

Effects of Treatment Environment and Intensive Nursing Intervention on Gynecological Oncology Patients

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Abstract: Objective: To assess effects of treatment environment and intensive nursing intervention on gynecological oncology patients. Methods: 108 patients diagnosed as gynecological oncology from July 2015 to July 2018. They were randomly assigned to control group and intervention group, the participant had the different nursing measure and new treatment environment in two groups. We collected the result that included quality of life, pain level, immune function and participants characteristics by completing questionnaires, collecting medical records and flow cytometer. In addition, the participants were asked to complete the questionnaires, such as Short Form-36 (SF-36) and Self-report questionnaires. We use flow cytometer (FCM) to assess immunity function of patient. Result: The participants of intervention group had higher increasing in CD8⁺ (19.88±2.40 vs 17.32±2.88). Additionally, most participants had mild pain in treatment process [30 (50.66%) & 42 (73.24%)] and few participants had severe pain. In addition, few participants had severe pain, very few participants had very pain experience and painless experience in treatment process. In four domains of quality of life, all participants were improved in all domains. Conclusion: Treatment environment and intensive nursing intervention improve the outcome of gynecologic cancer treatment. But the improvement was not significant in the treatment process.

Keywords: Gynecological Oncology, Treatment Environment, Nursing

1. Introduction

Optimal treatment and care of women with gynaecological cancers requires a multidisciplinary team, such as gynaecological oncologists; medical oncologists; radiation oncologists; nurses with specialist gynaecological expertise; pathologists; radiologists; general practitioners; gynaecologists; specialist allied health professionals; palliative care providers; sexual health counsellors; geneticists; dieticians; and genetic counsellors [1, 2]. As some reports, Specialist nurses are considered important members of gynaecological cancer multidisciplinary teams providing comprehensive treatment of gynaecological cancers [3, 4]. Additionally, gynecologic oncologists' daily practice involves situations that require complex communication skills, including disclosing serious news and discussion of prognosis, treatment decisions, and goals of care [5, 6].

Compared to other female surgical patients, women with

gynecologic cancers are more likely older and obese, they need complex care, they had higher risk for hospital readmission after surgery [7-10]. Following to the report of single academic institution, readmission rate was 13.2% on a gynecologic oncology service, they had few planned readmissions that the mean cost of readmission was \$9820 per time [11]. This study aim was evaluate effects of treatment environment and intensive nursing intervention on gynecological oncology patients, to reduce readmission rate and to improve the outcome of gynaecological oncologists treatment.

2. Methods

2.1. Participants Enrollment and Survey Methods

The patients (n = 108) were investigated to join our study who were diagnosed as gynaecological cancers, their age were

between 20 and 50. We collected the related data of patients which was from July 2015 to July 2018. In addition, the participants were randomly assigned to two group, such as intervention group (n = 54) and control group (n = 54). In intervention group, we changed the treatment environment and nursing measure to the participants, our researchers would record the outcome of treatment. In control group, we use traditional treatment environment and traditional nursing measure for the participants. The participants were asked to complete the questionnaires, such as Short Form-36 (SF-36) and Self-report questionnaires [12, 13]. Additionally, we use flow cytometer (FCM) to assess immunity function of patient.

Their inclusion criteria were: (1) the patients were diagnosed as gynaecological cancers; (2) people volunteered to participate in postoperative follow-up; (3) Cognitively and mentally were normal. Their withdraw criteria were: (1) mental health was not good; (2) the patients had many

complications; (3) the patients had metastasis of cancer.

2.2. Statistical Analysis

We use SPSS24.0. to analyze and assess the data. We used P value, t-test and chi-square test to analyze the collection outcome. Additionally, the mean standard deviation for statistical description.

3. Result

We collected the data associated with participants characteristics when they join our study (Table 1). Most of their cancer type were cervical cancer in both of groups [15 (25.97%) & 16 (30.58%)]. Additionally, all of cancer type had statistical significance ($p < 0.005$).

Table 1. Participants Characteristics.

