RESEARCH ARTICLE

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The Relation of Work Ability and Return to Work Among Iranian Cancer Survivors

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Abstract

Objective: Cancerous diseases are known to disrupt a person's ability and inflict physical, psychological, financial, and social complications on the person, thereby challenging an individual's returning to work. The aim of this study was to investigate the ability of cancer patients to work after returning to work. **Methods:** This descriptive-correlational study examined a total of 227 surviving cancer patients, having picked the participants through convenience sampling. Data were collected by the return to work and work ability index (WAI) questionnaires and analyzed by descriptive statistics and inferential statistics using SPSS software. **Results:** A total of 166 (73.2%) of the participants had returned to work after completing the basic treatment. The mean (standard deviation) of the work ability score was 29.52 (9.43), ranging from 9 to 43 while the average daily work hours dropped from 12.30 to 5.50. The chi-square test showed a significant relationship between the work ability score and the type of return to work. Moreover, the rank logistic regression analysis revealed that work ability was the most important predictor of return to work. **Conclusion:** Survivors of cancer face reduced working hours and limited ability to work after returning to work, and it is possible to facilitate the return to work in these patients by identifying their job needs in relation to their abilities and barriers of returning to work through the appropriate interventions.

Keywords: Cancer survivors- work ability- return to work

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Introduction

In recent decades, the number of cancer survivors has risen considerably thanks to the promotion of previous therapies, the development of new therapies, and the early detection of most cancer types. Estimates show that the number of American survivors with a history of cancer in 2012, 2016 and 2019 was 13.7, 15.5 and 16.9 million, respectively. This number is expected to be on the rise, reaching 22.1 million by 2030. More than half of the survivors (56%) have had 10 years since diagnosed with the disease (Miller et al., 2019).

The diagnosis of cancer is so prevalent among economically active people that more than half of cancer survivors are under the age of 65. Therefore, many of these survivors are expected to resume their work activities during or after treatment (de Boer et al., 2020). Employment, as one of the basic human needs, plays a vital role in the economic, social and mental health of society. As a result, returning to work is important and necessary for both cancer survivors and society (Mehnert, 2011). Returning to work can be considered the symbol of a complete recovery (Spelten et al., 2002), a factor in coping with the disease and its complications

(Zomkowski et al., 2020), a return to the rhythm of normal life and re-presence in society (Kennedy et al., 2007; Van Egmond et al., 2017)), bringing about numerous positive effects which can enhance the survivors' quality of life (Zomkowski et al., 2020). Also, returning to work improves self-confidence (Cocchiara et al., 2018), helps maintain social relationships, retain individual identity and a greater sense of control over life (Kennedy et al., 2007; Dolgoy et al., 2020) as well as keep the workforce and reduce the financial burden of the disease on the individual and society (Zhu et al., 2020).

Some studies have reported cancer not to have a drastic effect on the return to work of cancer survivors, with cancer survivors usually able to resume work (de Boer et al., 2020). However, there exist other studies suggesting that some cancer survivors may go through a lot of problems as a result of their illness when returning to work (Boelhouwer et al., 2020). Failure to attend to this important issue with the survivors in medical centers indicates the gap between the care provided and job requirements, which can lead to frustration, disruption of care and loss of employment (Désiron et al., 2017).

Numerous factors affect the rate of cancer patients returning to work, including disease-related

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factors (such as stage and location of cancer, type of treatment), work-related factors (such as type of work, work pressure, work stress), and factors related to the person (such as age, socio-demographic characteristics, ability to work, fatigue, pain, low energy, etc.) (Stergiou-Kita et al., 2014). However, cancer survivors note that reduced ability to work is one of the important factors exerting negative effects on returning to work and has been proposed as an independent predictor of return to work (Senft et al., 2020). Concern about not being able to work is not unique to cancer patients, rather it is a common challenge among employers when deciding whether or not to re-employ cancer survivors (Nitecki et al., 2021). Work ability can generally be defined as a person's overall fitness to job demands, and the ability to participate in work based on health, mental and physical resources ((Boelhouwer et al., 2020). Therefore, perceived work ability is defined as the overall physical, psychological, and social resources needed by individuals to be present at work work (Van Egmond et al., 2017). The results of previous studies show that even after initial treatment, the mental and physical ability to work in cancer patients is reduced by 20 to 30% (Colombino et al., 2020; de Boer et al., 2020). Of course, the studies of Tan et al. (2012) show that in addition to physical and psychological symptoms of work ability, other barriers such as fear of potential environmental hazards, disturbing negative thoughts, social support, employer support, and attention to financial independence can play a key role in survivors' return to work (Tan et al., 2012).

