

# Research Paper: Determining The Rate Of Complementary and Alternative Medicine (CAM) Utilize In Patients With Head and Neck Cancer In Guilan



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**Citation:** Rabiei M, Masoudi Rad H, Zamani H. Determining The Rate Of Complementary and Alternative Medicine (CAM) Utilize In Patients With Head and Neck Cancer In Guilan. Journal of Dentomaxillofacial Radiology, Pathology and Surgery. 2020; 9(2):24-33. <http://dx.doi.org/10.32598/3dj>.



<http://3dj.gums.ac.ir>



## ABSTRACT

### Article info:

**Received:** 10 Apr 2020

**Accepted:** 25 Sep 2020

### Keywords:

Homeopathy, Complementary Therapies, Head and Neck Neoplasms, Dietary Supplements

**Introduction:** Complementary and alternative medicine is a group of diagnostic and therapeutic methods that are commonly used outside university education and are used by patients themselves. Some cancer patients use different types of CAM to reduce the complications of conventional therapies and improve their general condition, which is increasing. Determining the rate of complementary and alternative medicine (CAM) utilize in patients with head and neck cancer in Guilan.

**Materials and Methods:** This descriptive cross sectional study performed on 203 patients with head and neck cancer. Participants were selected by random sampling method and the data were collected by face-to-face interview with the questionnaire. Data were analyzed by using SPSS statistical software (version 25).

**Results:** The mean age of participants was  $54/99 \pm 15/71$  years. All patients used at least two complementary therapies. The rate of CAM use in women was higher than men ( $p = 0.031$ ), students ( $p = 0.009$ ), under 40 age group ( $p = 0.001$ ), university education ( $p = 0.015$ ) And in patients with longer duration of cancer ( $p = 0.001$ ) and with metastasary medicine among patients is the use of dietary supplements (100%). Most consumers believed that the motivation of using complementary medicine was to improve the physical and general condition (71.9%). According to the findings of this study, the main source of information for patients in terms of complementary medicine, was doctors and medical staff (53.69%). . Most patients are willing to receive services from doctors and medical staff (61.6%)for most of them, the current state of the provision of complementary health services is not responsive to their needs. Among the studied variables, gender (women compared to men) (odds ratio 2.8-2.2.1. 95% CI), duration of disease (Odds ratio 1.05-0.81 / 1. 95% CI) and job status ( $p = 0.04$ ) are the predictors of CAM consumption.

**Conclusion:** All 203 patients who participated in the study used at least two complementary therapies to improve physical and general health. Most patients preferred to receive the necessary information and CAM services from doctors and medical staff. In addition, the use of CAM in women, patients under the age of 40, people with university education, longer duration of cancer and metastasis to the head And the neck was more.

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## Introduction

Cancer is one of the most widespread diseases in the world (1). According to the report by the World Health Organization (WHO), 7.6 million deaths were recorded in 2008 due to cancer and it is predicted that this number reaches over 13.1 million by 2030(2). In Iran, cancer is the third leading cause of mortality, causing more than 40,000 deaths annually. Oral cancer treatment is comprised of two stages: removal of cancer tissue and palliative care to eliminate the symptoms of cancer. Common and routine therapies include surgery, radiotherapy, and chemotherapy that are used alone or in combination (3). It is estimated that \$3.2 billion will be spent on treating oral and neck cancers annually. Complementary therapies, along with conventional therapies, are an effort to help to fight the high financial costs and to improve the quality of life and health of patients (4).

Complementary and alternative therapies are somehow derived from thoughts and opinions of individuals and they emphasize the body, based on a philosophical orientation. They harmonize the body through accurate cognition and optimal interaction between the body, mind, and soul. On the contrary, conventional medical science usually treats the human body in different parts and it is fastidious(5).

According to the definition by the National Center for Complementary and Alternative Medicine (NCCAM) complementary and alternative therapies refer to a diverse set of diagnostic, therapeutic, and caring systems and products that do not fall within the scope of conventional medicine, are beyond the scope of traditional academic training, are used by patients, and are briefly referred to as “CAM”. This Therapeutic method covers a wide range of healing resources including all health systems, conditions, practices, theories, and beliefs, except those related to health systems governing a particular country or culture at a specific time. Complementary therapies are those that are not widely used by mainstream medical professionals and their specific and necessary skills are not taught as part of the conventional undergraduate

medical specialty curriculum (6).

