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Impact of Counselling on Quality of Life In Cancer Patients: Clinical Pharmacist A Vital Addition In An Oncology Setting

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ABSTRACT

The aim and Objectives of the study was to identify the impact of clinical pharmacists counselling on quality of life among cancer patients, To evaluate the life style of cancer patients before and after their cancer diagnosis and assess the relation of lifestyle with occurrence of cancer. Cancer patients were enrolled and categorized into intervention and control group by block randomization. Intervention group received information leaflets, face to face counselling during study period where as the control group received the conventional care only. The Quality of Life (QoL) of patients was assessed by European Organisation for Research and Treatment of Cancer (EORTC) QLQ-C30 questionnaire at baseline and at the final follow up. life style pattern is assessed by closed ended questions. 130 subjects (65 patients in the intervention and 65 in the control) were enrolled their quality of life was assessed. In the intervention group, quality of life at baseline was 51.17±13.81. After counselling the intervention group QoL was 67.30±7.98. The paired't' test report revealed that there was a difference in quality of life ($p<.05$) after counselling. Improvement was found in all the scales, especially in quality of life, emotional functioning and in symptom scale. The association between life style and type of cancer was found at 5% level of significance Conclusion**:** Pharmacist education and counselling has leaded clinically and statistically significant difference in the Quality of life of cancer patients as compared to that of control group.

Keywords: Quality of life, Clinical pharmacist, Cancer patients.

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INTRODUCTION

Cancer is the leading cause of mortality among the world population. It is a distressing situation for everyone those who have known to be diagnosed with cancer. Main aim of the cancer treatment is to reduce the symptoms, enhance their survival and Quality of life (Qol). "Quality of life" is an important health outcome indicator most relevant in case of cancer patients. As per WHO, "Quality of life is defined as Individuals perception of their position in life in the context of culture and value systems in which they live and in relation to their goals, expectations, Standards and concerns[1"].Patient counselling is one of the most powerful predictors of patient compliance and inspires the patient to see pharmacist as a truly interested healthcare professionals. Patient education and medication counselling are an integral part of healthcare process that will improve quality of life and patient outcome. Patient counselling mainly aims to enhance patient understanding about their illness and treatment focusing on medications and its use[2]. In order to attain full potential, the patients need to follow some changes in their life style, nutritional aspects and in physical activities especially in case of cancer patients.

Although there are no permanent cure for many diseases especially those that are chronic in nature. It is important to provide palliative treatment and assist them in improving their Quality of Life (QoL). Although people with cancer are now able to live longer due to medical advancements they often experience many physical changes which can negatively influence on their psychological status and interfere with the quality of their life. So measurement of quality of life and patient education are essential in cancer patients.

Based on that it is a study that mainly focused on to enhance Quality of life in cancer patients through effective patient counselling. In the current study an attempt has been made to assess if there is any improvement in the quality of life and to provide knowledge and awareness regarding nature of disease, the importance and expected outcomes regarding various treatment aspects, adherence to medication, life style, exercise, management of side effects and dietary restrictions.

MATERIALS AND METHOD

It was a six month study carried out with the consent of patients who visiting the oncology department for the treatment of cancer. The sample size required for the study was calculated using "Paired t-test". As per the test minimum sample size required was 117.This study was approved by the Central Ethics Committee. Outpatients of either gender with 18 years of age and above diagnosed with any type of cancer, visiting outpatient department of oncology unit were

included in the study. Patients those are not willing to participate, mentally challenged and Patients with difficulty in speaking were excluded from the study. A validated European organisation for research and treatment of cancer questionnaire was used in the study for the measurement of quality of life. The process of randomization was done by chit method and the groups were randomly assigned into interventional and usual care groups. The intervention group was given patient counselling and leaflet education along with the doctor's treatment. The counselling program includes the information about the disease, treatment goals, Importance of medication adherence, possible adverse drug reactions, management of the disease and life style modifications. Usual care group received the usual care provided by the doctors, nurses and technicians and the patient counselling education and leaflets were provided to them at the end of the study. The quality of life for the both groups was evaluated at baseline and at sixth month. The Collected data was analysed by using descriptive statistics (mean ± *S*.D) and analytical statistics. Data were analysed by using Spss software version 16.

RESULTS AND DISCUSSION

A total of 141 patients were included in the study and randomised into intervention (70) and usual care group (71).5 patients from usual care and 6 patients from intervention group were dropped out. Finally 130 patients (65 from each group) completed the study.