Ghasempour et al. (Ghasempour et al., 2015) and Zamanzadeh et al. (Zamanzadeh et al., 2018) are among the first to study the return to work among cancer survivors in Iran. However, during our extensive review of the literature, we found no study to have examined the rate of return to work or the effect of a person's ability to work upon returning to work in cancer patients in Iran and other Middle Eastern countries. Therefore, in order to continue care and rehabilitation in this type of patients, it is necessary for the treatment and care team to have deep knowledge and experience in all aspects of the disease of cancer patients(Idris et al., 2020). So, the results of this study seem to be useful in developing comprehensive rehabilitation programs for cancer patients. Therefore, we set out to investigate the return to work and its relationship with the ability to work in cancer survivors.

Materials and Methods

This descriptive-analytical cross-sectional study was performed in an educational hospital affiliated to Tabriz University of Medical Sciences and a private hospital in Tabriz. The study population included all patients who referred to the centers for follow-up treatment during the study. The inclusion criteria were having a definite diagnosis of cancer, being of 18 years of age, willingness to participate in the study, completion of initial treatment of the disease, having no signs of active disease and being employed at the time of diagnosis. In the absence of similar studies, based on the results of a pilot study with the participation of 30 cancer survivors, the sample

size was calculated to be 220 people. By considering the probability of sample loss, 235 survivors who met the study criteria were initially selected through convenient sampling method. However, our final sample size included 227 participants because about 4% of the participants refused to participate in the study.

In the present study, the data collection tool consisted of three main parts. The first part was a checklist of socio-demographic and disease-related characteristics that was completed based on the patients' own reports and their medical records. The second part was related to determining the rate of return to work, which was designed based on previous studies and a researcher-made questionnaire (Nilsson et al., 2013). This questionnaire elicited three main return -to -work options of cancer survivors: full-time, part-time or non-return. In cases where participants returned to work part-time, the time of attendance before and after the illness was noted. This questionnaire considers seven different dimensions in measuring the ability to do work. The seven dimensions of the questionnaire include: current work ability status compared to the best period of life (score 0-10), ability to work in relation to job needs (score 2-10), number of diseases currently diagnosed by a doctor (score 1-7) estimation of work disability due to illness (score 1-6), sick leave used in the past year (score 1-5), prediction of the ability to work for the next 2 years by the individual (score 1-7) and psychological resources (score 1-4). Based on these dimensions, the score assigned to each person will vary from 7-49. In general, people are classified into four groups: poor work ability (score 7-27), moderate work ability (score 28-26), good work ability (score 43-37) and excellent work ability (score 44-49) (Tuomi et al., 1998). In order to use this questionnaire, first the English version under Backward Translation was translated into Persian by two experts in English language and literature, and the accuracy of the translation was confirmed by two other experts. Then, the face and content validity of this questionnaire were evaluated by ten faculty members of Tabriz University of Medical Sciences. The reliability of the questionnaire was calculated 0.78by internal correlation, using Cronbach's alpha coefficient after a pilot study on 30 survivors.

Having had the research approved in the Committee of Ethics in Research of Tabriz University of Medical Sciences with the ethical code 5.4.4570, the researcher entered the research environments with the ethical and executive licenses of the project and explained the objectives of the project and the method of sampling to hospital officials and the participants. The eligible participants signed a written informed consent form to participate in the study. In order to standardize the data collection process, the information of all patients was completed through private interviews in a private room. Due to the lack of a specific statistical population of cancer survivors, the Convenience Sampling method was used for sampling.

Data were analyzed by SPSS software (Ver. 20). Some demographic and socio-demographic characteristics and RRTWs of participants were described using descriptive indices, including frequency, percentage, mean, and

standard deviation. Chi-square test was used to examine the relationship between the ability to do work and type of return to work. To explore whether any demographic or disease-related variables predicted return to work multiple linear regression analyses were conducted. For identifying the predictors of rate of return to work firstly the relationships between rate of return to work and independent variables such as work ability, age, gender, marital status, education level, etc. were determined by using bivariate statistical tests such as independent samples t-test, Pearson correlation test, and Chi-square test. Then, meaningful or important variables were entered into the model. Categorical variables were recoded into dummy variables for the multiple linear regression analysis. The significance level of p<0.05 was considered in all statistical tests.

