Chapter Four

The Result

4.1 Section one: General frequency % of age, marital status, metastic site and incidence of all breast cancer record in statistic office in RICK from January 2014 to December 2017.

Table 4.1 Shows the frequency % of the breast Cancer from January 2014 to December 2017 in RICK

Year	Number of patient	Percentage
2014	1236	17
2015	1247	16
2016	1229	15
2017	1404	20

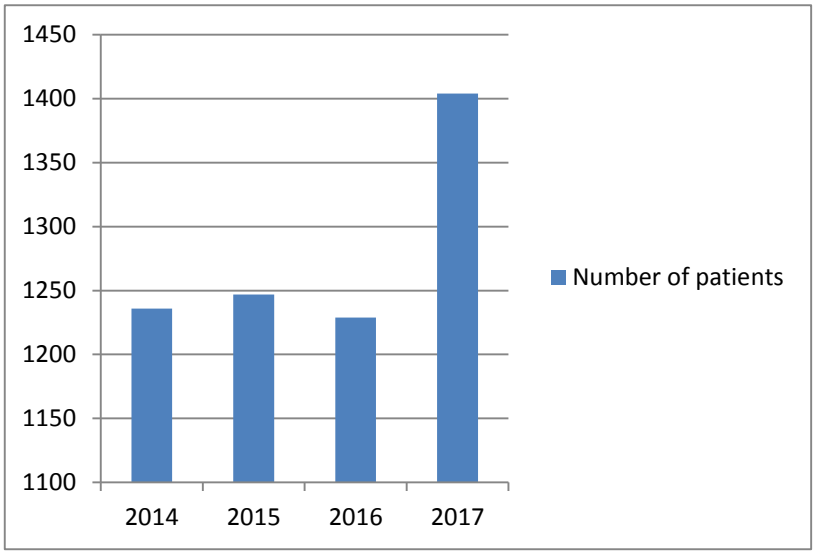

Figure 4-1 Bar graph shows the frequency % of breast cancer 2014-2017

Table 4.2 shows the frequency % of the age group involved with Breast Cancer from January 2017 to December 2017 in RICK

Age	Frequency	Percentage
10-20	3	.2
21-34	112	8
35-50	663	47
51-65	458	32
66	166	11.8

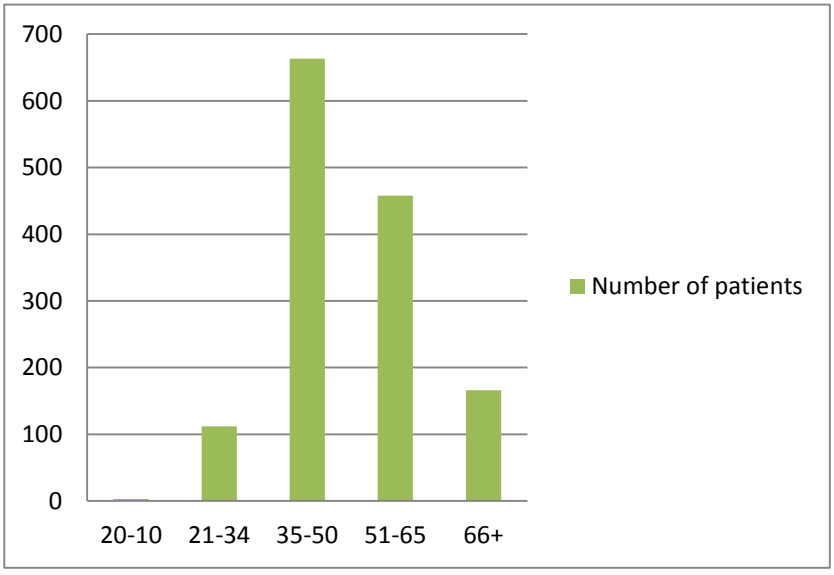

Figure 4-2 Bar graph shows the frequency % of age group in breast cancer 2014-2017

Table 4.3 Shows the frequency % of the Marital Status Group involved with breast Cancer from January 2017 to December 2017 in RICK

Marital status	**Frequency**	**percentage**
Non-marriage	40	3
Marriage	1364	97
	1404	

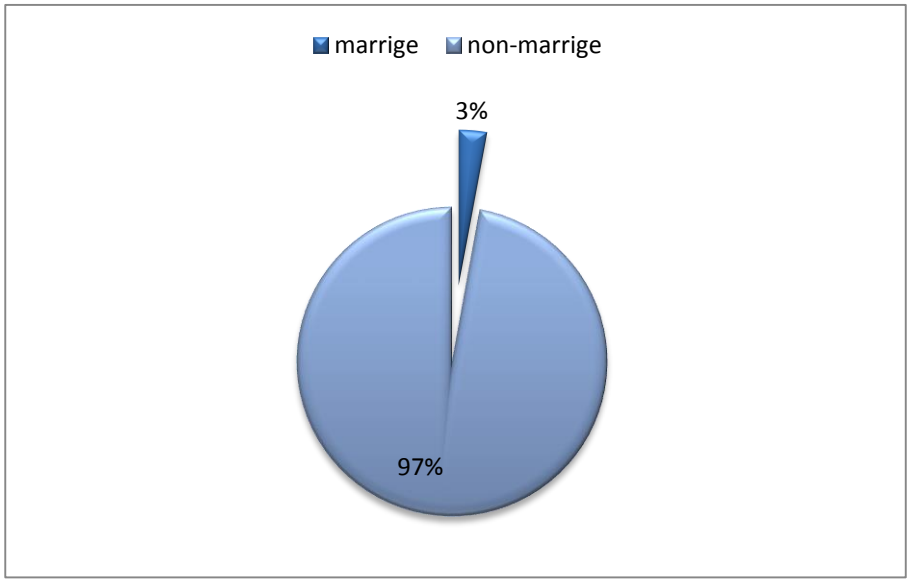

Figure 4-3 Pig graph shows the ratio between married to signal among patients

Table 4.4 Shows the frequency % of patients received radiotherapy involved with breast Cancer from January 2017 to December 2017 in RICK

