



The correlation between alcohol consumption and reducing the age of cancer incidence in patients with this disease

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Introduction: Cancer is one of the leading causes of death worldwide. Given that since 1988, the International Agency for Research on Cancer has identified alcohol as the first group of carcinogens that in the highest level of risk and in Khuzestan province there are limited studies on the relationship between alcohol and cancer. Therefore, the aim of this study was to determine the Correlation between alcohol consumption and reducing the age of cancer incidence in patients with this disease Resident in Khuzestan province from 2016 to 2018. **Materials and Methods:** This study is a retrospective cross-sectional analytical descriptive study. And included a survey of 2483 patients with various types of cancer Hospitalized in Shafa and Baghaei 2 Hospitals, resident of Ahwaz, Shoushtar, Abadan and Behbahan, which was conducted by nine researchers investigate their cases. Patients diagnosed with any cancer and referred to treatment centers in the aforementioned city from 2016 to 2018 were investigated and entered to study. All cancer patients were of different types in each age group and sexually diagnosed with the disease. Enter into the study and records that had medical diagnosis other than the disease, and files that were incompletely filled, were excluded. The data in this study included demographic, laboratory and clinical data of patients. Data were then entered into SPSS software version 20. Data were analyzed using descriptive, analytical, and significant level of $P < 0.05$. **Results:** The study included 2483 cancer patients with an average 61.00 ± 43.36 age of years of these, 1447 (58.2%) were female and the rest were male patients. In this study, 216 (8.6) had a history of alcohol consumption and the rest did not consume any. There was a significant relationship between sex with a history of alcohol consumption ($p < 0.0001$). Also, there was a significant relationship between age and alcohol consumption ($p = 0.001$). Also, patients who consumed alcohol, compared to those who did not consume alcohol, had a lower average age, so we can say that alcohol reduces the age of incidence to cancer. **Conclusion:** In this study, a significant relationship was found between age and alcohol consumption. Also Patients who had consumed alcohol, compared to those who did not eat at all, they had a lower average age, so we can say that alcohol reduces the age of incidence to cancer. Therefore, it is necessary to follow up on the prevention of alcohol addiction and they should be treated after alcohol addiction, and it must be done preventive measures to prevent than incidence to cancer.

INTRODUCTION

Cancer is one of the leading causes of death worldwide. After cardiovascular disease, cancer is the second leading cause of death in most countries (1). The mortality rate due to cancer is increasing And at least about 8 million people die every year because of cancer; according to World Health Organization statistics, the mortality rate from cancer will rise from 45% in 2007 to 65% in 2030 (2). The incidence of different types of cancer varies among different populations and is in communication by factors such as occupational, social, cultural and racial, geographic and nutritional. (3). Unlimited proliferation potential, reduced apoptosis, increased angiogenesis, invasive tissue and metastasis are factors of cancer progression (4). The increasing

importance of examining changes in the expression of genes in the development of various types of cancers and the emergence of new biotechnology methods has led that in recent years, in studies on the etiology of this disease, such molecular studies are of particular importance (5). Detecting cancer is more than any other illness, an extremely unpleasant and unbelievable experience for anyone which causes the job, socioeconomic status and family life of the patient to be disturbed, patients after facing a cancer diagnosis They experience severe psychological reactions, so that one of those feelings that are encountered with cancer detection, sense of being close to death (6,7). One of the diseases that can cause cancer is diabetes has been reported that patients with diabetes, compared to those without diabetes, increased the risk of cancer by 20-25% (8). Diabetes is the most commonly disease of metabolic disorders and a major global challenge which is a major cause of morbidity and mortality in the industrialized and developing world. Complications of diabetes are very common among patients; one of these complications is cancer (9-13).

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Table 1 Demographic Indicators of Cancer Patients and their Relationship with alcohol consumption by using Chi-square and Chi-square Pearson tests

Variable	Classification	Number	Percentage	Relationship with alcohol consumption P value
sex	Male	1036	41.8	p <0.0001
	Female	1447	58.2	
Education	Under the diploma	1842	74.1	p=0.006
	Diploma and higher	641	25.8	
occupation	Housewife	852	34.3	P=0.07
	Free	836	33.6	
	Unemployed	622	25.0	
	Employee	173	6.9	
The economic situation (Monthly-Tomans)	Up to 1.5 million	1936	77.9	p <0.0001
	Above 1.5 million	547	22.0	

* A significant level below 0.05 is considered.

