4): 633–8.
10. *Trask PC.* Assessment of depression in cancer patients. *J Natl Cancer Inst Monogr* 2004; (32): 80–92.
11. *Berat S.* Psychosocial rehabilitation of elderly patients with malignant diseases. 5th Conference of Serbian Society of Medical Oncology (UMOS); Geriatric Oncology – Challenges and Dilemmas; 13th -14th May 2011 Kladovo, Serbia; Kladovo: ESMO; 2011. p. 124–9. (Serbian)
12. *Vespa A, Ottaviani M, Rosselli M, Rossini S, Balducci L.* Evaluation of intrapsychic processes, anxiety, and depression in postmenopausal women affected by breast cancer: a case-control study. *Support Care Cancer* 2013; 21(5): 1281–6.
13. *Iconomou G, Iconomou AV, Argyriou AA, Nikolopoulos A, Ifanti AA, Kalofonos HP.* Emotional distress in cancer patients at the beginning of chemotherapy and its relation to quality of life. *J BUON* 2008; 13(2): 217–22.
14. *Pinquart M, Fröhlich C, Silbereisen RK.* Change in psychological resources of younger and older cancer patients during chemotherapy. *Psychooncology* 2007; 16(7): 626–33.
15. *Sarbone A, Baider L, Weitzman TS, Brames MJ, Rittenberg CN, Johnson J.* Psychosocial care for patients and their families is integral to supportive care in cancer: MASCC position statement. *Support Care Cancer* 2010; 18(2): 255–63.
16. *Muzjeković LJ.* Systemic Treatment in Oncology. In: *Jovanović D*, editor. *Basics of Oncology and Palliative Care in Cancer*. Novi Sad: Faculty of Medicine, University of Novi Sad; 2008. p. 267–97. (Serbian)
17. *Nešković-Konstantinović Z.* Medical treatment of older women with breast cancer. 5th Conference of Serbian Society of Medical Oncology (UMOS); Geriatric Oncology – Challenges and Dilemmas; 13th -14th May 2011 Kladovo, Serbia; Kladovo: ESMO; 2011. p. 58–63. (Serbian)
18. *Balducci L.* Aging, frailty, and chemotherapy. *Cancer Control* 2007; 14(1): 7–12.
19. *Azım HA, de Azambuja E, Colozza M, Bines J, Piccart MJ.* Long-term toxic effects of adjuvant chemotherapy in breast cancer. *Ann Oncol* 2011; 22(9): 1939–47.
20. *Koopman C, Hermanson K, Diamond S, Angell K, Spiegel D.* Social support, life stress, pain and emotional adjustment to advanced breast cancer. *Psychooncology* 1998; 7(2): 101–11.
21. *Simić S, Milovanović S, Barišić J, Crnobarić C, Šikanić N, Bajić G.* Aging and psychological changes. *Engrami* 2007; 29(3–4): 77–85. (Serbian)
22. *Pallás AG, Wedding U, Lacombe D, Soubeyran P, Wildiers H.* Questionnaires and instruments for a multidimensional assessment of the older cancer patient: what clinicians need to know. *Eur J Cancer* 2010; 46(6): 1019–25.
23. *Nedović G, Marinković D, Rapaić D, Berat S, Kozomara R.* Health-related quality of life assessment in Serbian schoolchildren hospitalized for malignant disease. *Vojnosanit Pregl* 2013; 70(2): 195–9.
24. *Graves KD.* Social cognitive theory and cancer patients' quality of life: a meta-analysis of psychosocial intervention components. *Health Psychol* 2003; 22(2): 210–9.
25. *Protheroe D, Turvey K, Horgan K, Benson E, Bowers D, House A.* Stressful life events and difficulties and onset of breast cancer: case-control study. *Br Med J* 1999; 319(7216): 1027–30.
26. *Fors EA, Bertelsen GF, Thune I, Juvel LK, Ehsaas IO, Oldervoll L, et al.* Psychosocial interventions as part of breast cancer rehabilitation programs? Results from a systematic review. *Psychooncology* 2011; 20(9): 909–18.
27. *Gelder M, Mayou R, Geddes J.* Psychiatry. London: Oxford University Press; 2009.
28. *Jakšić Ž.* Social-medical difficulties. In: *Duraković Z*, editor. *Geriatrics – Medicine of Elderly*. Zagreb: Medicinska naklada; 2007. p. 527–38. (Croatian)
29. *Novaković M, Pečenica V.* Neglecting of older people and suicide. *Engrami* 2004; 26(1–2): 53–66. (Serbian)
30. *Thomé B, Hallberg IR.* Quality of life in older people with cancer - a gender perspective. *Eur J Cancer Care (Engl)* 2004; 13(5): 454–63.
31. *Petrak O, Despot-Lučanin J, Lučanin D.* Quality of ageing-some characteristics of the elderly population of Istria and the comparison with other regions of Croatia. *J Soc Policy* 2006; 13(1): 37–51.
32. *Godden S, Pollock AM.* How to profile the population's use of health care and social care in one district. *J Public Health Med* 1998; 20(2): 175–9.
33. *Johnston G, Vukčić A, Parker S.* Cultural understanding in the provision of supportive and palliative care: perspectives in relation to an indigenous population. *BMJ Support Palliat Care* 2013; 3(1): 61–8.

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