



## Section II Patient's knowledge about cancer

**Table (2):** Mean of knowledge among study & control group subjects before, immediately post and after one month from the educational program.

Knowledge Items	Before				Immediately Post				After one month			
	Study Group	Control Group	Independent T Test	P Value	Study Group	Control Group	Independent T Test	P Value	Study Group	Control Group	Independent T Test	P Value
	Mean $\pm$ SD	Mean $\pm$ SD			Mean $\pm$ SD	Mean $\pm$ SD			Mean $\pm$ SD	Mean $\pm$ SD		
-Definition of cancer	0.300 $\pm$ 0.466	0.466 $\pm$ 0.507	1.325	>0.05	1.900 $\pm$ 0.305	0.466 $\pm$ 0.507	13.25	<0.001	1.800 $\pm$ 0.507	0.500 $\pm$ 0.508	10.93	<0.001
-Causes of cancer	0.500 $\pm$ 0.508	0.333 $\pm$ 0.479	1.306	>0.05	1.766 $\pm$ 0.430	0.333 $\pm$ 0.479	12.18	<0.001	1.733 $\pm$ 0.449	0.333 $\pm$ 0.479	11.66	<0.001
Treatment of cancer	0.433 $\pm$ 0.504	0.266 $\pm$ 0.449	1.35	>0.05	1.700 $\pm$ 0.466	0.266 $\pm$ 0.449	12.21	<0.001	1.533 $\pm$ 0.507	0.266 $\pm$ 0.449	10.23	<0.001
Definition of Radiotherapy	10.466 $\pm$ 0.507	1.533 $\pm$ 0.507	0.509	>0.05	1.666 $\pm$ 0.479	1.533 $\pm$ 0.507	1.04	<0.001	1.40 $\pm$ 0.498	0.286 $\pm$ 0.507	9.02	<0.001
Purpose of Radiotherapy	0.433 $\pm$ 0.504	0.600 $\pm$ 0.498	1.288	>0.05	1.633 $\pm$ 0.495	0.933 $\pm$ 0.449	8.09	<0.001	1.433 $\pm$ 0.504	0.600 $\pm$ 0.498	6.44	<0.001
Methods of Radiotherapy	0.366 $\pm$ 0.490	0.566 $\pm$ 0.504	1.558	>0.05	1.666 $\pm$ 0.479	0.566 $\pm$ 0.504	8.66	<0.001	1.300 $\pm$ 0.466	0.566 $\pm$ 0.504	5.85	<0.001
Definition of External radiotherapy	1.433 $\pm$ 0.405	1.033 $\pm$ 0.556	2.919	>0.05	1.633 $\pm$ 0.490	1.033 $\pm$ 0.556	4.43	<0.001	1.200 $\pm$ 0.406	0.468 $\pm$ 0.556	6.32	<0.001
Internal radiotherapy	0.900 $\pm$ 0.607	0.933 $\pm$ 0.449	0.242	>0.05	1.566 $\pm$ 0.504	0.933 $\pm$ 0.449	5.13	<0.001	1.73 $\pm$ 0.449	0.933 $\pm$ 0.449	6.88	<0.001