Epidemiological evidence shows that increase type 2 diabetes with increased risk of certain specific cancers, such as breast cancer, colorectal cancer, liver cancer, and pancreatic cancer (14). Given that since 1988, the International Agency for Research on Cancer, have put alcohol as the first group of carcinogens, at the highest level of danger. Evidence suggests that alcohol increases the risk of developing a variety of cancers, including breast, intestine, prostate and liver and for a significant proportion of cancers can be prevented (15). And in Khuzestan province there are limited studies on the relationship between alcohol and cancer, therefore, the aim of this study was to determine the correlation between alcohol consumption and reducing the age of cancer incidence in patients with this disease resident in Khuzestan province from 2016 to 2018.

MATERIALS AND METHODS

This study is a retrospective cross-sectional analytical descriptive study and included a survey of 2483 patients with various types of cancer Hospitalized in Shafa and Baghaee 2 Hospitals, resident of Ahwaz, Shoushtar, Abadan and Behbahan, which was conducted by nine researchers, investigate their cases. Patients diagnosed with any cancer and referred to treatment centers in the aforementioned city from 2016 to 2018 were studied and entered into the study.

Information required for study using review of patient records from 2016 to 2018. In the section medical records of the hospitals were extracted. All cancer patients were of different types in each age group and sexually diagnosed with the disease of the criteria for entering this study, also exit criteria include cases that have medical diagnosis other than the disease and files that were incompletely filled were not used and were excluded.

This paper is a result of the research project of Behbahan University of Medical Sciences with the code IR.BHN.REC.1397.9564. After obtaining the necessary licenses and financial support from the university, patients through written informed consent and their cases were used for this study.

To study the cases and collecting data first, a written letter was taken by the Vice-Chancellor for Education and Research of the medical universities of the mentioned city, then, the records of patients referring to medical centers in the medical records department were used, and the required information was collected through a researcher-made checklist

from the records. The information studied in this study included demographic, laboratory and clinical data of patients such as gender, age, marital status, ethnicity, occupation, economic status, level of education, BMI, family history of cancer, history of alcohol consumption, a history of drug abuse, history of smoking, history of chemotherapy, history of diabetes and family history of diabetes. Then data were then entered into SPSS software version 20. And were analyzed by descriptive statistics including enumerated tables, mean, standard deviation and variance, and analytical tests including Chi-square and Chi-square Pearson and at the significant level of $P < 0.05$.

RESULTS

The study included 2483 cancer patients with an average 61.00 ± 43.36 age of years. Of these, 1447 (58.2%) were female and the rest were male patients. Also, the average BMI in these individuals Was 27.13 ± 3.04 , which represents overweight patients. In this study, 1123 people (45.2%) were married, 1012 people (40.7%) of single people and 348 people (14%) died of their husbands. The people of Lor with 1875 people (75.5%), Shuoshtari's people with 389 people (15.6%), Arab with 184 (7.4%) and 35 were Kord people (1.4%). In this study, a significant relationship was found between age and alcohol consumption ($p = 0.001$). Also, patients who consumed alcohol, compared to those who did not consume alcohol, had a lower average age, so we can say that alcohol reduces the age of incidence to cancer. Also, there was a significant relationship between economic status and those who consumed alcohol ($p < 0.0001$). But there was no significant relationship between type of occupation and alcohol consumption in these patients ($P = 0.07$). Table 1 shows the demographic information of these individuals.

In this study, 216 patients (8.6%) had a history of alcohol consumption and the rest did not consume any. Of these consumers, 87 patients (40.2%) had a liver cancer, 49 patients (22.6%) gastrointestinal cancers, 43 patients (19.9%) head and neck cancer and 37 patients (17.1%) had leukemia. Also there was a significant relationship between sex with alcohol consumption ($p < 0.0001$), (Figure 1). Also, there was a significant relationship between history of alcohol consumption with history of drug use ($p < 0.0001$), history of smoking ($p = 0.008$), and history of diabetes ($p < 0.0001$). But there was no statistically significant relationship between the history of alcohol consumption with family

