

# Evaluating Influence of Seamless Nursing for the Gastrointestinal Cancer Patients

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**Abstract:** Objective: to evaluate effect of seamless nursing for complications on gastrointestinal cancer patients. Methods: 266 patients diagnosed as gastrointestinal cancer from June 2016 to March 2019. The control group and intervention group were assigned from participants after they agreed to join this study. We collected the information by different questionnaires and hospital record, the questionnaires included Self-Rating Anxiety Scale (SAS), the Self-rating depression scale (SDS) and Self-rating form of satisfaction. Result: The most of gastrointestinal cancer stage in two groups was early gastrointestinal cancer [57 (42.9%) & 55 (41.4%),  $p=0.023$ ]. In SAS and SDS research, the improvement was not significant ( $34.22\pm1.12$  vs  $46.32\pm3.26$ ,  $32.38\pm3.01$  vs  $46.52\pm5.84$ ), the improvement had statistical significance. In satisfaction research, the satisfaction of intervention group patients was higher (84.2% vs 81.2%). The number of people in bad level is about the similar as the number. Conclusion: The seamless nursing measure had positive influence in treatment outcome. The seamless nursing measure had better influence for the patients of gastrointestinal cancer. However, the result of improvement was not significant for the patients of gastrointestinal cancer. Besides, the seamless nursing had better influence for satisfaction on patients of gastrointestinal cancer.

**Keywords:** Seamless Nursing, Gastrointestinal Cancer, Satisfaction of Patients

## 1. Introduction

Gastrointestinal cancers is the leading cause of death in China and is the major public health problem [1]. Additionally, the treatment was good for many patients with gastrointestinal cancers to prolong life [2]. Following to some studies, they demonstrated a median survival of 90 months for patients with carcinoid tumours and 72 months for those with gastrointestinal cancers [3-5]. Cancers represent a significant health burden in modern society, and prevalence is likely to continue rising in the future. Particular attention to gastrointestinal cancers has been addressed in recent times, as it is currently the most common type of cancer [6]. Most common gastrointestinal cancers include primary liver cancer, gastric cancer and colorectal cancer. Primary liver cancer or commonly known as hepatocellular carcinoma is the sixth most common cancer and the third leading cause of cancer-related death worldwide [7, 8].

The malignant disease originating of accessory organs of digestion and gastrointestinal tract has many different species in history of human disease. The gastrointestinal cancer is the most common one in malignant disease originating, it include many branches in this category of diseases, such as esophagus cancer, gastric cancer and colorectal cancer. In particular, gastric and colorectal cancers had higher mortality than other cancer, the age-standardised 5-year relative survivals for gastric and colorectal cancers are 27.5% and 47.2% in China [9]. Aim of our study is evaluate the influence of seamless nursing for the gastrointestinal cancer patients.

## 2. Methods

### 2.1. Participants Enrollment and Survey Methods

The participants ( $n=266$ ) who were diagnosed as gastrointestinal cancer, and they received gastrointestinal tumor resection or chemotherapy. We investigated the

patients to join this study as they wish to get more information about gastrointestinal cancer and they were willing to provide their information to us. The data was associated with diagnosis result was collected from June 2016 to March 2019. We randomly assigned the participants to the control group (n=133) and the intervention group (n=133). The patients of two groups had different nursing measures. We use the traditional nursing care for control group participants. For intervention group, the participants had extra seamless care services in the treatment process. Our researchers collected anxiety information and depression information by questionnaires which include Self-Rating Anxiety Scale (SAS) and Self-rating depression scale (SDS) [10-12], if the importance rating is higher than the satisfaction rating of a specific HRQoL aspect, this might indicate a low quality of life with regard to that specific aspect. Additionally, we collect the information was associated with participants characteristics from hospital database and participant satisfaction of satisfaction questionnaire.

About seamless nursing service, in first stage, we receive the medicine record of the patients so that we can clear know the gastrointestinal cancer status of patient. So the patient can receive suitable care at once as we had been know the information which from other medical organization. In second stage, the patient receive quick procedure process and check process as the patient

information was shared to all related department in the hospital. In finally stage, our research follow up on the patient's condition after discharge.

Their inclusion criteria were: (1) the patients were diagnosed as gastrointestinal cancer; (2) coagulation function was well; (3) Patients volunteered to participate in follow-up; Their withdraw criteria were: (1) patients had complications after treatment process; (2) The patient also had other stomach problems.

## 2.2. Statistical Analysis

Our data analyzer performed the statistical analysis by SPSS 22.0. The P value, t-test and chi-square test were associated with collection result were analyzed. Besides, the mean standard deviation for statistical description.

## 3. Result

We collected the participant characteristics from hospital database, the information of patients was recorded when the patients make checking in The First Affiliated Hospital of Jinan University (Table 1). The most of gastrointestinal cancer stage in two groups was early gastrointestinal cancer [57 (42.9%) & 55 (41.4%),  $p=0.023$ ].