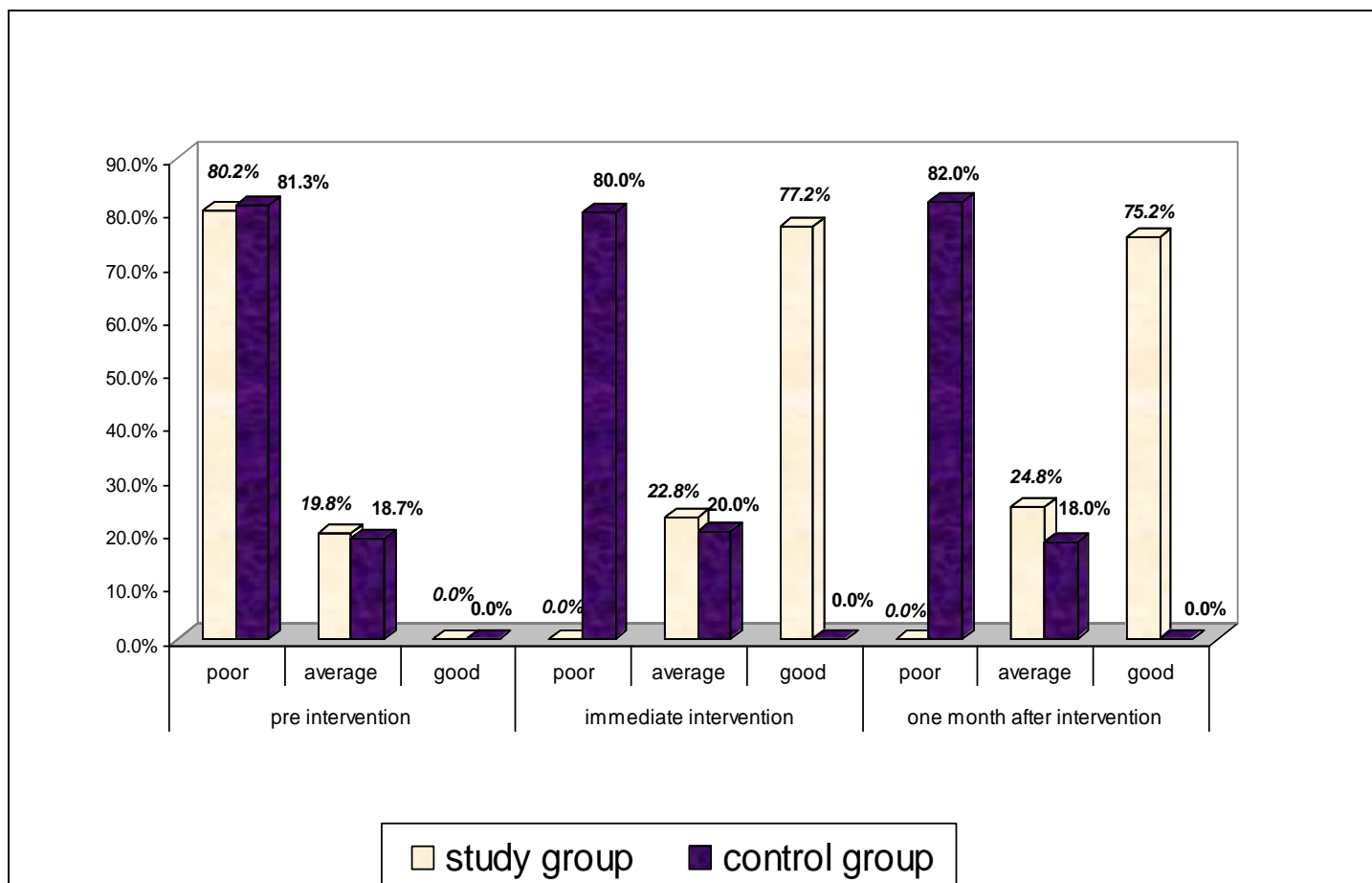
Shows that there were the highest mean score of the study group (1.900  $\pm$  0.305) related to definition of cancer immediately post and (1.200  $\pm$  0.406) related to definition of external radiotherapy after one month.

highly significant improvement in knowledge mean scores of study group regarding to cancer and radiotherapy during immediate post test and one month after test as compared to control group p (<0.001).

**Table (3)** Mean of knowledge about radiotherapy side effect among Study & control group subjects before, immediately post and after one month from the educational program.