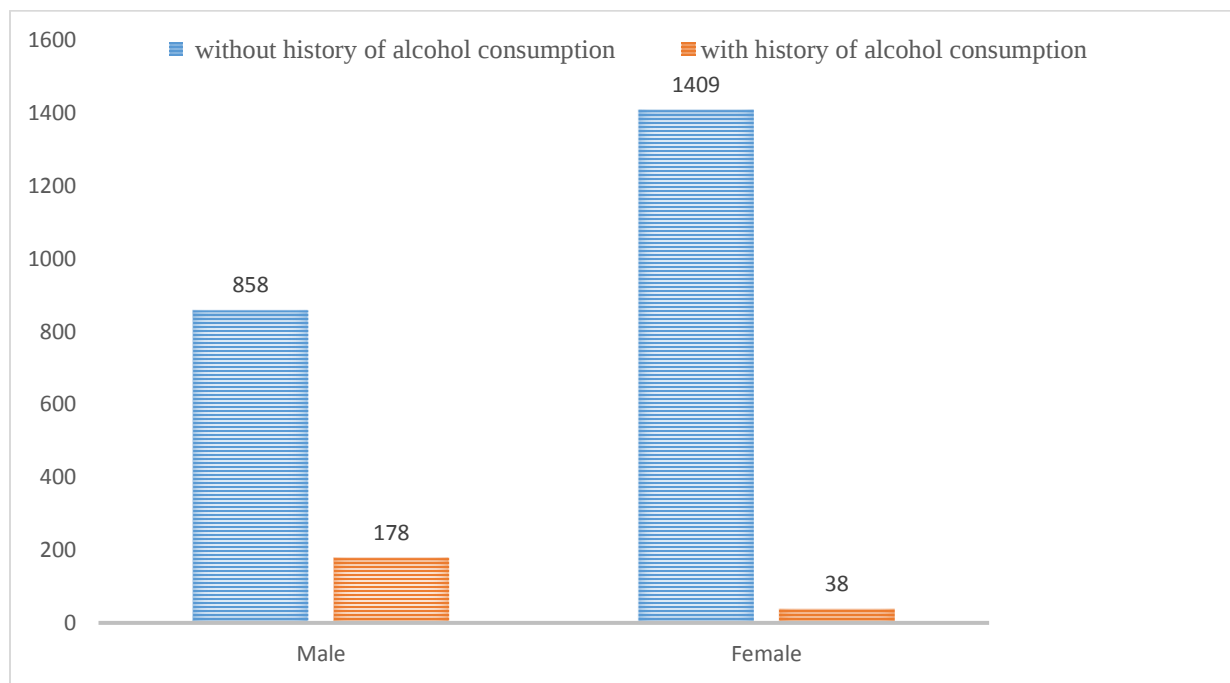


Figure 1 Frequency comparison of cancer patients with history of alcohol consumption and without history of alcohol consumption According to gender