Results

In this study, the age of participants averaged 43.87 ± 9.71 years. The mean duration of diagnosis awareness was 37 ± 30.42 months. The duration of the last treatment was 21.51 ± 25.74 months. Some disease-related socio-demographic characteristics of the cancer survivors participating in the study are presented in Table 1.

The results of this study showed that 166 (73.2%) of the survivors had returned to work after completion of initial treatment, 78 (34.4%) and 88 (38.4%) of whom had also returned to full-time and part-time jobs, respectively. In cases of part-time returning, the average daily working time had reduced from 12.22 ± 2.24 h to 5.52 ± 1.78 h. The results indicated that the mean score of work ability among cancer survivors was 29.52 ± 43.9 with a range of 9 to 43 in the average range and that there is a significant relationship between the score of work ability and the type of return to work. As the ability to work score increases, the likelihood of return to work in cancer survivors increases (Table 2).

In addition, results of regression analysis showed positive significant relationships between work ability and

Table 1. Demographic and Cancer-Related Characteristics of Participants

Variable	Groups	Frequency	Percent
Location	City	180	79/3
	Village	47	20/7
Type of cancer	Blood	93	41/1
	GI (Gastro-intestinal)	23	10/1
	Breast	48	21/1
	Colon	28	12/3
	Others	35	15/4
Surgical treat-	Yes	152	67/0
ment	No	75	33/0
Radiotherapy	Yes	92	40//5
treatment	No	135	59/5
Type of return to	full-time return	78	34/4
work	Non-return	61	26/8
	Part-time return	88	38/8
Gender	Male	131	7/57
	Female	96	3/42
Education	Illiterate	26	11/5
	Elementary	108	47/6
	Diploma	58	25/6
	University degree	35	15/3
Job	Handworker	128	56/4
	Governmental staff	59	26/0
	self - employed	40	17/6
Marital status	Married	193	85/0
	Single	21	9/3
	Widowed / divorced	13	5/7
Financial	incomes > expenses	50	22/0
status[1]	incomes = expenses	3	1/3
	incomes < expenses	174	76/7

1. Comparing the person's income level with the expenses incurred in the period after the completion of active treatment.

Table 2. Relationship between Work Ability Score and Type of Return to Work

			work ability grouped			Total
			Poor* (7-27 score)	**Moderate e) (28-36 score)	Good*** (37-43 score)	
Return to Work	Full-time return	Count	3	30	45	78
(RW)		within RW	3.80%	38.50%	57.70%	100%
		within work ability grouped	3.80%	35.70%	71.40%	34.40%
	Part-time return	Count	19	52	17	88
		within RW	21.60%	59.10%	19.30%	100%
		within work ability grouped	23.80%	61.90%	27.00%	38.80%
	Non-return	Count	58	2.00%	1.00%	61
		within RW	95.10%	3.30%	1.60%	100%
		within work ability grouped	72.50%	2.40%	1.60%	26.90%
	Total	Count	80	84	63	227
		within RW	35.20%	37.00%	27.80%	100%
		within work ability grouped	100%	100%	100%	100%

^{*,} Poor Work Ability (7-27 Score); **, Moderate Work Ability (28-36 Score); ***, Good Work Ability (37-43 Score)

Table 3. Results of Ordinal Regression Analysis of Work Ability Index with Return to Work and Background