Knowledge Items	Before				Immediately Post				After one month			
	Study Group	Control Group	Independent T Test	P Value	Study Group	Control Group	Independent T Test	P Value	Study Group	Control Group	Independent T Test	P Value
	Mean $\pm$ SD	Mean $\pm$ SD			Mean $\pm$ SD	Mean $\pm$ SD			Mean $\pm$ SD	Mean $\pm$ SD		
- Side effects on integumentary system	0.800 $\pm$ 0.610	0.600 $\pm$ 0.770	1.115	>0.05	1.600 $\pm$ 0.498	0.600 $\pm$ 0.770	5.97	<0.001	1.300 $\pm$ 0.466	0.600 $\pm$ 0.770	4.25	<0.001
- Side effects on GIT	0.733 $\pm$ 0.583	0.833 $\pm$ 0.698	0.602	>0.05	1.600 $\pm$ 0.498	0.833 $\pm$ 0.698	4.89	<0.001	1.566 $\pm$ 0.504	0.833 $\pm$ 0.698	4.66	<0.001
Hematopiotic side effects:	0.66 $\pm$ 0.479	0.466 $\pm$ 0.507	0.079	>0.05	1.800 $\pm$ 0.406	0.466 $\pm$ 0.507	11.22	<0.001	1.566 $\pm$ 0.405	0.456 $\pm$ 0.502	9.05	<0.001
- Site of bleeding												
- Symptoms of anemia	0.600 $\pm$ 0.498	0.366 $\pm$ 0.490	0.606	>0.05	1.733 $\pm$ 0.345	0.366 $\pm$ 0.490	11.25	<0.001	1.633 $\pm$ 0.490	0.366 $\pm$ 0.490	10.00	<0.001
- Symptoms of infection	0.333 $\pm$ 0.479	0.300 $\pm$ 0.466	0.588	>0.05	1.800 $\pm$ 0.406	0.300 $\pm$ 0.466	13.28	<0.001	1.533 $\pm$ 0.507	0.300 $\pm$ 0.466	9.80	<0.001
- Reproductive side effect: If cancer sexually transmission	0.533 $\pm$ 0.507	0.466 $\pm$ 0.507	0.509	>0.05	1.800 $\pm$ 0.406	0.466 $\pm$ 0.507	11.22	<0.001	1.566 $\pm$ 0.405	0.466 $\pm$ 0.507	8.42	<0.001
- Can birth children during radiotherapy	0.633 $\pm$ 0.490	0.666 $\pm$ 0.479	0.598	>0.05	1.733 $\pm$ 0.449	0.666 $\pm$ 0.479	9.80	<0.001	1.433 $\pm$ 0.466	0.666 $\pm$ 0.479	6.80	<0.001

Shows that there were the highest mean score of the study group (1.800  $\pm$  0.406) related to hematopiotic side effects (site of bleeding, infection) & reproductive side effect immediately post and (1.633  $\pm$  0.490) related hematopiotic side effects (anemia) after one month. highly significant improvement in knowledge mean scores of study group regarding to radiotherapy side effect during immediate post test and one month after test as compared to control group ( $p < 0.001$ ).