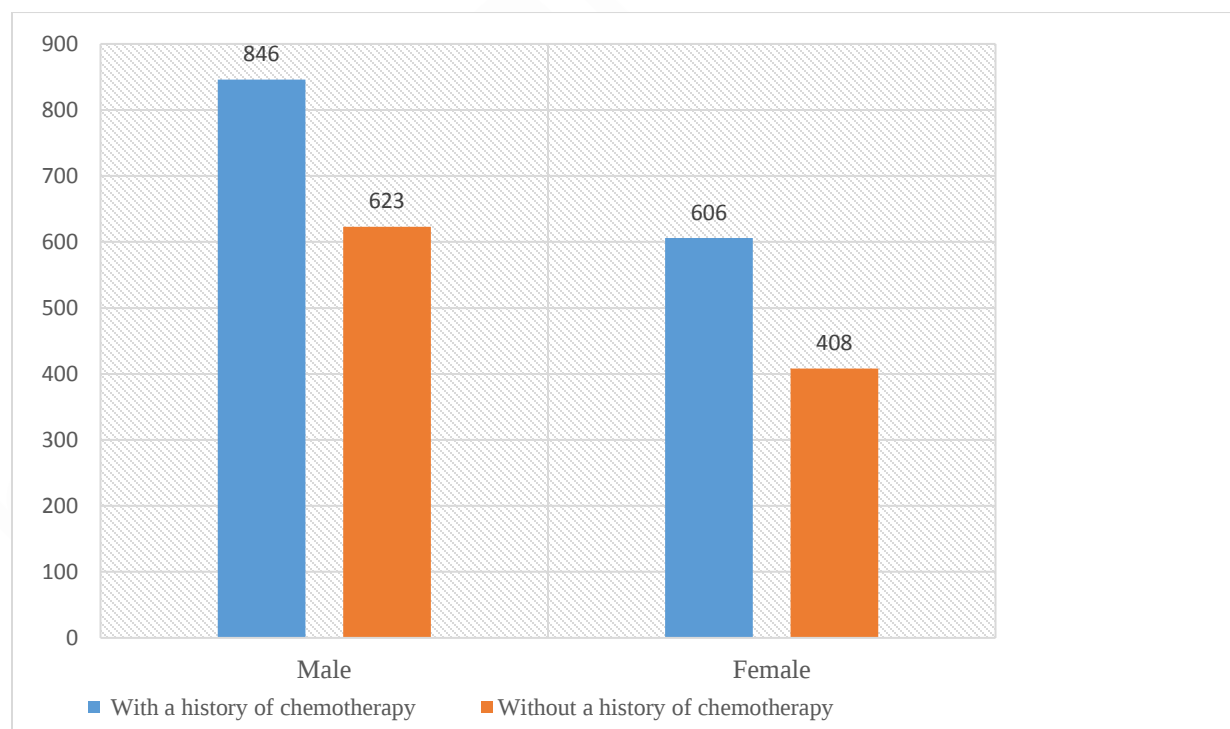


Figure 2 Frequency comparison of cancer patients with a history of chemotherapy and Without a history of chemotherapy According to gender