Treatment	**Frequency**	**percentage**
Radiotherapy	1022	73
Not-received radiotherapy	382	27
	1404	

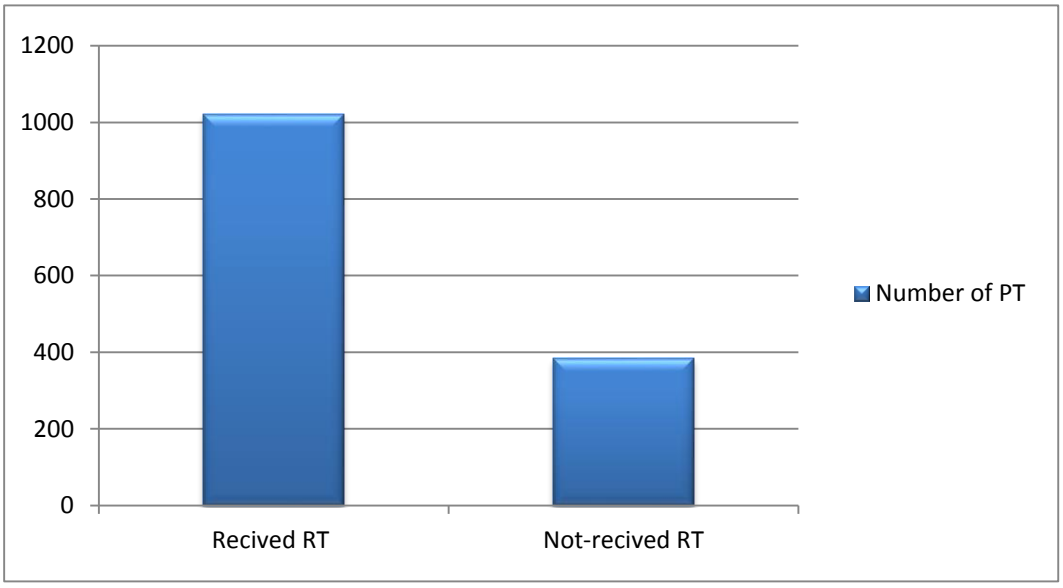

Figure 4-4 Bar graph shows the ratio between patients received RT to Non- received among patients

Table 4.5 Shows the frequency % of most common metastatic site in breast cancer from January 2017 to December 2017 in RICK

Site	**frequency**
Spinal cord compression	310
Brain metastatic	210
Bone metastatic	280
Lung metastatic	35
Liver and other	21

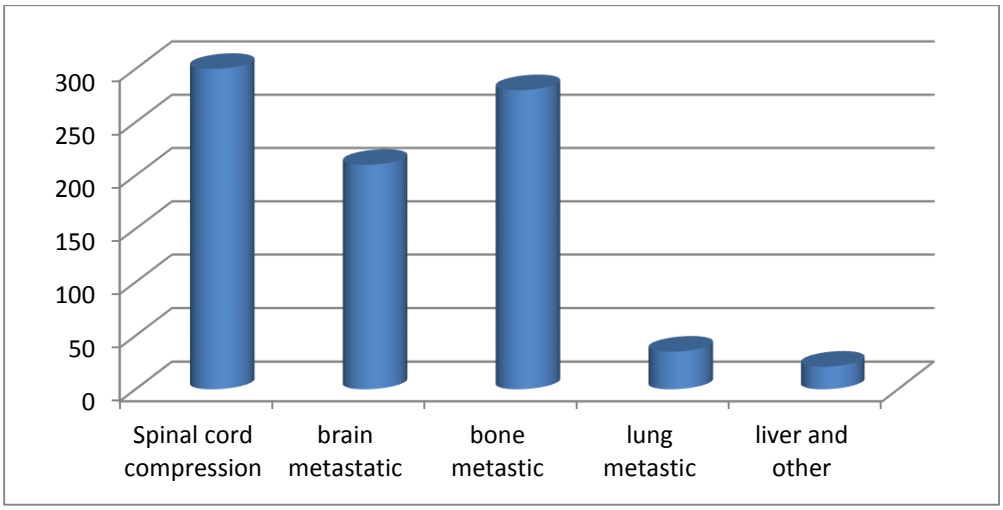

Figure 4-5 Bar graph shows the most common metastatic breast cancer

Table 4.6 Shows the frequency % of Palliative patients treated in co60 and linear accelerator from January 2017 to December 2017 in RICK