Distribution of demographic, baseline and clinical characteristics among study population.

Among study population Females 68(52.3%) were found to be more followed by males 62(47.7%).The prevalence of disease found to be more common in 50-59 age groups.

Table 1: Distribution of cancer based on gender and age.

Demographics		**Intervention**		**Usual care**		**Total**		**chi square**	**p value**
		N	%	N	%	N	%		
Gender	Male	32	49.2	30	46.2	62	47.7	0.424	0.515
	Female	33	50.8	35	53.8	68	52.3		
Age	20-29	1	1.5	1	1.5	2	1.5	28.737**	0.358
	30-39	6	9.2	5	7.7	11	8.5		
	40-49	14	21.5	15	23.1	29	22.3		
	50-59	21	32.3	25	38.5	46	35.4		
	60-69	20	30.8	14	21.5	34	26.2		
	≥70	3	4.6	5	7.7	8	6.2		

N-Frequency, **Fishers exact test,

Table 2: Distribution of Baseline characteristics among the study population

Chi-square and fishers exact test shows no difference in baseline characteristics between intervention and usual care (P>0.05)

Characteristics		Intervention		Usual care		Total		chi square	p value
		N	%	N	%	N	%		
Diet	Vegetarian	4	6.2	2	3.1	6	4.6	2**	0.608
	Mixed	61	93.8	63	96.9	124	95.4		
Marital	Single	2	3.1	2	3.1	4	3.1	2**	0.719
	Married	61	96.9	63	96.9	126	96.9		
Education	Illiterate	16	24.6	21	32.3	37	28.5	8.06**	0.557
	Primary	30	46.2	31	47.7	61	46.9		
	High school	17	26.2	11	16.9	28	21.5		
	Degree	2	3.1	2	3.1	4	3.1		
Employment	Employed	10	15.4	7	10.6	17	13.2	1.861**	0.377
	Unemployed	53	81.5	58	89.2	111	85.4		
	Retired	2	3.1	0	0	2	1.5		
Area living	Rural	45	69.2	56	86.2	101	77.7	0.397	0.528
	Urban	20	30.8	9	13.8	29	22.3		
Family history	No	53	81.5	51	78.5	104	80	15.615**	0.646
	1st degree	6	9.2	6	9.2	12	9.2		
	2nd degree	6	10.9	8	12.3	14	10.8		
Annual income	Low	36	55.3	41	63.1	77	59.23	6.46**	0.7
	Medium	24	36.9	23	35.4	47	36.2		
	High	5	7.7	1	1.5	6	4.6		
Health insurance	Yes	41	63.1	50	76.9	91	70	2**	0.313
	No	24	36.9	15	23.1	39	30		
Annual check up	Yes	9	13.8	1	1.5	10	7.7	0.163	0.686
	No	56	86.2	64	98.5	120	92.3		

N-frequency,**Fishers exact test

Distribution of clinical characteristics among the study population

Type of Cancer and treatment information's among cancer patients are represented in table 3. Chi-square and fishers exact test shows that there is no difference in clinical characteristics among patients in the intervention and usual care group except in case of type of cancer (P<0.05).

Table 3: Cancer/ treatment information's among study population

Cancer/treatment variables		Intervention		Usual care		Total		chi square	p value
		N	%	N	%	N	%		
Type of cancer	Breast	18	27.7	19	29.2	37	28.5	0.221**	<0.001
	Head and neck	16	24.6	18	27.7	34	26.2		
	Gastrointestinal	9	13.8	8	12.3	17	13.1		
	Respiratory	9	13.8	7	10.8	16	12.3		
	Gynaecological	6	9.2	5	7.7	11	8.5		
	Myeloma	3	4.6	2	3.1	5	3.8		

	Brain	1	1.5	4	6.2	5	3.8		
	Lymphoma	1	1.5	1	1.5	2	1.5		
	Reproductive	1	1.5	0	0	1	0.8		
	Renal cell	1	1.5	0	0	1	0.8		
	Unknown	0	0	1	1.5	1	0.8		
Stage of cancer	Stage 1	2	3.1	1	1.5	3	2.3	7.94**	0.982
	Stage 2	17	26.2	12	18.5	29	22.31		
	Stage 3	34	52.3	41	63.1	75	57.7		
	Stage 4	12	18.5	11	16.9	23	17.7		
Radiation	Yes	50	77	56	86.2	106	81.5	0.303	0.582
	No	15	23	9	13.8	24	18.46		
Chemo therapy	Yes	56	86.2	58	89.2	114	87.7	1.062	0.303
	No	9	13.8	7	10.8	16	12.3		
Surgery	Yes	49	75.4	48	73.8	97	74.6	2.468	0.116
	No	16	24.6	17	26.2	33	25.4		
Disease acceptance	Yes	59	90.8	60	92.3	119	91.5	0.551	0.458
	No	6	9.2	5	7.7	11	8.5		

N-Frequency ** fishers exact test.