Covariates	Unadjusted estimates		Adjusted estimates \$	
	B (95% CI)	P-Value	B (95% CI)	P-Value
Work Ability	0.3 (0.22- 0.33)	< 0.001	0.32 (.254)	< 0.001
Poor work ability	-5.31 (-6.44.23)	< 0.001	-5.99 (-7.364.62)	< 0.001
Moderate work ability	-1.43 (-2.120.73)	< 0.001	-1.52 (-2.466)	0.001
Good work ability	Reference		Reference	
Age	-0.03 (-0.060.006)	0.01	-0.0 3(-0.0802)	0.22
Gender				
Male	52 (-1.0050.024)	0.04	-1.16 (0.18 - 2.13)	0.02
Female	Reference		Reference	
Education status				
Illiterate	-2.6(-3.61.5)	< 0.001	-0.82 (-2.9 - 1.25)	0.44
Primary School	-2.2 (-3.11.4)	< 0.001	-1.12 (-2.64 - 0.4)	0.15
High School	-0.9 (-1.8 - 0.01)	0.054	-0.7 (-2.09- 0.7)	0.32
Academic degrees	Reference		Reference	
Profession Status				
Handworker	-0.6 (-1.3 - 0.9)	0.08	0.88 (-0.22 - 1.1)	0.12
Governmental staff	1.6 (0.8 - 2.4)	< 0.001	2.21 (0.95- 3.49)	0.001
freelance	Reference		Reference	
Marital Status				
Married	-0.1 (-2.07 - 0.1)	0.08	-3.08 (-5.220.93)	0.005
Single	-0.9 (-2.18 - 0.48)	0.2	-3.15 (-6.99 - 0.7)	0.11
Widowed/Divorced	Reference		Reference	
Financial status				
incomes > expenses	1.7 (1 - 2.3)	< 0.001	-0.41 (-1.54 - 0.73)	0.48
incomes = expenses	1.9 (-0.6 - 4.3)	0.1	0.68 (-2.74 - 4.09)	0.69
incomes < expenses	Reference		Reference	
Location of living				
City	1.1 (0.5 - 1.7)	0.001	0.62 (-0.35 - 1.59)	0.21
Village	Reference		Reference	
Type of cancer				
Blood	0.5 (-0.3 - 1.2)	0.2	0.15 (-1.15 - 1.4)	0.82
Gastro-intestinal	-0.8 (-1.8 -0.2)	0.1	-0.17 (-1.72 - 1.37)	0.82
Breast	0.4 (-0.4 - 1.2)	0.3	0.48 (-1.85 - 0.9)	0.47
Colon	-0.1 (-1 - 0.8)	0.8	0.02 (-1.28 - 1.34)	0.96
Others	Reference		Reference	
Radiotherapy				
Yes	-0.04 (-0.5 - 0.5)	0.9	0.24 (-0.73 - 1.20)	0.63
No	Reference		Reference	
Surgery				
Yes	-0.4 (-0.9 - 0.1)	0.1	0.63 (-0.6 - 1.86)	0.31
No	Reference		Reference	
Time awareness of disease	0.01 (0.01 - 0.02)	0.003	0.002 (-0.011 - 0.014)	0.78
latest treatment time	0.03 (0.02 - 0.04)	< .001	0.01 (-0.08 - 0.04)	0.173

the rate of return to work before and after the adjustment of variables, as well as between some socio-demographic variables. Thus, multiple linear regression analysis showed that poor work ability has a significant effect on return to work in cancer survivors. So that with an increase of 1 unit in poor work ability, return to work decreases

by 5.31. After adjustment of variables, however, only gender, having a government job, and being married had significant correlations with the rate of return to work (Table 3).

Discussion

The aim of this study was to investigate the return to work and its relationship with the ability to work among Iranian cancer survivors. Based on a review of literature, this study is one of the few studies that has addressed this issue in Iran and perhaps other Middle Eastern countries. The findings of the present study show that after the completion of the initial treatment, approximately two thirds of the participants, 78 (34.4%) were fully employed and 88 (38.4%) worked part-time. The highest rate of return to work in cancer patients belonged to part-time with their average daily working hours reduced by almost half. In this study, 72.2% of participants reported their ability to work as weak to moderate and there was a significant relationship between the work ability and the type of return to work. As the work ability score increased, the probability of returning to work increased, as well. Possibly, the work ability can be an independent predictor in determining the type of return to work among cancer survivors. Different studies have come up with different findings regarding the rate of return to work the rate of return to work was reported 64% by Mehrent et al., (2011) while Paltrineri et al., (2018) put it within the range of 39-77%.