The global interest in using CAM is between 9% to 70% in different populations (7). Approximately 80% of the population of African and Asian countries consider complementary and alternative therapies as a primary source of treatment and prevention (8). Its use is also increasing in Australia, Europe, and North America. According to a report from Harvard, about 50% of the U.S. population uses some form of complementary and alternative treatment to improve their health (9). In Iran, 94.4% of cancer patients had used complementary medicine in 2017 (1). The most common CAM used by patients was prayer (86.1%).

### Types of CAM

\*Biologically-based therapies called dietary supplements. They are divided into two categories: nutritional supplements (vitamins, minerals, enzymes) and special diet (vegetables, animal products, juices)

\*Mind-body treatments, including worship and prayer for health and the use of spiritual, supportive and healing techniques, and other treatments (tai chi, meditation, yoga, music, hypnosis therapy, psychotherapy)

\*Whole medical/alternative medical system, traditional Indian medicine (Ayurveda), traditional Chinese medicine, Malay traditional medicine, Hydrotherapy, Homeopathy

\*Energy medicines: Qi Gong and Reiki bio-treatments or bioelectromagnetic-based methods such as magnetic techniques, ozone therapy

\*Manipulative and body-based therapies: massage, physical exercise and sport, chiropractic, osteopathy, aromatherapy, herbal baths (5, 8, 10).

Botanical medicine as a dietary supplement belongs to the group of biological treatments (8). One of the herbs with anti-cancer features is blackberry. Dried and frozen, it prevents the conversion of pre-cancerous cells into cancer cells, due to high levels of anthocyanin. Garden asparagus is an endogenous antioxidant and is considered a potent anticoagulant. The efficacy

of green tea against multiple cancers is through polyphenols and activation of p53, which inhibits cell cycle and apoptosis. Vitamin C is an antioxidant killing cancer cells by eliminating free radicals and inducing apoptosis. This substance is used either alone or in combination with chemotherapy or radiation therapy. Lycopene, a carotenoid found in tomatoes and other colored fruits and vegetables, is a natural antioxidant that prevents injury. The native South Asian soybean plant acts as a plant estrogen by ceasing the growth of cancer at the cellular level. Calendula is effective in preventing radiation-induced dermatitis. Coenzyme Q10 is effective in reducing the side effects of conventional treatments. Cannabinoid derivatives in Hemp can impair mitochondrial function and lead to antitumor activity(3).

Among the supportive treatments for cancer patients include acupuncture and acupressure to reduce nausea and vomiting caused by chemotherapy; aromatherapy to improve general mood; exercise to relieve fatigue and nausea; ginseng to reduce fatigue; hypnotherapy to control pain and nausea; massage therapy to improve general condition; music therapy to alleviate mood disorders, and relaxation techniques such as relaxation, etc. to control pain and reduce fatigue (11).

CAM has two ugly and kind faces for cancer. The ugly face can deceive vulnerable patients into replacing alternative therapies with conventional therapies. Kind face improves the quality of life and reduces symptoms in patients suffering treatment conditions (11).

Contrary to popular beliefs, evidence suggests that CAM is not without harm. There are concerns regarding direct effects such as allergic reactions (diarrhea, angioedema, skin reactions) and gastrointestinal disorders. Some cases of hepatotoxicity and neurotoxicity resulting from plant consumption have been reported in patients. In addition to its direct effects, CAM can potentially interfere with the metabolism of anticancer drugs (6).

The purpose of this study was to collect information on how patients with head and neck

cancers use complementary and alternative therapies during treatment in Gilan province.