Assessment of lifestyle among patients with cancer before and after diagnosis

Study assessed the life style pattern of patients before diagnosis and after diagnosis (during treatment) through closed ended questions. Information's of cancer patients' lifestyle before diagnosis and after diagnosis was assessed separately in the intervention and usual care group, provided in Table 4 & 5. Main aim of this evaluation is to understand their past, current lifestyle, mental status and to give a better counselling individually. According to epidemiological studies .80-90% of all cancers are due to environmental factor among which lifestyle is more prominent and preventable[6].The major risk factors are chewing of betel nut, smoking/ tobacco, lack of exercise, low vegetable and fruit consumption ,more red meat consumption etc., According to American cancer society guidelines should stop and limit Smoking/tobacco/betel nut and alcohol consumption, along with that engage in more physical activity, more vegetable and fruit intake ,reduce meat consumption. Currently, there is scant evidence regarding the direct impact of post-diagnosis behavioural change on cancer-related progression recurrence or survival that is behaviour change can make an impact on cancer-specific outcomes and overall health. shows the benefit of a healthful diet, regular exercise and smoking cessation for reducing risk for many of the co-morbid conditions and side effects (i.e., fatigue and depression)[7]. In the current study around 46.2% and 1.5% were on smoking/betel nut habits and, around 30% and 3.1% were on alcohol consumption before their cancer diagnosis and after their diagnosis respectively. It is relevant with the results of Siu –Fon Wong[9]. Before cancer diagnosis only 3% were on Exercise and that increased to 39.2% after diagnosis. Indicating patients with lack of exercise were more.

.only 33.1% was on more vegetable and fruit consumption before and that increased only to 58.5% after diagnosis. Also found that 56.9% were on meat consumption before and 41.5% were on still meat consumption after diagnosis.

These results indicating lack of awareness about lifestyle and also suggesting that need of counselling on that area is necessary .spirituality of patients were increased (93.2%) after diagnosis. Sexual life was unhappy for 53.8% patients after their diagnosis. Family life was unhappy for 23.8% after diagnosis. Indicating patient mental status with fear and anxiety. In India due to habits such as chewing of betel nut, tobacco (chewing and smoking), mouth cancers are found to be more. that accounts for around 50 % of all cancer in men[6].Christopher et.al[20] suggests life style recommendations is essential in cancer patients for better quality of life.

Table 4: Lifestyle information's of cancer patients in intervention and usual care group before diagnosis

Life Style		Before diagnosis				Total	
		Intervention		Usual care			
		N	%	N	%	N	%
Smoking/Tobacco	Yes	27	41.5	33	51	60	46.2
	No	38	58.5	32	49	70	53.8
Alcohol	Yes	16	24.6	23	35	39	30
	No	49	75.4	42	65	91	70
Exercise	Yes	3	4.61	1	1.5	4	3.1
	No	62	95.38	64	98	126	96.9
Boiled Water	Yes	23	35.4	15	23	38	29.2
	No	42	64.6	50	77	92	70.8
Vegetable And Fruit	More	25	38.46	18	28	43	33.1
Consumption	Less	40	61.53	47	72	87	66.9
Meat Consumption	More	38	58.46	36	55	74	56.9
	Less	27	41.54	29	45	56	43.1
Spirituality	More	44	67.7	47	72	91	70
	Less	21	32.3	18	28	39	30
Sexual Life	Happy	59	90.8	60	92	119	91.5
	Unhappy	6	9.2	5	7.7	11	8.4
Family Life	Happy	64	98.5	64	99	128	98.5
	Unhappy	1	1.5	1	1.5	2	1.5

N-Frequency

Table 5: Lifestyle information's of cancer patients in intervention and usual care group after diagnosis

Life Style		After Diagnosis				Total	
		Intervention		Usual care			
		N	%	N	%	N	%
Smoking/Tobacco	Yes	1	1.5	1	1.5	2	1.54