Projects	Intervention Group, n (%)	Control Group, n (%)	X ²	P value
Cancer types				
Ovarian cancer	9 (15.12%)	8 (11.79%)	2.582	< 0.005
Cervical cancer	15 (25.97%)	16 (30.58%)		
Malignant tumor of fallopian tube	7 (15.44%)	5 (10.12%)		
Endometrial cancer	8 (9.77%)	7 (15.04%)		
choriocarcinoma	9 (13.23%)	8 (12.88%)		
Marital status				
Married	44 (83.65%)	48 (86.07%)	1.259	0.355
Unmarried	9 (17.03%)	7 (11.18%)		
Weight (Kg)	60.77±8.03	59.40±8.68	3.2	0.221
Age (Years)	40.06±3.53	39.35±2.97	0.281	0.281
Course of the disease (Months)	5.56±1.28	5.27±1.21	0.704	0.704

In immune function, the participants of intervention group had higher increasing in CD_8^+ (19.88±2.40 vs 17.32±2.88). In addition, the participants of control group had higher increasing in another projects, that included CD_3^+ , CD_4^+ and NK. The CD_8^+ , CD_4^+ and NK had statistical significance ($p < 0.005$) (Table 2).

Table 2. The immune function of participant.

Projects	Intervention Group				Control Group			
	BN	FN	T	P value	BN	FN	T	P value
CD_3^+	63.76±9.01	80.22±12.34	7.013	< 0.005	66.25±6.04	84.37±15.04	6.951	0.14
CD_4^+	33.29±5.32	46.78±4.69	12.305	< 0.005	31.68±4.25	55.36±6.16	20.664	< 0.005
CD_8^+	24.28±3.26	19.88±2.40	8.041	< 0.005	26.09±2.94	17.32±2.88	18.127	< 0.005
NK	13.06±1.88	26.30±2.26	27.024	0.43	14.93±2.06	34.44±2.23	39.757	< 0.005

BN = Before the Nursing.

FN = After the Nursing.

The pain assessment was collected by Self-report questionnaires. Most participants had mild pain in treatment process [30 (50.66%) & 42 (73.24%)]. Few participants had severe pain, very few participants had very pain experience and painless experience in treatment process (Table 3).

Table 3. Pain Assessment.

Projects	Painless	Mild Pain	Severe Pain	Very Pain
Control Group, n (%)	1 (1.79%)	30 (50.66%)	18 (36.03%)	5 (6.83%)
Intervention Group, n (%)	2 (4.96%)	42 (73.24%)	8 (15.11%)	2 (2.97%)

The quality of life of participants was collected by SF-36. In four domains of quality of life, all participants were improved in all domains. The participants of intervention group had better improvement than the participants of control group in 4 domains (Table 4). Besides, the data of 4 domains had statistical significance.

Table 4. Quality of Life.

Projects	Control Group		Intervention Group		T	P value
	BN	FN	BN	FN		
Psychological Function (Mean±SD)	29.69±3.22	32.03±5.71	29.95±3.09	35.76±5.28	18.266	< 0.005
Body Function (Mean±SD)	21.43±3.84	23.07±3.48	22.33±2.63	26.14±4.16	23.420	< 0.005
Social Function (Mean±SD)	19.90±2.88	23.98±4.32	20.34±2.07	26.83±5.02	23.781	< 0.005
Common Symptoms and Side Effects (Mean±SD)	24.81±3.06	28.14±4.41	23.97±1.94	29.78±4.05	26.083	< 0.005

BN = Before the Nursing.

FN = After the Nursing.

4. Discussion

Gynecologic cancer is the third leading cause of cancer-related deaths for women in the United States [14]. Ovarian cancer results in an estimated 13,980 deaths a year in the United States, and remains a malignancy with one of the poorest prognoses, a 5-year survival of approximately 35%. Uterine cancers, while faring more favorably overall, are estimated to result in 12,160 deaths a year and those with advanced staged or recurrent disease have a 5- year survival of 17% [15, 16]. Following to some reports, gynecologic cancer remains one of the few cancers with an increasing incidence rate and overall mortality [17, 18].

According to outcome of our research, treatment environment and intensive nursing intervention can slight change the outcome of gynecologic cancer treatment. In immune function research, the improvement between the two groups had not significant effect. However, the improvement of treatment environment and intensive nursing intervention was significant. In intervention group, most of participants were mild pain level in the treatment process. The participant of control group had most in severe pain level. So the intervention group had better result than control group in the pain status of participant. Similarly, in the score of QoL, the intervention group had higher score than control group in 4 domains of QoL. Additionally, all domain of Qol had statistical significance.

5. Conclusion

In conclusion, treatment environment and intensive nursing intervention improve the outcome of gynecologic cancer treatment. But the improvement was not significant in the treatment process. In pain level of participant, the new treatment environment and new nursing measure ease the part of participant's pain. In QoL, participants of intervention group had higher score of QoL in 4 domains. However, sample size was limitations in the study, it limit degree of accuracy of result.

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