## Materials and Methods

This descriptive cross-sectional study was carried out using stratified random sampling in patients with cervical cancer at Razi Public Hospital and Gilan Oncology Private Clinic in 2018. After obtaining research ethics approval (IR.GUMS.REC.1396.359), 203 participants entered the study using complete enumeration based on gradual reference. Subjects were patients with head and neck cancers referred to these centers for treatment or follow-up and met inclusion criteria. Those patients were included in the study who were at least 3 months passed of their diagnosis and were residents of Gilan province. The data collection instrument was a questionnaire. Subjects were asked questions related to the research variables in a face-to-face meeting. Research purpose explained to the patients and written consent was obtained from them. They were also assured that their name and their information will remain confidential. The questionnaire was arranged in three main sections. The first part was dedicated to demographic information. Section two described the disease including the type, stage and, initial location of cancer; the duration of treatment and the usual treatments, and the reason for referral to the center. The third part was related to the types of complementary medicine used. The most important limitation of this study was the recall bias, meaning that some patients did not express or misrepresented the answers to the questions. Another limitation of this study was the lack of consent of all patients to participate in the study. To overcome this limitation, if subjects could not remember answers, their relatives and acquaintances helped them.

Patients were asked about the use of complementary medicine including familiarity with different methods, reasons for using it, and how complementary therapies provided. The time needed to complete the questionnaire was 15 minutes on average. Data were analyzed by SPSS software.

After data collection, SPSS software version

25 was used. Frequency and frequency percentage and 95% confidence interval were used to determine the frequency of complementary therapies use. Chi-square test was used to compare complementary treatments according to sex, age groups, satisfaction with treatment and so on. Mean and standard deviation and Independent T-test were used to compare the duration of disease in the two groups. Multivariate analysis was used to determine predictors (the most important related factors) using a logistic regression model. The significance level of the tests in the comparisons considered to be  $P < 0.05$ .

## Results

114 participants were female (56.2%) and 89 participation were male (43.8%). The mean and standard deviation of the age range of the participants was  $54.99 \pm 15.71$  years. The maximum age of participants was 92 years and the minimum age of participants was 8 years.

36 patients had tumors in head (17.7%), 29 in larynx (14.3%), 29 in primary esophageal area (14.3%), 24 in thyroid (11.8%), 21 in neck (10.3%), 20 in nose (9.9%), 11 in throat (5.4%), 10 in facial skin (4.9%), 7 had metastasis in neck (3.4%), 6 patients had tumors in the sub-lingual area (0.3%), 5 in the mandible (2.5%), 3 patients had head metastasis (1.5%), 1 patients had esophageal metastasis (0.5%) and 1 patient had tumors in tongue (0.5%).

The mean and standard deviation of disease duration was  $10.93 \pm 16.10$  months and the minimum and maximum disease duration were 3 and 140 months, respectively.

11 patients were in stage one (5.4%), 89 in stage two (43.8%), 69 in stage three (0.34%) and 34 in stage four (16.7%). Among 203 patients participating in the study, 201 (0.99%) were receiving radiotherapy, 134 (0.66%) were undergoing chemotherapy, and 153 (75.4%) were undergoing surgery.

Among the different types of complementary medicine, all 203 patients participating in the study had used one of the dietary supplements, while the usage rate was 100%. All of the sub-

jects were on a special diet and 66.5% used nutritional supplements. (Table 1).

Table 1: Patients' usage rate of each type of complementary medicine

		Number (%)
Dietary supplements	Nutrition supplements	113 (55.70)
		128 (63.10)
		150 (73.90)
	Special diets	179 (88.20)
		68 (33.50)
		184 (90.6)
Mind-body therapies	Worship and Prayer	182 (89.70)
	Meditation	7 (3.40)
	Yoga	11 (5.40)
	Music	127 (62.60)
	Hypnosis treatment	0 (0.00)
Energy therapy	Psychotherapy	9 (4.40)
	Energy therapy	0 (0.00)

Among the different dietary supplements, the highest percentages were for herbal supplements, then natural juices, animal products including fish and dairy products, vitamins, and honey.

200 subjects (98.5%) had used at least one of the supplements, the highest percentage of which was for natural juices, animal products including fish and dairy products, minerals, vitamins, and honey. Another type of herbal supplement was other botanical supplements. 184 (90.6%) of them had used at least one of them. Among the varieties of botanical sup-

plements were turmeric (70.0%), sour lemon (67.0%), garlic (62.1%), ginger (51.2%), green tea (43.8%), mushroom (42.4%), other cases (22.2%), and ginseng (2.5%).