	No	64	98.5	64	98.5	128	98.46
Alcohol	Yes	1	1.5	3	4.6	4	3.08
	No	64	98.5	62	95.4	126	96.92
Exercise	Yes	29	44.6	22	33.8	51	39.23
	No	36	55.4	43	66.2	79	60.77
Boiled Water	Yes	60	92.3	61	93.8	121	93.08
	No	5	7.7	4	6.2	9	6.92
Vegetable And Fruit Consumption	More	39	60	38	58.5	77	59.23
	Less	26	40	27	41.5	53	40.77
Meat Consumption	More	32	49.2	22	33.8	54	41.54
	Less	33	50.8	43	66.2	76	58.46
Spirituality	More	61	93.8	61	93.8	122	93.85
	Less	4	6.2	4	6.2	8	6.15
Sexual Life	Happy	27	41.5	33	50.8	60	46.15
	Unhappy	38	58.4	32	49.2	70	53.85
Family Life	Happy	46	70.8	53	81.5	99	76.15
	Unhappy	19	29.2	12	18.5	31	23.85

Assessing the Relationship of lifestyle with occurrence of cancer

The present study also assessed the relation of lifestyle with occurrence of cancer in both group(intervention and usual care). The relation of lifestyle with occurrence of cancer was evaluated separately in the intervention and usual care group. Table 6 shows the relationship of Smoking/Tobacco and Alcohol consumption with occurrence of various cancers in the intervention group .The findings suggest that smoking/betel nut have relation with head and neck ,gastrointestinal and respiratory cancer at 5% level of significance($p<0.05$).also found that alcohol consumption existing a relation with head and neck, gastrointestinal and respiratory cancer at 5% level of significance($p<0.05$).These habits is found to be a contributing factor for cancer incidence. Social habits have influence on disease state.[6,7,8]

Table 6: Relation of Smoking/Tobacco and alcohol consumption with occurrence of cancer in the intervention group

system base cancer	Smoking/ tobacco Yes	No	Total	Likely Hood ratio	P Value	Alcohol consumption Yes	No	Total	Likely hood ratio	P value
Brain	1	0	1	33.804	<0.001*	0	1	1		
Myeloma	1	2	3			0	3	3		
Breast	1	17	18			0	18	18		
Gynaecological	1	5	6			0	6	6		
Gastrointestinal	4	5	9			4	5	9		
Head and neck	13	3	16			8	8	16	26.004	<0.001*
Lymphoma	0	1	1			0	1	1		
Renal carcinoma	0	1	1			0	1	1		
Reproductive	0	1	1			1	0	1		
Respiratory	6	3	9			3	6	9		

*significant at the 5% level of significance

Table 7 shows the relationship of Smoking/Tobacco/betel nut and Alcohol consumption with occurrence of various cancers in the usual care group. In which the lifestyles such as Smoking/ tobacco /betel nut usage has relation with the occurrence of head and neck, gastrointestinal and respiratory cancer and alcohol consumption has relationship with the occurrence of head and neck, respiratory and Gastrointestinal cancers at the 5% level of significance ($P<0.05$).

Table 7: Relation of Smoking/Tobacco and alcohol consumption with occurrence of cancer in the Usual care group

System base cancer	Smoking/ tobacco Yes	No	Total	Likely hood ratio	P Value	Alcohol consumption Yes	No	Total	Likely hood ratio	P value
Brain	1	3	4	61.55	<0.001*	1	3	4	39.94	<0.001*
Myeloma	2	0	2			0	2	2		
Breast	0	19	19			0	19	19		
Gynaecological	0	5	5			0	5	5		
Gastrointestinal	7	1	8			7	1	8		
Head and neck	16	2	18			10	8	18		
Lymphoma	0	1	1			0	1	1		
Unknown	1	0	1			1	0	1		
Respiratory	6	1	7			4	3	7		

Measurement of quality of life in cancer patients

Result of paired‘t’ test

From following tables (8, 9, 10) it was noticed that a significant improvement in quality of life can be seen in intervention group patients. Along with that increment in functional scales such as emotional, physical, Role, Social and cognitive can also found. A higher increment in emotional functioning scores can be seen in intervention group compared to usual care group. From the table it is clear that the ‘p’ values for quality of life and functional scales of Intervention group is <0.05.It indicates there is a difference (Mean base line < mean follow up) in scores before and after counselling. But such a significant difference cannot be seen in the usual care group. Paired‘t’ test reveals that pharmacists counselling is effective in improving Quality of life among cancer patients at the 5% level of significance. Whereas within usual care group at baseline and final follow up there is a difference in social functioning, pain, nausea and vomiting, along with quality of life also. That is expected to be because of the better treatment provided by the hospital. Some study shows after radiotherapy and chemotherapy can see improvement in quality of life[10, 16,18] and in symptom scale especially in pain, insomnia, appetite loss, constipation and financial difficulties. A study conducted by Margaret W proved that counselling improved quality of life in cancer patients and says that significant improvement in quality of life can be seen within three months[21].