The findings of some other studies also show that although 64-84% of cancer survivors return to work after the initial treatment, a significant proportion of them return to work with disabilities and have a strong desire to quit their job or change it (De Boer et al., 2008). Also, the results of a longitudinal study by Hartung et al., (2018) showed that 6 months after the completion of the initial treatment, only 35% of the survivors returned to work, while 12 months after the initial treatment, this figure reached 58%. In a study by Dahl et al., (2016) which was performed on prostate cancer survivors, the results show that 74% of cancer survivors returned to work full-time and 19% part-time. In this study, only 7% of the survivors did not return to work for reasons such as sick leave, participation in rehabilitation programs, etc. The results of these studies are inconsistent with those of the present study. Perhaps the most important reason for the incongruence has to do with the type of sample selection, during which only people who completed the treatment, were fully active and did not show metastasis were included. It seems that contextual and socio-cultural factors can affect the return of cancer survivors to work in different societies and this factor has caused inconsistencies in the results of some studies (Paltrinieri et al., 2018). For example, most Asian women are not the main breadwinner of the family and place more emphasis on their family responsibilities (Ahn et al., 2009); or salaried employees and self-employed workers surviving cancer are less likely than the general population to stay at work (Tison et al., 2016). The primary reason for this might be traced to the existence of a social support system for cancer survivors, in which a new force is employed thus encouraging cancer survivors to retire early (Fantoni et al., 2010). Of course, it should be noted that in some countries, such as Sweden, the employment rate of people over 55 years of age, has the highest rate, which indicates the difference in social values of different societies (Petersson et al., 2011). In this regard, the findings of a qualitative study by Zamanzadeh et al., (2018), In Iran showed that individual attitudes toward return to work is one of the main factors in the actual experience of return to work in cancer survivors. In this study, from the sub-categories of individual perspectives, we can point to the goal and expectations of the individual from return to work. In this study, rebuilding their damaged identities and gaining financial resources were recognized among the main reasons for Iranian men to return to work while women referred to return to work as a means of distraction and escaping from social isolation. Usually in Iranian culture, men are the main breadwinners of the family while women are not responsible for this and are financially supported by their families and husbands.

Also, the results of this study showed that cancer can negatively affect the ability of survivors to work. The scoring work ability of cancer survivors in this study was moderate, which is in line with the findings of the study by Hartung et al., (2018). Of course, the results of studies in this field are different. Some studies have reported problems such as adaptation, concentration, and loss of capacity for physical and mental abilities as factors influencing the work ability of cancer survivors (Sun et al., 2017). In contrast, the findings of some other studies show that the ability of patients to work in the early stages is similar to that of the control group (Taskila et al., 2007) and some results describe it as good (Dahl et al., 2016). Such differences highlight the complexity of the concept of work ability, which might be affected by a variety of factors such as age, social factors, time of diagnosis, gender, type of cancer, occupation, and late treatment complications (Carlsen et al., 2013).

In this regard, the results of the study by Hartung et al., (2018) showed a significant and direct relationship between the ability to work and the rate of return and increase over time. According to the studies by Von Ah et al., (2017), and Mehnert et al., (2011), the work ability score can be used as a strong predictor of the onset of rehabilitation and the job expectations of cancer survivors (Salzwedel et al., 2019) and to determine the rate of return to work

Also, the results of the present study showed that after adjusting the data, there is a significant relationship between gender and return to work, which is consistent with the results of studies by Dahl et al., (2016) while contradicting the results of Von Ah et al., (2017). The results of the study by Dahl et al., (2016) show that among cancer survivors, women are more likely than men to be unemployed, retire early and become disabled.

De Boer et al., (2015) believes that men possess higher capability to work than women, but over time, this capability increases in women compared to men. This discrepancy could be due to the selection of research samples in which the samples were selected only from among patients who had a good prognosis, had no metastases and were employed at the time of the study. Of course, it should be noted that the rate of return to work among cancer survivors in different societies is influenced by factors such as ethnicity, stage of cancer at diagnosis, type of treatment, quality of life and government support.

Another finding of this study was that being married is an incentive to return to work. This is consistent with the study by Musti et al., (2018) who observed that being single with financial insecurity and lack of family support leads to women's return to work despite their poor work ability. The results of some other studies show that marital status and family support can affect the return of cancer survivors to work (Sun et al., 2017; Tikka et al., 2017). Cultural and social factors such as commitment to the family and women not being obliged to be the breadwinners in Asian countries have a greater impact on women's decisions to return to work (Ahn et al., 2009).