Red cabbage, broccoli, red grapes, tomatoes, cinnamon, apple cider vinegar, distilled mint, seeds and nuts, all kinds of herbal teas including Echium, Fenugreek, chamomile, forty-herbs essence and vegetables such as spinach, nettle, dendrostellera lessertii, oregano accounts for 22% of all cases.

The second type of complementary medicine in terms of the prevalence of use among patients was mind-body therapies (95.1%). Among the different methods in mind-body therapies, the most prevalent use was worship and prayer (182 patients (89.7%)). Other methods used by this group in order of prevalence are music, yoga, psychotherapy, and meditation. Manipulation and body-based therapies (massage therapy) were other methods that 127 patients (62.6%) used at least one of its types, including physical exercise, sport, and massage. 25 patients (13.8%) had used the entire medical system or alternative medical system, the most common subtypes of them were cupping therapy, acupuncture, water therapy, and homeopathy. The less prevalent used method among different groups was the energy therapy group (0.0%), that is, none of the cancer patients in Gilan province used this group of treatment.

The source of information and patients' familiarity with complementary medicine are doctors and medical staff, old familiarity, acquaintances and relatives, mass media, other patients, and other cases. Chart 1 illustrates the familiarity of the patients with CAM methods and their information source. Most patients received information from physicians and medical staff.(Chart1)

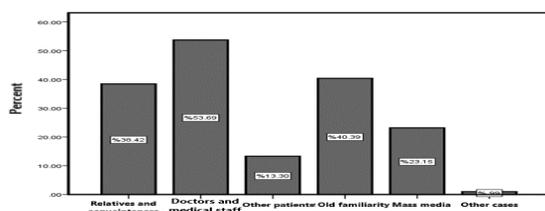


Chart 1. Source of information and how patients are acquainted with complementary medicine

The reasons for using different CAM methods are illustrated in Chart 2 and are as follows: physical and general condition improvement (71.9%) hopefulness, physician recommendation, safe methods (36.0%, 32.0%, 29.6%). (Chart2)

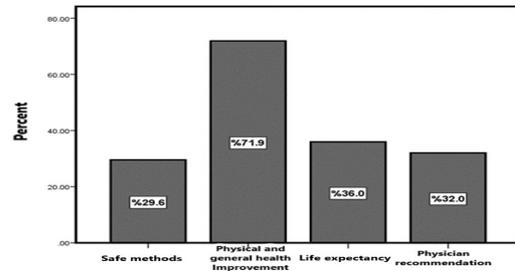


Chart 2: for using different CAM methods are illustrated

Of course, patients tended to receive information regarding different methods of complementary medicine through physicians (61.6%) or by trained and approved experts of the Ministry of Health, and only 14 subjects (6.9%) reported that the current status of complementary medicine responds to the needs of people (Chart 3).

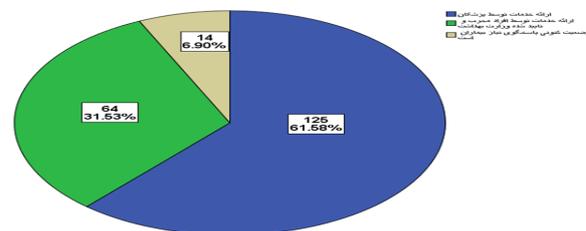


Chart 3 - Complementary medical service status

The minimum number of methods used by patients was 2 and the maximum was 21. The highest frequency (13.8%) was related to the use of 9 methods. The lowest percent of usage was related to concurrent use of 2 methods (0.5%), using 20 methods (0.5%), and using 21 methods (0.5%).

Using complementary medicine was statistically significant in terms of age, gender, educational status, and occupation. Subjects under 40 years of age were more likely to use CAM than other age groups ( $p = 0.001$ ). More than 10 complementary methods ( $p = 0.009$ ) were used by women compared to men ( $p = 0.021$ ), those with university education ( $p = 0.015$ ), and all patients (100%) currently studying.

Patients who had head and neck metastases ( $p = 0.023\%$ ) and patients having a longer duration of disease (140 months) than patients who had a maximum duration of 96 months ( $8.51 \pm 1.183$  compared to  $13.28 \pm 1.88$ ) ( $p = 0.001$ ) were more likely to use complementary medicine than other patients.