**Table 1.** Participant Characteristics.

Characteristics	Control Group	Intervention Group	T-text	P value
Gender (female), n (%)	72 (54.1%)	62 (45.9%)	22.33	0.121
Age (years)	45.45±13.76	43.12±11.45	10.44	0.041
gastrointestinal cancer stage				
Middle stage of gastrointestinal carcinoma	44 (33.1%)	51 (38.3%)	21.34	0.163
early gastrointestinal cancer	57 (42.9%)	55 (41.4%)	42.11	0.023
Advanced gastrointestinal carcinoma	23 (17.3%)	18 (13.5%)	20.56	>0.005

Following to the outcome of SAS and SDS, the intervention group participants had seamless nursing had better improvement than the control group (Table 2). Despite of the improvement was not significant (34.22±1.12 vs 46.32±3.26, 32.38±3.01 vs 46.52±5.84), the improvement had statistical significance.

**Table 2.** The outcome of SAS and SDS.

Projects	SAS		T	P value	SDS		T	P value
	BN	FN			BN	FN		
Intervention Group (n=51)	65.51±4.24	34.22±1.12	43.2267	< 0.005	58.54±4.41	32.38±3.01	27.9447	<0.005
Control Group (n=51)	63.39±4.18	46.32±3.26	15.6861	< 0.005	65.46±4.45	46.52±5.84	11.3830	<0.005
T	0.012	25.280	-	-	0.0042	16.4202	-	-
P value	0.972	< 0.005	-	-	0.061	<0.005	-	-

SAS=Self-Rating Anxiety Scale.

SDS=Self-rating depression scale.

BN=before the nursing.

FN=after the nursing.

The satisfaction of patients was collected by questionnaires, the satisfaction of patient had three levels to assess the the satisfaction status, such as very well, good and bad. As the table 3, the satisfaction of intervention group patients was higher (84.2% vs 81.2%). The number of people in bad level is about the similar as the number.

**Table 3.** The satisfaction of patients.

Projects	Very Well	Good	Bad	Percent
Intervention Group (n=133)	68	44	22	84.2%
Control Group (n=133)	47	61	25	81.2%
X <sup>2</sup>	-	-	-	6.575
P value	-	-	-	0.004

## 4. Discussion

In worldwide, upper gastrointestinal cancers is the death of the main factors in cancer-related deaths, its branch included oesophageal cancer and gastric cancers. In fact, they also are among the most common malignancies [13, 14]. Base on some reports, about over 2.5 million people were dead by gastrointestinal cancers in every year, it accounts for 30 percent of all deaths in all cancer-related deaths. In gastrointestinal cancers, it had high incidences of morbidity and mortality in all cancers. Moreover, gastrointestinal cancers patients face a current unresolved issues, that are frequent diagnosis in advanced stages and resistance to chemotherapeutic drugs [15, 16]. In a study of patients with gastrointestinal cancer, general gastrointestinal cancer could increase the risk and burden of an expanding set of chronic diseases, including cardiovascular disease, type 2 diabetes mellitus, cancers and even death [17]. According to the analysis, gastrointestinal cancers are largely treatable at an early stage. For example, regular colonoscopy is a powerful tool for the prevention of colorectal cancer by resecting pre-cancerous and neoplasia tissues across the large bowe [18]. Likewise, endoscopy of the stomach has been demonstrated to be effective in significantly reducing mortality of gastric cancer by as much as 30%.

As the outcome of our research, the seamless nursing measure had positive influence in treatment outcome. For the participants, their mental health had better improvement and better satisfaction of patients in intervention group. In SAS and SDS research, the participants provide a outcome of mental health, the participants of two groups had mental improvement after treatment. The intervention group had better outcome in two researches, but the improvement gap was not big. Additionally, the seamless nursing measure make the better image for the patients as the participant of intervention group provide a better result of satisfaction research. In limit, the simple size was small for the study and our simple was only limited to our hospital patients, so the result of our research was not accurate in some parts. Additionally, our participants was limited in income population, the participants who join our study were low - income groups and middle-income groups. Because the people of high-income group often chooses to go to the hospitals which are more expensive.

## 5. Conclusion

In conclusion, the seamless nursing measure had better influence for the patients of gastrointestinal cancer. However, the result of improvement was not significant for the patients of gastrointestinal cancer. Besides, the seamless nursing had better influence for satisfaction on patients of gastrointestinal cancer. But some parts of result were not statistical significance, so the some results was not accurate in assessment. In total result of our research, the new nursing measure provided slight improvement to the mental health of

patients in the treatment process as the improvement result had big gap between intervention group and control group. For the patient satisfaction data, the seamless nursing measure provided better image of hospital to the patients, intervention group had higher score in satisfaction research result. In limit, the simple size was small for the study and our simple was only limited to our hospital patients, so the result of our research was not accurate in some parts.

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