Also in the present study, having a government job was an influential factor on returning to work. The results of the present study are in line with those of Gregorowitsch et al., (2019). In general, people with higher education and white collar jobs with a suitable work environment and legal protection seem to have higher work ability (Lindbohm et al., 2012). In other studies, the type of job (Musti et al., 2018) and physical condition (Hartung et al., 2018) of individuals are considered to affect the ability of cancer survivors to return to work. Of course, it should be noted that different social contexts should be considered in the interpretation of return to work findings. In France, for example, with a strong support system for cancer survivors, it is possible for these patients to retire earlier than usual, so the system encourages survivors to use the existing facilities and thus reduces the rate of cancer survivors' return to work (Fantoni et al., 2010). Nonetheless, the employment rate of people over 55 is quite high in Sweden, which indicates that such differences might simply be attributed to different social values (Petersson et al., 2011). However, it should be noted that in the present study, after adjusting the variables, some factors such as age, education, type of disease and treatment received were not significantly associated with the ability to return to work. While in some studies contradictory results have been reported about the mentioned variables.

Regarding age, the results of some studies show a significant relationship between age and work ability (Sun et al., 2017; Hartung et al., 2018) while others show a lack of significance (Dahl et al., 2019; Dahl et al., 2020). However, it should be noted that in most of the mentioned studies, the age variable was the determining factor in the work ability among people over 60 years of age. In the present study, the average age of the participants was about 43 years, and this may have caused a discrepancy. Another finding of the present study shows that there is no significant relationship between education level and work ability. This result was consistent with studies (Von Ah et al., 2017; Gregorowitsch et al., 2019) and contradictory with the findings of studies (Hartung et al., 2018; Dahl et al., 2020). This discrepancy may be related to the type of samples selected; because most of the participants in the present study had not even completed their high school education. Also, the results of the present study indicated that there is no significant relationship between the type of cancer and the ability to work. The results of this study are consistent with the results of the studies (Taskila et al., 2007; Brock et al., 2022) (1 and 2) and are inconsistent

with the results of the studies(Taskila-brandt et al., 2004; Dahl et al., 2019) (1 and 2). This contradiction may be due to cultural differences, contextual factors and the type of sample selected for the present study. So that maybe more blood cancer samples (nearly 41% of samples) compared to other types of cancer justifies and explains this contradictory result. Finally, the results of the study showed that there is no significant relationship between the type of treatment and the work ability, this finding is inconsistent with the results of other studies (Sun et al., 2017; Musti et al., 2018). This may be due to the type of study and the samples selected. In most of the studies mentioned, the samples were selected from only one type of cancer, such as prostate or breast, while in our study, the samples were from different cancer types.

In Conclusion, the results of the present study showed that the return to work among cancer survivors in Iran is in the middle range and even those who have returned to work after receiving various treatments, do not have the same work ability and their working hours are almost reduced by half. According to the findings of this study, the work ability score may be used as an independent predictor of cancer survivors return to work. In recent years, with the increase in the number of cancer survivors, this issue has become increasingly important and it is believed that the patients' recovery stages can be facilitated and their quality of life can be enhanced through careful planning to identify and support the people at risk, managing the symptoms of the disease and providing the necessary services appropriate to the need. Health care providers need to work with cancer survivors to determine if they are physically, cognitively, and emotionally ready to return to work.

Limitations Like most studies, the present study also had limitations that should be taken into account when interpreting the results. First, the data used in this study were self-reported, which may have introduced a degree of social desirability bias. Second, cross-sectional design was used in this study. Third, this study used a convenience sample that limits the generalization of the results; and our survey was conducted only in a city (Tabriz) in the north-west of Iran, therefore, the results cannot be generalized to the whole country. It is suggested that longitudinal studies be used with more samples to enhance the results.

Author Contribution Statement

Study conception and design: MG, AR, MP; data collection: MG, MP, JD; analysis and interpretation of results: MG, AR, SM; draft manuscript preparation: MG, AR, SS; All authors reviewed the results and approved the final version of the manuscript.

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Compliance with Ethical Standards

The Ethics Committee of Tabriz University of Medical Sciences authorized the permission to conduct this study (ethical code no. is 5/4/4570). Informed consent was obtained from all these patients in accordance with the instructions of the Ethics Committee of Tabriz University of Medical Sciences. All of the authors have full control of all primary data and they agree to allow the journal to review their data if requested.

Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Conflict of interest

The authors declare no conflict of interest.

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