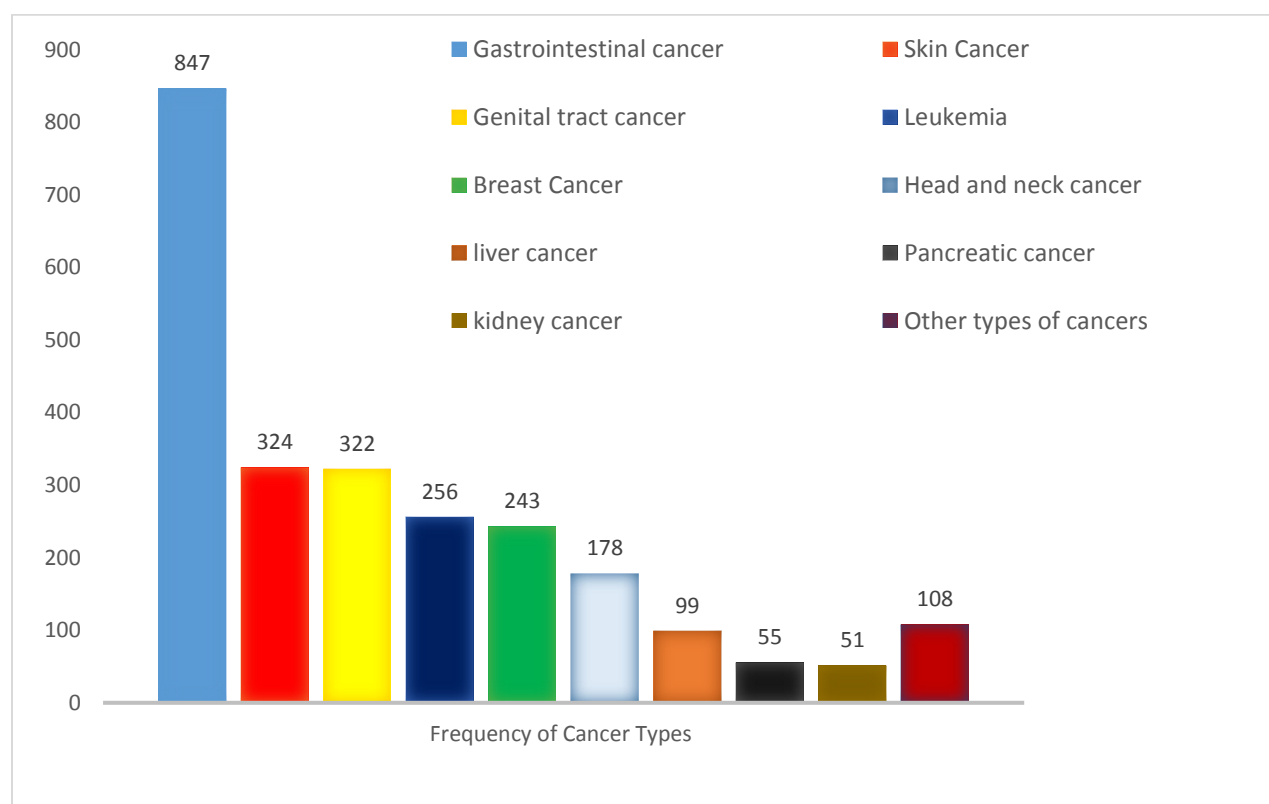


Figure 3 Frequency of various types of cancer in patients with this disease

history of diabetes ($p = 0.02$) and family history of cancer ($p = 0.03$). Also in this study 1452 people (58.4%) had a history of chemotherapy and the relationship between alcohol consumption and history of chemotherapy was significant ($p = 0.006$), (Figure 2). In this study 34.1% of cancers were gastrointestinal cancer, 13.0 skin cancer, 12.9% genital tract cancer, 10.3% leukemia, 9.7% breast cancer, 7.1% head and neck cancer, 3.9% liver cancer, 2.2% pancreatic cancer, 2.0% kidney cancer, and 4.3% were all other types of cancers. Figure 3, shows frequency types of cancer.

DISCUSSION

Cancer is one of the leading causes of death worldwide. After cardiovascular disease, cancer is the second leading cause of death in most countries (1). The mortality rate due to cancer is increasing And at least about 8 million people die every year because of cancer; According to World Health Organization statistics, the mortality rate from cancer will rise from 45% in 2007 to 65% in 2030 (2). Given that since 1988, the International Agency for Research on cancer, have put alcohol as the first group of carcinogens, at the highest level of danger. And in Khuzestan province there are limited studies on the relationship between alcohol and cancer. Therefore, the aim of this study was to determine the correlation between alcohol consumption and reducing the age of cancer incidence in patients with this disease resident in Khuzestan province from 2016 to 2018.

In this study 34.1% of cancers were gastrointestinal cancer, 13.0 skin cancer, 12.9% genital tract cancer, 10.3% leukemia, 9.7% breast cancer, 7.1% head and neck cancer, 3.9% liver cancer, 2.2% pancreatic cancer, 2.0% kidney cancer, and 4.3% were all other types of cancers. In the study of Lotfi et al., the highest percentage of Frequency of cancer in men was gastric cancer (13.7%), 10.7% lung cancer, colorectal cancer

(9.7%), esophageal cancer (3.9%), and the highest percentage of frequency of cancer in women was 11.7% breast cancer, colorectal cancer 11.7%, ovarian cancer 5.8%, gastric cancer 5.7%, esophageal cancer 5.8%, respectively. In women, bladder cancer and cervical lymphoma, and in males, laryngeal cancer, tongue, skin, myosarcoma, and malignant eye tumor were not observed (16). Also in the study of Soumi et al., the most common cancer in the gastrointestinal tract is in men older than 65 years of gastric cancer and the most common cancer in the gastrointestinal tract in women over 65 years is esophageal cancer (17). The cause of high stomach cancer and gastrointestinal tract in the present study and the rest of the studies can caused by high risk factors for gastrointestinal cancers in the research environment such as increasing the consumption of carbohydrates and fats, and reducing the consumption of fiber, especially in young people, lifestyle changes, Inadequate mobility and obesity, and possibly the interference of genetic issues.

In this study 10.3% of patients had leukemia, that according to some studies, such as Hashemizadeh et al. The most important causes of leukemia can be contact variables with X-Ray in fetal life, the presence of a smoker in the family, the history of using a mother's contraceptive pill, father's job contact with chemicals and near home to strong electrical power lines (18). Also, according to some studies such as Gholami et al., there is a statistically significant relationship between the numbers of maternal pregnancies, the age of the parents, the parents' educational level, and the history of contraceptive pill use by the mother were observed with acute leukemia in children (19).