Machine type	**frequency**
Linear Accelerator	460
Cobalt 60	210

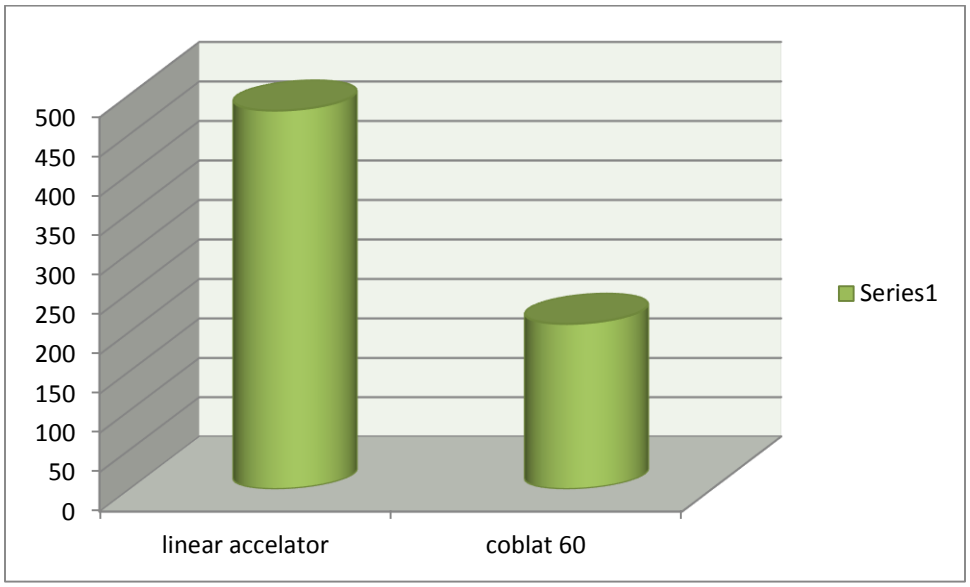

Figure 4.6 Shows the frequency % of Palliative patients treated in co60 and linear

4.2 Section Two :

Thirty-nine patients returned completed questionnaires (of 100 expected, deceased patients excluded) during the initial 12 weeks study period.

Table 4.7 Shows the of breast cancer metastic site for patients evaluation in this study

Metastic site	**code**	**frequency**
Spinal cord compression	A	38
Bone metastic	B	25
Brain metes	C	18
Lung metes	D	5

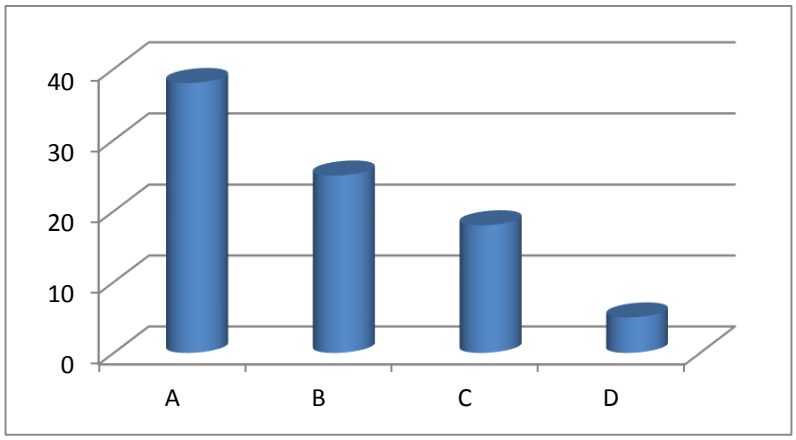

Figure 4.7 Bar graph shows cancer metastic site for patients evaluation in this study

Table 4.8 Shows the Scores for global QoL as well as, pain and fatigue at baseline, 5, and 12 weeks for the study group

	Week=0 Baseline				Week=1				5 week				12 week			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
No. of patients alive	38	25	18	5	36	23	16	4	35	22	14	3	20	14	5	0
Global QoL	55	58	52	50	54	57	49	47	54	56	48	46	49	55	42	41
Fatigue	50	48	32	34	47	45	30	30	45	40	28	32	49	52	35	37
Pain	35	48	32	36	32	40	32	33	30	32	30	31	29	25	28	-

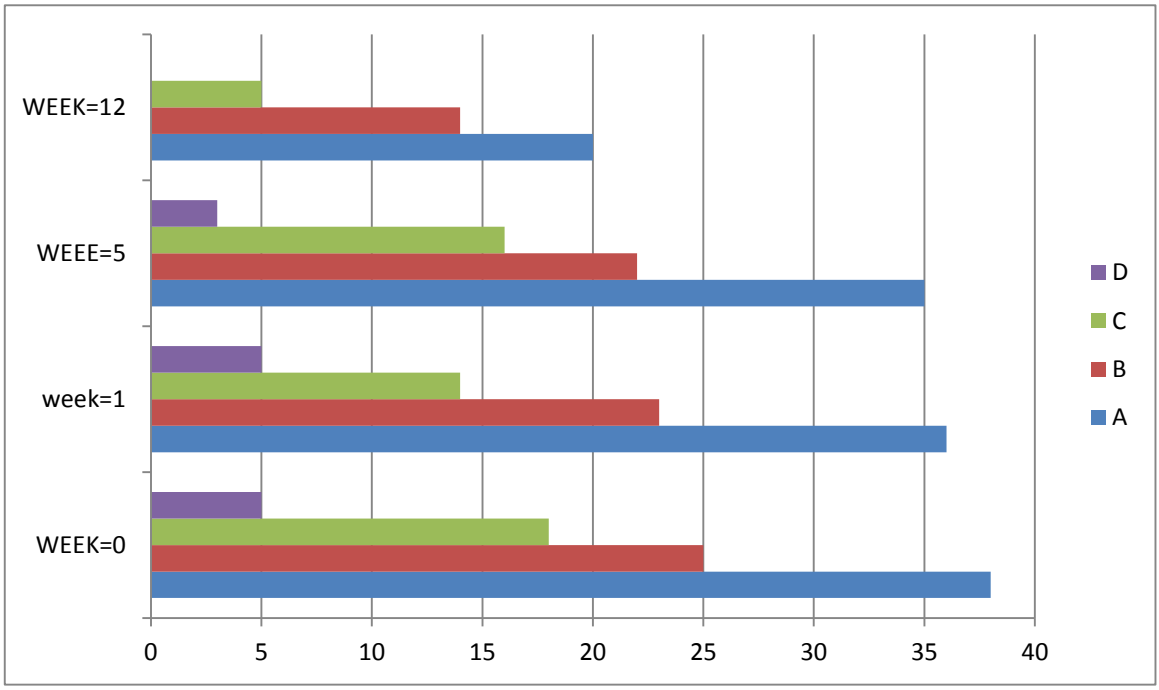

Figure 4-8 Show the survival patients during study period (A= spinal cord compression B=bone metes C= brain metes D= lung metes