Given that all participants in the study had used at least two complementary methods simultaneously, a variable called CAM was used that had a mean and standard deviation of  $9.72 \pm 3.45$ . 50.7% of the patients used more than 10 methods in the questionnaire. The minimum number of methods used by the patients was 2 and the maximum was 21 methods. The highest frequency (138%) was for using 9 methods concurrently. The lowest percentage regarding the methods used was related to using 2 methods (0.5%), 20 methods (0.5%), and 21 methods (0.5%).

The logistic regression model was used to analyze the factors associated with the multiplicity of complementary medicine methods. In this model, among the variables studied (age, gender, marital status, education, duration of disease, treatment methods, etc.), gender (rate of women to men) was considered as a predictor related to the frequent use of complementary medicine methods. Women were 3.2 times more likely than men to have supplements (Odds ratio = 3.2, 1.8-2.2, 95% CI). Occupational status was also considered as the second predictor related to the frequent use of supplements ( $p = 0.04$ ), in such a way that retired subjects used supplements 1.8 times more than the unemployed, students used supplements infinite times (more than 100 times) more than the unemployed, housewives used them 18 times more than the unemployed, employed subjects used them 70 times more than the unemployed, and self-employed subjects used them 46 times more than the unemployed. Also, the duration of the disease was the third predictor in the regression model ( $p = 0.011$ ). As the duration of the disease increases, the chances of using a variety of complementary therapies increases (Odds ratio = 1.05, 1.08-1.1; CI = 95%).(table2)

Table2: Predictive factors related to the multiple uses of complementary medicine cases

	B	S.E.	Sig.	Odds Ratio	95% C.I for OR	
					Lower	Upper
Gender (women compared to men)	1.166	.482	.016	3.210	1.248	8.260
Occupational status			.040			
Retired	3.529	1.510	.019	34.080	1.767	657.482
Student	24.910	19238.021	0.001	65811530820	.000	.
Housewife	2.897	1.510	.055	18.119	.940	349.322
Employed	4.258	1.582	.007	70.673	3.184	1568.647
Self-employed	3.828	1.507	.011	45.967	2.397	881.476
Unemployed (Reference group)	0			1		
Disease duration fixed value	.044	.018	.011	1.045	1.010	1.082
	-5.604	1.687	.001	.004		

## Discussion

This study aimed to investigate the use of Complementary and Alternative Medicine (CAM) in patients with head and neck cancers in Gilan province. In this study, 203 patients with head and neck cancers were investigated, and 100% of them used at least 2 forms of different types of complementary therapies studied. In other studies, the percentage of using CAM in cancer patients ranged from 14.5% in Australia to 98% in China (4, 5, 6 8, 10, 12-15). Using CAM in the study by Amir Moezi et al., (1) was reported to be 94.4%, and it was 82.9% in the study by EDWARDS et al. (15). It is possible to attribute the percentage of using CAM to the cultural, social, and economic status of different societies, types of cancers in the population under study, and the types of CAM methods included in the questionnaires. Table 1 shows the prevalence of complementary medicine methods in the different populations studied. In the present study, 50.7% of patients used more than 10 methods in the questionnaire. This finding was consistent with that of the study by EDWARDS et al. (15)

The results of this study show that gender is one of the predictive factors related to the frequent use of CAM so that women use it 3.2 times more than men. This result was statistically significant and has been noted in some other studies (1, 4, 6, 8, 10, 14, 15, 16). However,

Aliyu et al., reported in their study more use of CAM in men than women(5). In this study, the rate of CAM use had no significant relationship with married status, but in the study conducted by Sajadiyan et al., married subjects had a higher rate of usage. (4)

In the current study, the rate of using CAM had a significant relationship with the age of the participants and the age group of under 40 years of age had the highest percentage of usage (77.8%). In the study by Tascilar et al. (6) and Molassiotis et al., (10) the percentage of young people using CAM was higher.