In this study, 13.0% of patients had skin cancer, which could be due to hot weather in Khuzestan province and collision ultraviolet ray to skin and create skin cancer. In this study, a significant relationship was found between age and alcohol consumption ($p = 0.001$). Also, patients who

consumed alcohol, compared to those who did not consume alcohol, had a lower average age, so we can say that alcohol reduces the age of incidence to cancer. Also, there was a significant relationship between economic status and those who consumed alcohol ($p < 0.0001$), that's mean that those who had a better financial position, they had more alcohol consumption and more likely to develop a variety of cancers. Compared to a large number of evidence of the relationship between alcohol consumption and the risk of cancer, research on the effects of drinking alcohol on the development of disease in cancer patients is still in its infancy. For cancers that are known to be associated with alcohol consumption, alcohol is expected to be relevant at the time of diagnosis and to be accompanied with the risk of a recurrence of cancer or secondary primary tumors. This relationship was for patients with upper urinary cancers when they did not drink alcohol compared to when they were dependent on the liquor that the risk of cancer deaths in particular in the average consumer compared to heavy consumers, increased (20). Also, the study of Do KA et al., showed that among the survivors of upper respiratory tract cancer, continued use of alcohol after diagnosis is associated with a threefold increase in the risk of recurrence of the primary tumor of the urinary tract (21). In some studies, such as Kwan et al., as well as Holm et al., increased mortality from breast cancer or the risk of recurrence with moderate to high levels of drinking alcohol, has been seen (23, 22).

A study by Li et al., showed that in women with breast cancer positive estrogen receptor, consumers of alcohol seven times a week or more compared to those who did not consume, 90% more had risk of incidence to maladaptive breast cancer (24). Also, the results of some studies, such as the study by Walter et al., to investigate the association between alcohol consumption and colorectal cancer, showed that alcohol consumption was associated with a lower survival (25). And most studies did not show any relationship between alcohol intake and colorectal cancer (26). More recently, cohort meta-analysis studies among 209,597 survivors of cancer showed that the overall mortality rate has increased by 8% and a 17% increased risk of recurrence in the highest and lowest alcohol users (27). More evidence is needed to clarify the impact of alcohol consumption on cancer. Most studies have focused on assessing the direct effects of alcohol consumption and cancer treatment in patients with upper urinary cancers, because 34 to 57 percent of people continue to smoke and drink alcohol after cancer detection, and after radiation therapy has been associated with an increased risk of osteoporosis jaw in patients with oral cancer and oropharyngeal disease (28-32). The results of some studies have shown that alcohol abuse also has the treatment of cancer patients associated with longer hospitalization, increased surgery, long-term improvement, and high health care costs (33-38).

CONCLUSION

In this study, a significant relationship was found between age and alcohol consumption also patients who had consumed alcohol, compared to those who did not eat at all, they had a lower average age, so we can say that alcohol reduces the age of incidence to cancer. Therefore, it is necessary to follow up on the prevention of alcohol addiction and they should be treated after alcohol addiction, and it must be done preventive measures to prevent than incidence to cancer. In this study, the highest percentage of cancer was related to gastrointestinal cancer that this indicates that the diet is unhealthy and inaccurate as well as drinking alcoholic beverages it that The Food and Drug Administration is better, to give them Warning required in this regard through mass media and virtual spaces.

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Article Keywords

Alcohol consumption, Cancer, Types of Cancer, Gastrointestinal Cancer, Chemotherapy

Acknowledgment

The authors of this article appreciate and thank all those who have co-operated with us. The names of the ten researchers who helped in investigating cases and collecting data are as follows: Mostafa Madmoli, Yaghoob Madmoli, Pouriya Darabiyan, Mohammad Madmoli, Iman Madmoli, Mohsen Madmoli, Reza Madmoli, Karim Madmoli and Poya Madmoli.

Conflict of Interest

There are no conflicts of interest in this article.

Article History

Received: 30 September 2018

Accepted: 15 November 2018

Published: January-February 2019

Citation

Mostafa Madmoli, Mehdi Fallah bagher shaidaei, Akram Rohani, Pouriya Darabiyan, Fariba Mobarez. The correlation between alcohol consumption and reducing the age of cancer incidence in patients with this disease. *Medical Science*, 2019, 23(95), 48-53

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