4.2.1. The primary endpoint,

Based on an intention to treat analysis, was met by 14 patients (35%) who had a clinically significant improvement in pain 5 weeks post radiotherapy. Nine patients (22.5%) had an improvement of > 60% in BPI score with five patients (12.5%) having a complete response (100% improvement in BPI). Therefore, based on a complete case analysis of 86 evaluable patients at week 5, 47% (CI 28.3-65.7) of patients responded to the radiotherapy. Of the 14 patients who responded to radiotherapy

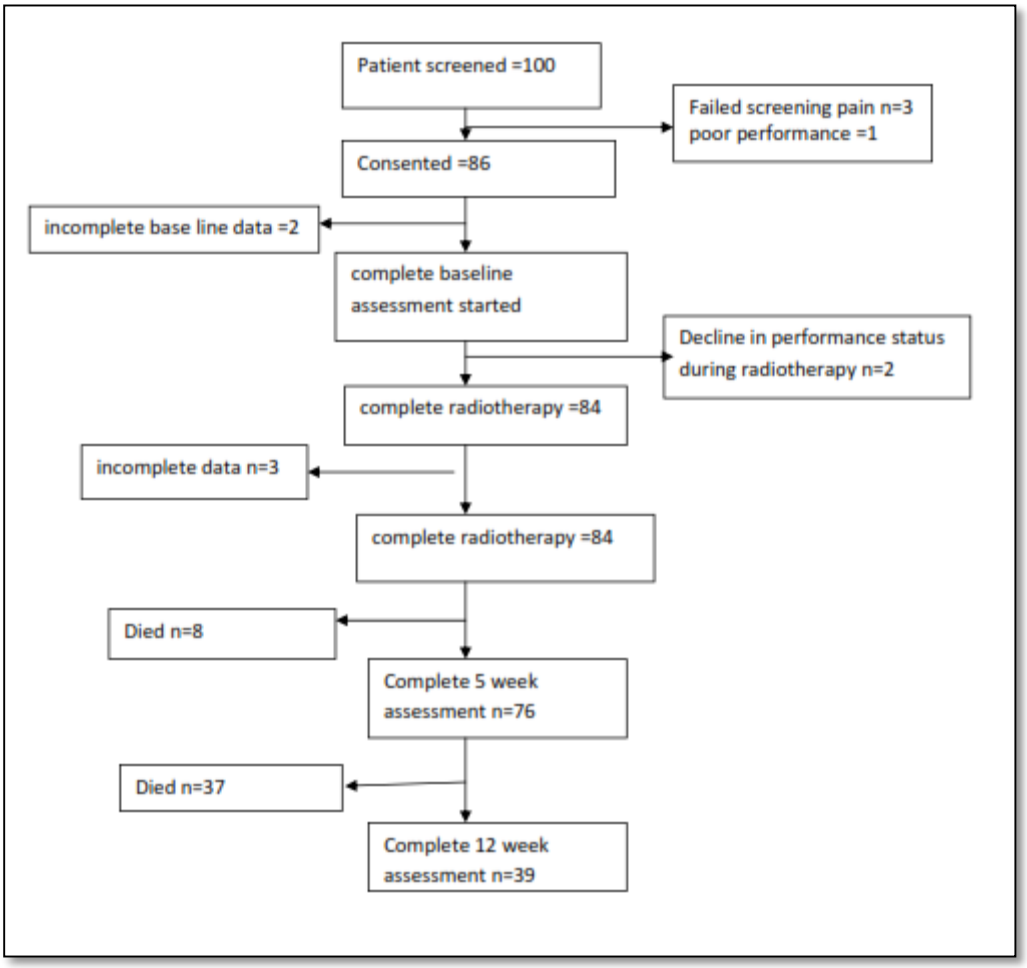

Figure 4-9 Patients disappoint

4.2 .2. Secondary end point:

4.2.2.1 Pain response

At weeks 1 and 12, the pain response rate was 27.5% (CI14-6%-43.9%) and15.0% (CI5.7%-29.8%) respectively, on an intention to treat analysis. Based on complete case analysis, the proportion of pain responders at week 1 was 36.7%(CI19.9%-56.1%) and at week 12 was 33.3% (CI13.3%-59.0). Although 32patients completed the week 1 assessment, two of them had incomplete data and so were not evaluable. Eighteen patients were evaluable at week 12.

Pain characteristics

The sensory component of the SF-MPQ is shown in Figure 4-6. The words most commonly chosen to describe the pain were aching, tender and sharp being reported by 32 (86.5%), 29(78.4%) and 27(73%) of patients respectively.