Occupational status in this study is one of the predictive factors related to the frequency of CAM use in such a way that retired subjects used it 1.8 times more than the unemployed, student subjects used it infinite times (more than 100 times) more than the unemployed, housewives used it 18 times more than the unemployed, employed subjects used it 70 times more than the unemployed, and self-employed subjects used it 46 times more the unemployed. In other words, employed subjects were more likely to use complementary medicine. In the study by Farooqui et al., there was a greater tendency to use complementary medicine in employed subjects (8). In the study by Zulkipli et al., employed subjects used CAM more than unemployed ones (14). In the study by Manoj et al., housewives with good economic status had higher percentages of use (17). In the present study, subjects with college education tended to use CAM. This is consistent with the findings of the study by Tascilar et al. In the study by Farooqui et al., (8) and Zulkipli et al. [14], the use of CAM was higher in subjects with secondary education. In the study by Sajjadian et al., (4) illiterate subjects and in the study by Manoj et al., (17) the illiterate subjects or those with primary education were more likely to use complementary medicine. There was no statistically significant relationship between participants' level of income and complementary medicine use, but in the study by Tascilar et al., (6) and Molassiotis et al, subjects with a higher level of income used complementary medicine more.

Whereas, in the study of Godsey et al., (3), subjects with no income and in the study by Manoj et al., (17), unemployed or low-income subjects were more likely to use CAM.

The most popular CAM methods used in the present study are dietary supplements (100.0%) and mind-body medicines (95.1%). Among different types of diets, the most common one was herbal diet (90.6%). Among the mind-body therapies, the highest percentage of use is related to spiritual methods such as worship and prayer (89.7%). The three most common and frequently used methods in the present study (dietary supplements, herbal supplements, and spiritual practices) were among the three most common methods in many studies (1, 4-8, 12-15). The most commonly used supplemental medicine group was dietary supplements group that had similar results consistent with some other studies (8, 14, 15). Tascilar et al. reported that the most common methods of complementary medicine in China were traditional Chinese medicine (87%) and dietary supplements (85%) (6). Given that religion and religious orientations play an important role in determining the lifestyle of the Iranian people, the high usage rate of the spiritual method can be justified. The high percentage of using herbal supplements can be due to the fact that Gilan province is home to herbs such as garlic, green tea, Echium, etc., and easier access to these supplements. In some studies, patients were more likely to use herbs as CAM (10, 12, 13) Manoj et al., (2) reported that the main method used by the patients under study was the traditional Indian medical system (Ayurveda) (17).

The lowest rate of CAM use was related to hypnosis and energy therapy (0.0%), that is, none of the patients used them. In the study by Amir Moezi et al., the rate of massage and energy therapy was 0.0% each. This finding was in line with that of the present study (1).

The most common reason for patients using CAM in this study was to improve their physical and general health status. In the study by EDWARDS et al., it was noted that most patients used CAM methods to improve the quality of

their life and their general health status (15). In the study by Molassiotis et al., the most common reason for using complementary medicine was to increase body resistance against cancer (10). In the study by Amir Moezi et al., the main reason for the use of CAM was the recommendation of doctors and medical staff (50%), the amount of which in the present study was 32% (1). Patients studied by Aliyu et al., reported that the main reason for using CAM was improved treatment outcome (5). In the study by Sajjadian et al., the most common complementary medicine used was prayer, the most common reason for using it reported to be beliefs of the subjects [4]. In some studies, the most frequently used method was spiritual methods such as worship, prayer, and seeking cure (1, 4, 5, 7). Manoj et al. reported that the main method used by the patients under study was the traditional Indian Medical System (Ayurveda) (17).

In the study by Zulkipli et al. (14), recommendations from family members were the main reason for the use of complementary medicine (14).

Another finding of this study is that the main source of information for patients using complementary medicine was the recommendations of physicians and therapists. This finding was in line with that of the study by Amir Moezi et al. [1]. But in other studies, it received a lower percentage. In various studies, patients, family members, and friends (acquaintances and relatives) were the main sources of information [5, 8, 10, 12, 14, 17]. In the present study, 38.42% of patients had received information from their relatives and acquaintances, and it was the third method of familiarity with complementary medicine. In the study by Sajjadian et al., most patients reported previous knowledge and beliefs as the sources of information regarding familiarity with complementary medicine [4]. The present study also indicates that the second source of information for users of complementary medicine has been the previous experience regarding it, which is justifiable due to the high frequency of worship and prayer.