In the current study the effectiveness of counselling between intervention and usual care group were evaluated by Independent sample t test Table 11 & 12). where compared the difference between usual care and intervention group (baseline-Follow up).it is found that there is a difference in scale scores between intervention and usual care group (pre-Post)for Quality of life, emotional functioning, appetite loss, constipation, insomnia, fatigue, pain and financial difficulties(P<0.05). Indicating there is a difference in mean scores of all these scales at 5% Level of significance, which means pharmacist counselling have a significant impact on improving the quality of life in the intervention group as compared to group that was not provided with an intervention. This study is relevant with the results of study conducted by the Yan Wang et.al[19], except in case of appetite loss, diarrhoea and financial difficulties. and shows clinical pharmacist counselling was effective in cancer patients. Galina velikova et.al proved that counselling improved quality of life in cancer patients especially in the intervention group[15].Zen Guo found that psychosocial interventions improved mood and quality of life of cancer patients[22].The study results of Dixon Thomas et.al, shows pharmacist counselling have resulted an improvement in mental condition[23].Vijay Prasad bare et.al through his study revealed that medical interventions

have improved the quality of life and reduced the stress[24].Likewig A et.al shows pharmaceutical care improved emetic episodes ,qol and patient satisfaction[25]

Table 8 . Comparison of quality of life and functional scales within the groups by using paired t test

Global Health Status	Baseline				Follow Up				Paired T Test			
	Intervention		Usual Care		Intervention		Usual Care		Intervention		Usual Care	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	T Value	P Value	T Value	P Value
Quality Of Life	51.15	13.81	50.71	11.01	67.30	7.97	56.02	7.73	8.802	<0.001	3.986	<0.001
Functional Scale												
Physical Function	72.61	16.58	71.07	20.22	83.39	11.85	70.15	16.42	5.92	<0.001	0.34	0.74
Role Function	71.28	19.66	71.54	22.96	83.08	14.28	72.05	17.21	4.62	<0.001	0.16	0.87
Emotional Function	63.33	17.97	64.99	21.05	91.80	9.60	62.95	19.32	13.46	<0.001	0.76	0.45
Cognitive Function	83.33	21.04	85.64	19.74	94.62	11.07	87.18	15.24	4.45	<0.001	0.74	0.47
Social Function	59.74	22.42	63.85	24.40	72.05	18.42	55.64	19.61	3.71	<0.001	2.80	0.01*

Table 9: Score distribution and Comparison of symptom scale within intervention group at baseline and final follow up .

Symptom Scale	Baseline				Final Follow Up				Wilcoxon(Z)	P
	Intervention				Intervention					
	Mean	SD	Median	IQR	Mean	SD	Median	IQR		
Dyspnoea	29.74	28.33	33.33	0-33.33	11.28	21.47	0.00	0-33.33	4.70	<0.001*
Pain	42.31	23.77	33.33	33.33-58.33	20.51	16.60	16.67	16.67-33.33	5.30	<0.001*
Fatigue	46.50	20.59	44.44	33.33-66.67	26.66	14.80	22.22	22.22-33.33	5.48	<0.001*
Insomnia	44.10	28.93	33.33	33-66.67	5.64	12.59	0.00	0.00	6.15	<0.001*
Apetite Loss	45.64	29.80	33.33	33-66.67	4.62	14.28	0.00	0.00	6.06	<0.001*
Nausea And Vomiting	19.49	21.36	16.67	0-33.33	5.13	11.38	0.00	0.00	4.82	<0.001*
Constipation	50.77	33.39	66.67	33.33-66.67	8.20	15.62	0.00	0.00	6.16	<0.001*
Diarrohoea	8.72	22.27	0.00	0.00	3.08	9.72	0.00	0.00	2.22	0.03
Financial Difficulties	55.90	27.71	66.67	33.33-66.67	37.44	24.65	33.33	33.33-66.67	3.66	<0.001*

Table 10: Score distribution and Comparison of symptom scale within Usual Care group at baseline and final follow up.