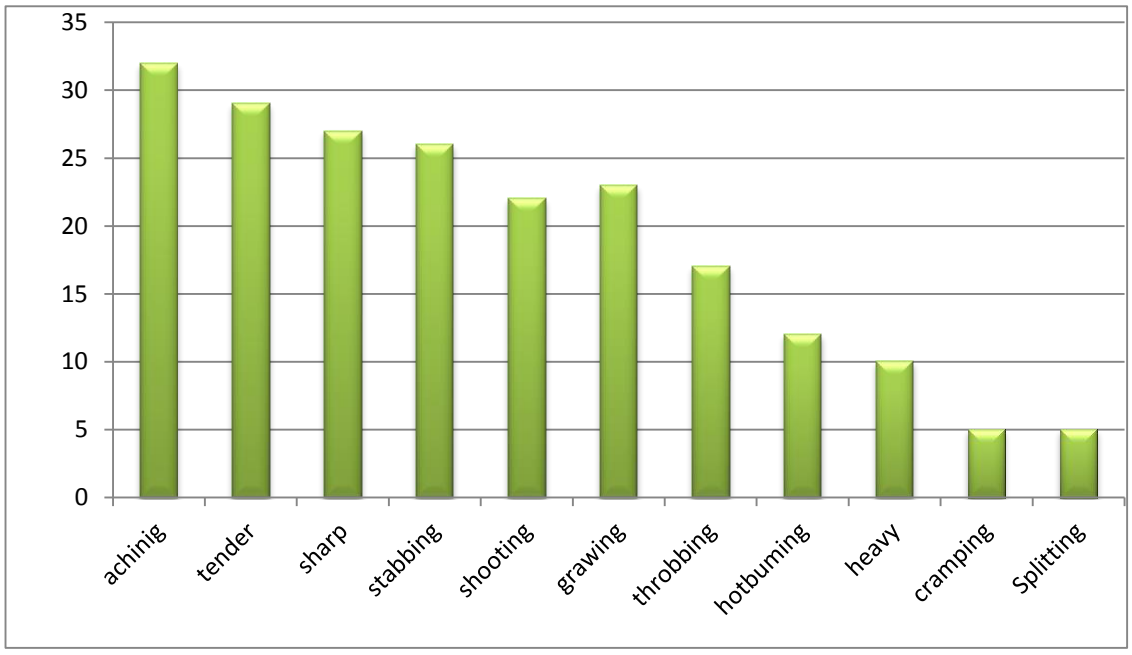

Figure 4-10 Shows the individual components of the BPI

The median (IQR) for average pain and worst pain was 4 (4-6) and 8 (6-8) respectively. General activity, normal work and enjoyment of life scored the highest on the interference scores. Relationships appeared to be relatively unaffected by the pain.

Variable	**Average lowest BPI Score**	**High base line answer**	**Low base line answer**	**Average higher BPI score**
worst	6	10	0	8
least	0.5	10	0	3
average	4	10	1	6
right now	1	10	0	4
general activity	5	10	0	8
mood	3	10	0	5
walking ability	3	10	0	7
work	4	10	0	8
relations	0.5	10	0	6
sleep	0.5	10	0	8
enjoyment	4	10	0	8

Table 4-9 BPI score baseline BPI questionnaire

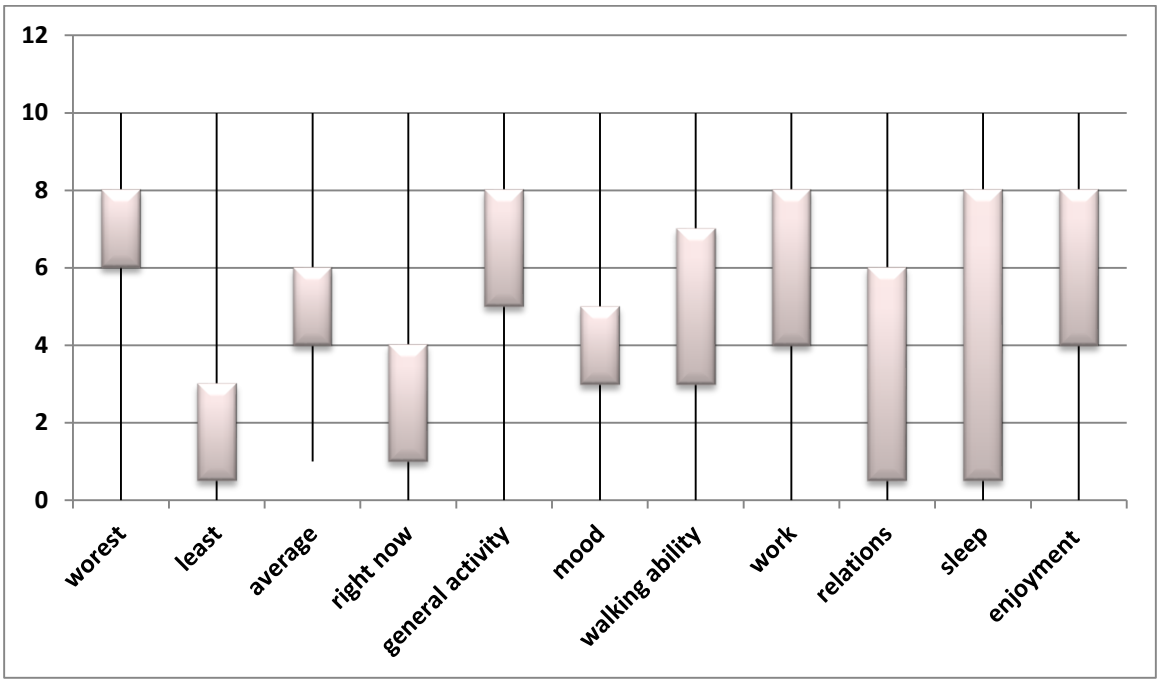

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Figure 4-11 BPI Box plots of visual analogue components from baseline BPI questionnaire

4.3.1 LANSS:

Fifty -three patients, 31.4%, had a total LANSS >12 while 33 (68.6%) patients, had a LANSS < 12. An analysis was performed to assess whether there was any association between total LANSS, BPI and MPQ.