Since patients are not fully aware of strengths

and weaknesses, and possible interactions of some CAM methods with conventional medicine, the majority (61.6%) of them were interested in receiving such services from physicians. In the study by Sajjadian et al., (4) the second preferred way of providing complementary medicine therapies was the services provided by trained and approved experts (31.5%) and only 14 of the participants (6.9%) stated that the current status of complementary medicine meets needs of them. While in the study by Sajjadian et al., 16% of patients considered current service delivery as responsive service, and only 4% were willing to receive complementary medicine therapies from trained and approved experts of the Ministry of Health (4).

According to the findings of the present study, gender (rate of women to men), longer disease duration and being employed compared to the unemployment, are predictive factors for increasing the chance of using CAM therapies. Molassiotis et al. found that younger, female, more literate, and higher-income subjects use complementary medicine (10).

In the study by Aliyu et al., being male and the absence of comorbidities such as diabetes and hypertension have been suggested as predictors of CAM use (5). EDWARDS et al. stated that being female and breast cancer were factors responsible for increasing the chance of using CAM (15). In the study by Naor et al., it was reported that younger subjects and those with higher education were more likely to use complementary medicine than others (18). In the present study, the duration of the disease was determined as a predictor in the regression model. ( $p = 0.011$ ). As the duration of the disease increases, the chances of using a variety of complementary medicine therapies increases. However, no other relationship has been found in other studies.

Table 5-1: Frequency of complementary medicine in different communities

Researcher name	Publication year	Subjects studied	CAM use percentage
Current study	2018	Head and neck cancer patients in Gilan	100%
Aliyu et al. [9]	2018	Patients with cancer at an educational hospital in Nigeria	66.3%
Manoj et al. [27]	2017	Cancer patients referred to a Medical Center in India	42%
BRAHMA et al. [28]	2017	Cancer patients in India	74%
Zulkipli et al. [29]	2017	Cancer patients at the treatment centers in India	34.8%
Amir Moezi et al. [1]	2017	Patients admitted to Oncology Hospital affiliated to Shiraz University of Medical Sciences	94.4%
Farooqui et al. [18]	2016	Cancer patients over 18 years of age at a local hospital in Malaysia	1/46%
EDWARDS et al. [30]	2014	Cancer patients undergoing radiotherapy at a clinic in Australia	9/82%
Horneber et al. [31] (Systematic review)	2012	Adult cancer patients in Australia, Canada, Europe, New Zealand, USA	40%
Tascilar et al. [10] (Systematic review)	2006	Cancer patients in studies from Australia, New Zealand, some US states, Canada, China, Japan, Turkey, and 14 European countries	The lowest rate was 14.5% in a study on women aged 55-50 in Australia and the highest rate of 98% in China among adult women.
Molassiotis et al. [20]	2005	Cancer patients cancer in 14 European countries	35.9% (73.1% in Italy and 14.8% in Greece)
Seddighi et al., [14]	2003	Patients over 15 years of age in Tehran population	42.2%
Sajjadian et al., [12]	2002	Cancer patients cancer referred to Tehran Imam Khomeini Hospital and Novin Radiotherapy Center	35%

## Conclusion

The findings of the present study showed that the use of CAM methods and the number of methods used in head and neck cancer patients in Gilan province are very high compared to studies on different populations and it was higher than all the studies available in the references. The prevalence of CAM was higher in females than in

males, in educated subjects, in those under 40 years of age, in college-educated subjects, in patients with longer disease duration, and those patients with head and neck metastatic cancers. The most popular methods of complementary medicine among the patients in this study are the use of dietary supplements and mind-body therapies including worship and prayer. Given that religion and religious orientations play an important role in determining the lifestyle of the Iranian people, this high usage rate of spiritual methods is justifiable.

## Suggestion

It is suggested that due to the high willingness of cancer patients to use different methods of complementary medicine, further studies should be carried out in the field of complementary medicine and each type of cancer in Iran. The effectiveness of each of these medicine methods should be investigated to determine methods with fewer side effects and be available for patients.

## Acknowledgments

The authors of this study express their gratitude to Dr. Najafi, Saedi Saedi, and all the nurses and oncology staff of Razi Hospital in Rasht for their efforts.

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