Symptom Scale	Baseline				Final Follow Up				Wilcoxon(Z)	P
	Usual Care				Usual Care					
	Mean	SD	Median	IQR	Mean	SD	Median	IQR		
Dyspnoea	33.33	33.31	33.33	0-66.67	29.74	27.08	33.33	0-50	0.7	0.48
Pain	43.85	22.55	50	33.33-66.67	34.87	19.26	33.33	16.67-50.00	2.81	0.01
Fatigue	45.46	19.42	44.44	33.33-55.55	41.37	16.02	44.44	33.33-55.56	1.48	0.14
Insomnia	34.87	34.07	33.33	0-66.67	37.95	27.56	33.33	16.66-66.67	0.6	0.55

Appetite Loss	36.41	31.58	33.33	0-66..67	38.46	28.4	33.33	16.66-66.67	0.22	0.83
Nausea And Vomiting	16.15	20.19	16.67	0-16.67	11.28	14.47	0	0-16.67	1.86	0.06
Constipation	31.28	30.55	33.33	0-66.67	36.41	28.09	33.33	0-66.67	0.74	0.46
Diarrhoea	11.79	23.15	0	0	6.15	16.55	0	0	1.61	0.11
Financial Difficulties	63.08	22.15	66.67	66.67-66.67	58.4	19.57	66.67	33.33-66.67	1.56	0.12

Result of Independent sample ' t' test

Table 11: Comparison of Quality of life and functional scale between groups (Baseline-final follow up)

Global Health Status	**Intervention**		**Usual Care**		**T Value**	**P Value**
	Mean	**SD**	**Mean**	**SD**		
Quality Of Life	17.69	12.89	9.102	8.43	4.499	<0.001*
Functional Scale						
Physical Function	12.82	12.87	15.69	15.20	1.16	0.25
Role Function	14.87	18.43	17.95	18.71	0.95	0.35
Emotional Function	28.462	17.045	15.641	15.06	4.544	<0.001*
Cognitive Function	12.82	19.491	9.23	14.139	1.202	0.232
Social Function	21.538	19.922	16.923	18.279	1.376	0.171

*(p<0.05) significant at the 5% level of significance

Table 12: Comparison of symptom scales between the groups by using Independent t test (Baseline-final follow up)

Symptom Scale	**Intervention(Baseline-Final Follow Up)**				**Usual Care(Baseline-Final Follow Up)**				**Mann Whiteny U**	P
	Mean	**Sd**	Median	Iqr	**Mean**	**Sd**	Median	Iqr	**(Z)**	
Dyspnoea	20.512	23.342	0	0-33.33	24.102	23.205	33.33	0-33.34	1.332	0.183
Pain	24.87	20.437	16.67	16.66-33.33	17.179	18.626	16.66	0-33.33	2.208	0.027*
Fatigue	22.9077	18.828	22.22	11.11-33.34	14.0189	14.604	11.11	0-22.23	2.533	0.011*
Insomnia	39.487	28.803	33.33	33.33-66.67	26.667	25.82	33.33	0-33.34	2.219	0.026*
Appetite Loss	42.051	29.626	33.33	33.33-66.67	22.565	25.758	33.33	0-33.34	3.347	<0.001*
Nausea And Vomiting	14.872	20.009	0	0-16.67	12.051	16.004	0	0-16.67	0.587	0.557
Constipation	45.642	30.374	33.34	33.33-66.67	29.744	27.716	33.33	0-66.67	2.713	0.007*
Diarrhoea	9.23	20.839	0	0	15.104	25.149	0	0-33.33	1.132	0.257
Financial Difficulties	30.771	27.831	33.34	0-33.34	14.872	21.272	0	0-33.34	3.599	<0.001*

*p<0.05(significant at 5%)

CONCLUSION:

The study concludes that the pharmaceutical care services provided by the clinical pharmacist can establish a better patient – pharmacist relationship and thereby results improved quality of life in cancer patients. Most of the patients are diagnosed at advanced stages (cure is possible only in early stage), the health authorities can take initiations to carry out cancer awareness programmes and screening among high risk population more frequently, especially in rural areas. Thus, incidences can be reduced. In community settings pharmacist can also extend their services in cancer awareness programmes in high risk categories.

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