LANSS	No of patient
LANSS SCORE >12	53
LANSS SCORE <12	33

Table 4-10 LANSS score answer questionnaire

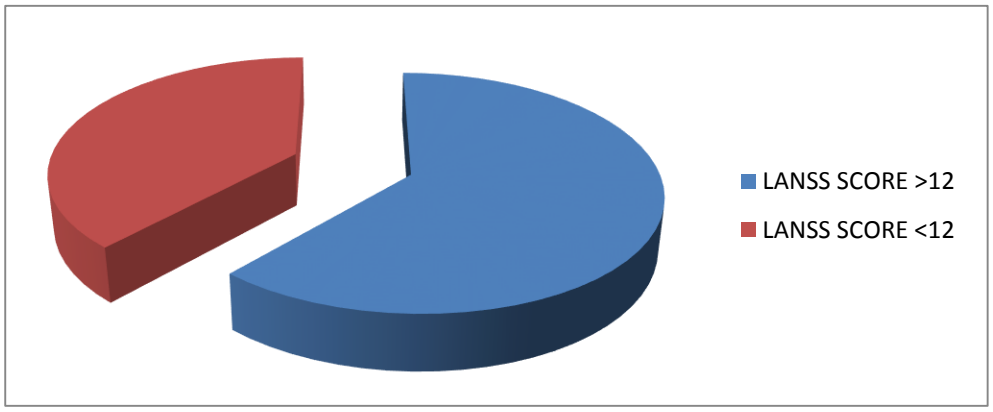


Figure 4-12 Pie graph of LANSS score answer questionnaire

The median total BPI for patients with a LANSS <12 was 52 (IQR 41.00 - 59.50) versus 69.50 (IQR 61.00 – 84.00) for patients with a LANSS >12, p=0.004. Similarly, comparing the LANSS with the SF-MPQ, the median SF-MPQ for those with a

LANSS <12 was 10.00 (IQR 8.00 – 13.50) versus 15.00 (IQR 12.00– 18.00) for patients with a LANSS >12, p=0.012.

LANSS	Average lowest BPI Score	High base line answer	Low base line answer	Average higher BPI score
<12	**41**	**80**	**20**	**59**
>12	**61**	**90**	**12**	**84**

Table 4.11: Cross tabulation between LANSS and BPI

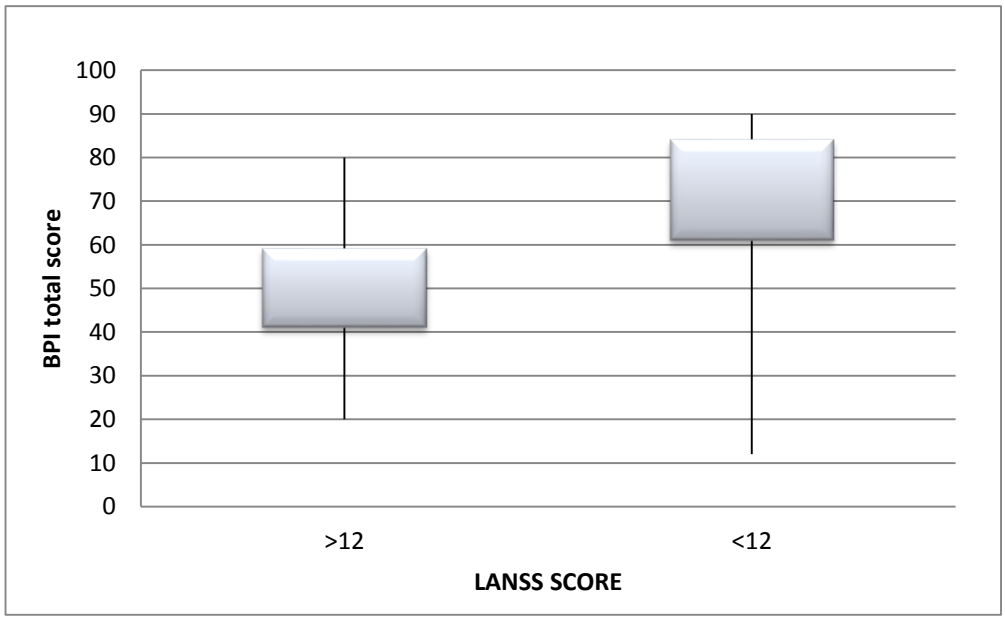


Figure 4-13 Cross tabulation between LANSS and BPI

Response to radiotherapy was assessed looking at baseline LANSS and SF-MPQ.

There was no evidence that the likelihood of response to radiotherapy is determined by the LANSS or SF-MPQ, p>0.05.

LANSS score	Average lowest SF-MPQ Score	High base line answer	Low base line answer	Average higher SF-MPQ score
>12	8	20	5	13
<12	12	25	5	18

Table 4.12 Cross tabulation between LANSS and SF-MPQ

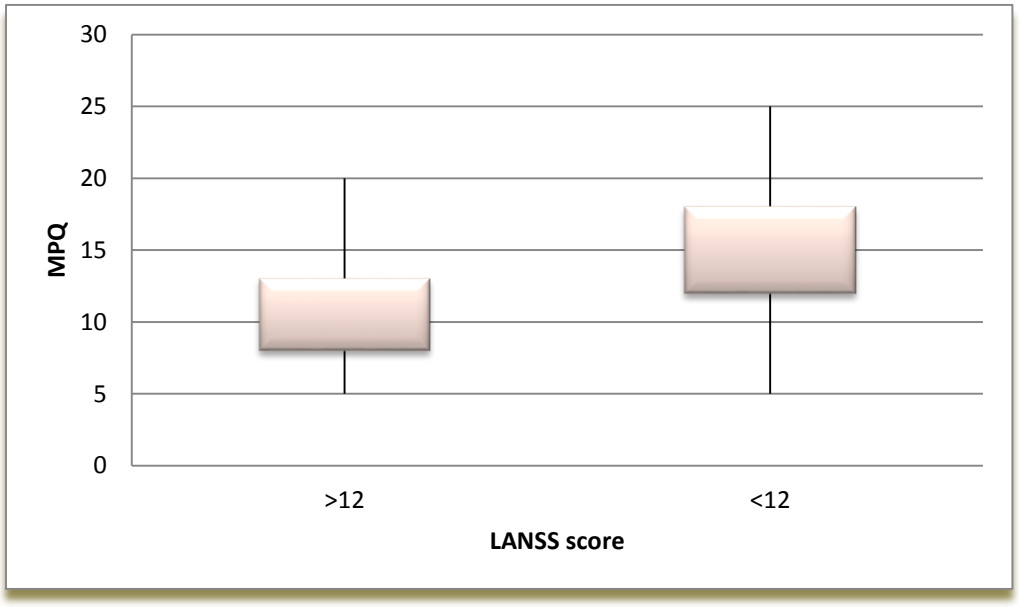


Figure 4-14 Cross tabulation between LANSS and SF-MPQ

4.4 Symptoms Improvement Ratio (SIR):

This concept correspond with metastic site and symptoms related to it ,the table below show in **group A** there were high rate symptoms improvement but it can be change in **group B** and **C**

Symptoms	Patient group	Average low SIR	High point in base line	Low point in base line	average high SIR
partial bone pain relief	B	70	100	0	90
complete bone pain relief	B	28	100	0	80
chest pain	D	59	100	0	86
brain metastatic	C	50	100	0	70
spinal cord compression	A	64	100	0	73

Table 4.13 Symptoms Improvement ratio according to patient group

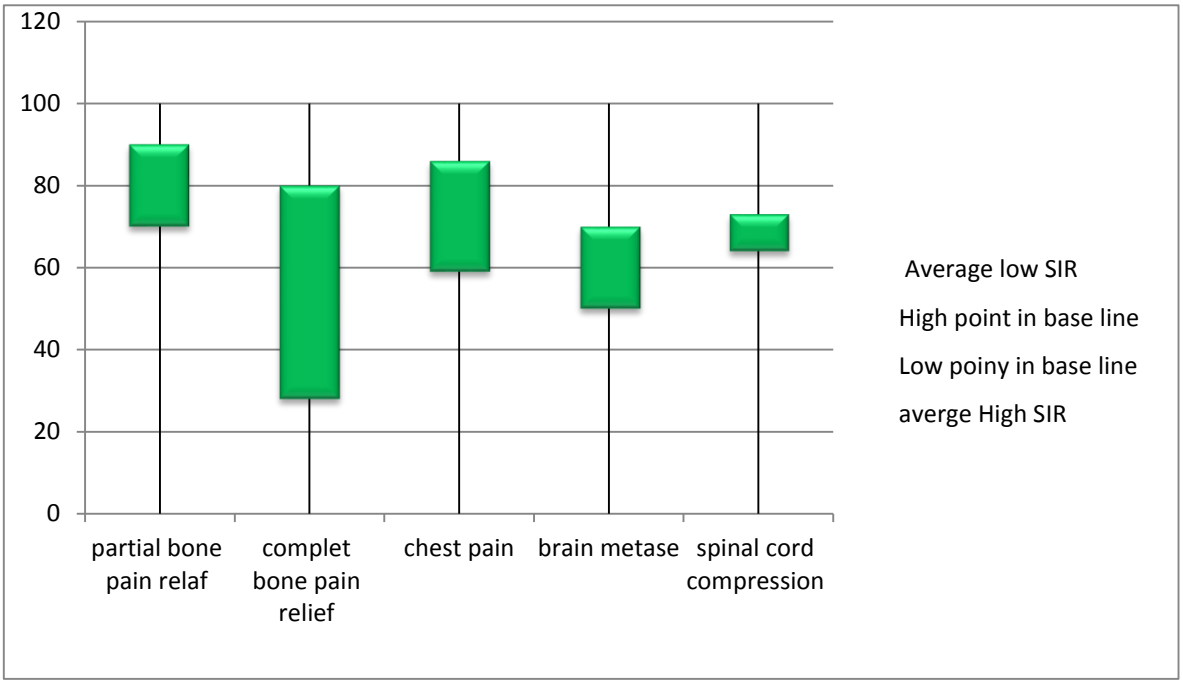


Figure 4-15 Symptoms improvement ratio according to patient group

Table 4.14: Cross tabulation between SIR and Treatment Machine Modality

Machine type	Cobalt 60				Linear accelerator			
Patients group	A	B	C	D	A	B	C	D
Symptoms improvement	70	88	65	60	68	72	47	0
SIR	.7	.88	.65	.6	.68	.72	.47	0

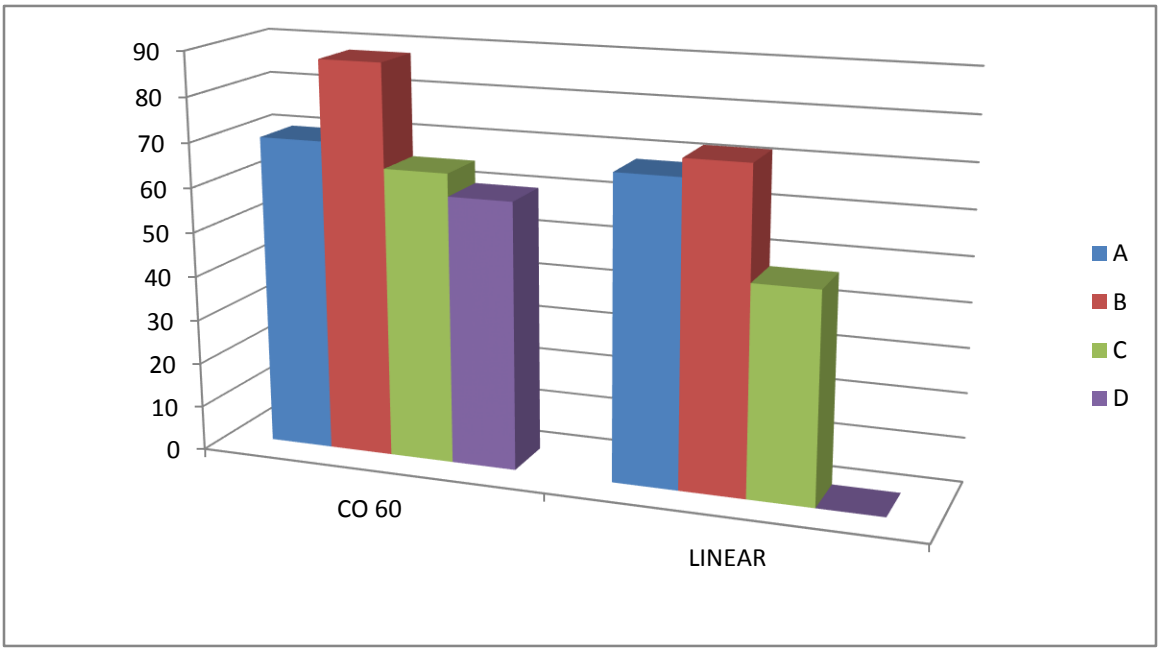
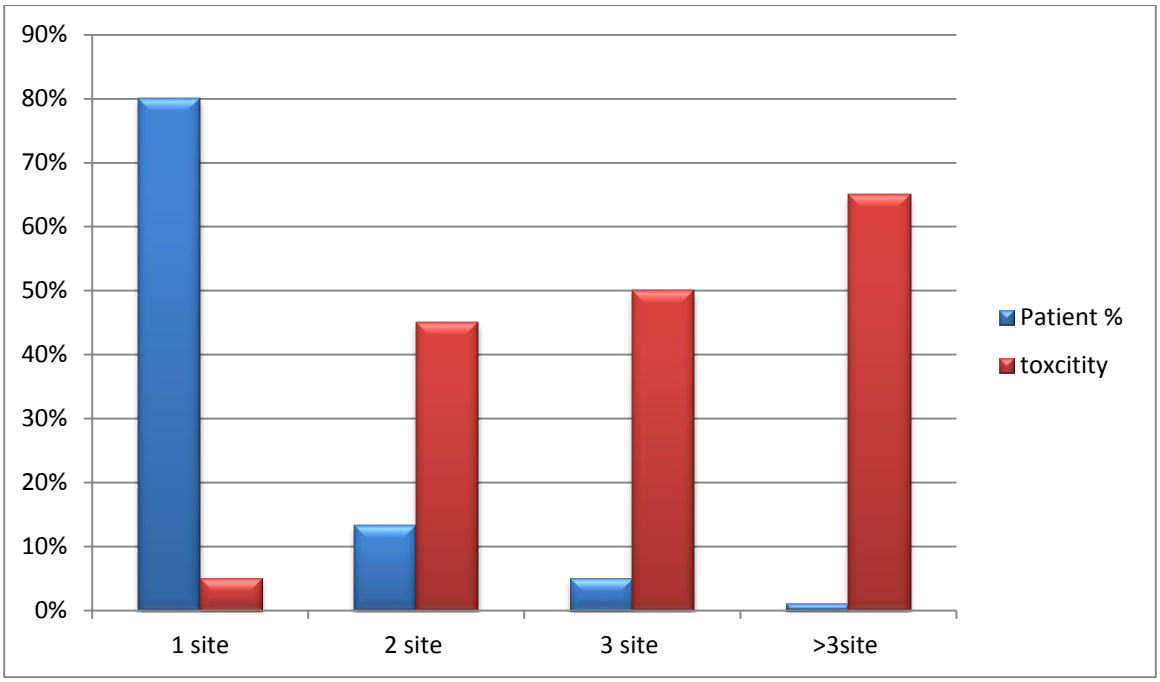


Figure 4-16 Cross tabulation between SIR and Treatment machine modality

Table 4.17 Tabulation between number of treatment site and radiotherapy toxicity



Eighty percent of the participants had pain in one site whereas only 1% had pain in more than 3 sites. Toxicity is higher with more than 3 sites of treatment

Table 4.15 Patient Toxicity Indicator

	Week=0 Baseline				Week=1				5 week				12 week			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
No. of patients alive	38	25	18	5	36	23	16	4	35	22	14	3	20	14	5	0
HB %	75	72	80	82	65	70	75	60	78	82	80	65	70	75	75	0
Wight loss	0	0	0	0	2	1	1	3	0	0	2	1	3	5	2	0
Medium Admission in hospital	0	0	0	0	2	3	3	5	2	4	2	5	4	3	2	0