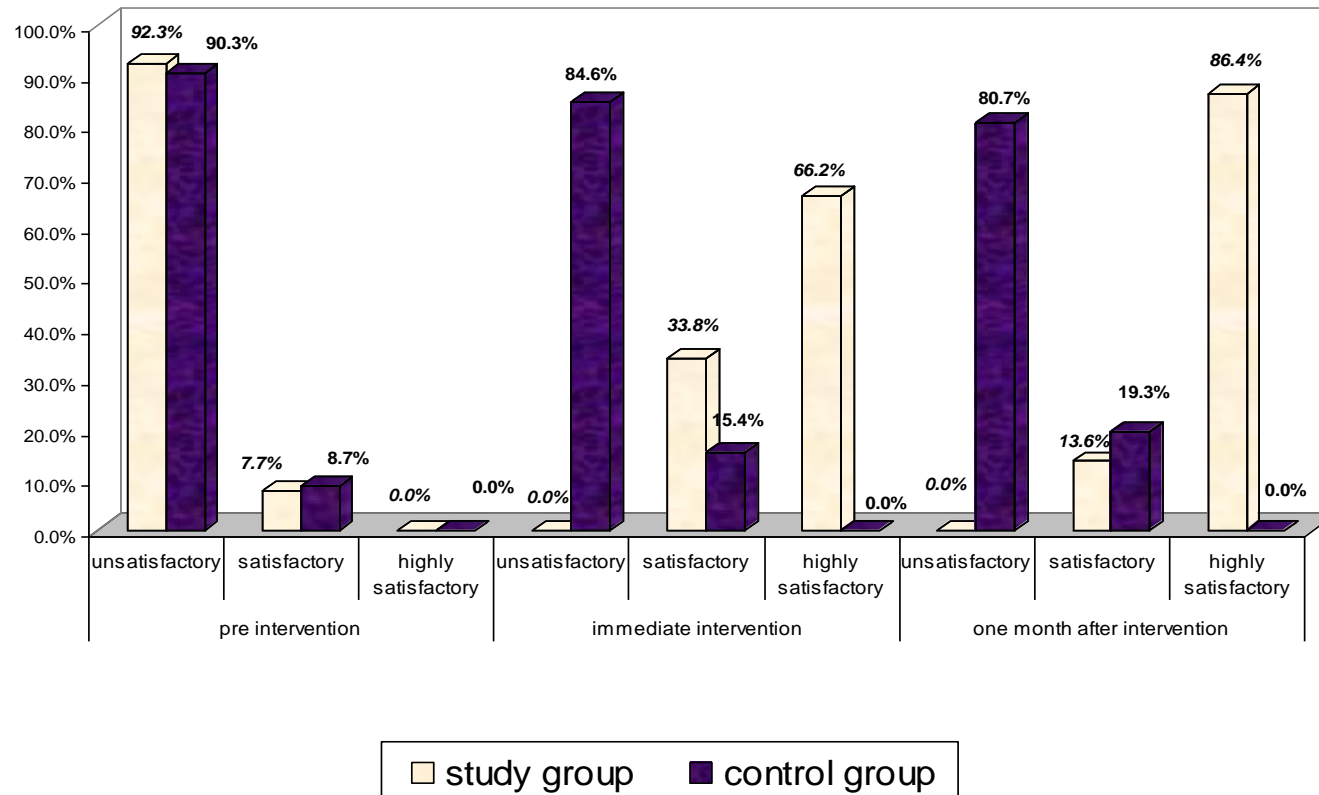
**Figure (1): Total knowledge of the study group subjects pre, immediately and after on month of educational program.**

**Part (III) Patient practice about radiotherapy side effect**

**Table (4) Knowledge regarding practice toward reducing radiotherapy side effect .**

Knowledge as regarding :-	Before				Immediately Post				After one month			
	Study Group	Control Group	Independet T Test	P Value	Study Group	Control Group	Independet T Test	P Value	Study Group	Control Group	Independet T Test	P Value
	Mean $\pm$ SD	Mean $\pm$ SD			Mean $\pm$ SD	Mean $\pm$ SD			Mean $\pm$ SD	Mean $\pm$ SD		
<b>Skin reaction</b>	0.500 $\pm$ 0.433	.0.700 $\pm$ 0.466	1.588	>0.05	1.666 $\pm$ 0.479	0.700 $\pm$ 0.466	7.91	<0.001	1.500 $\pm$ 0.508	0.700 $\pm$ 0.466	6.35	<0.001
<b>Nausea</b>	0.500 $\pm$ 0.508	0.433 $\pm$ 0.504	0.510	>0.05	1.733 $\pm$ 0.449	0.433 $\pm$ 0.504	10.45	<0.001	1.33 $\pm$ 0.479	0.433 $\pm$ 0.504	7.08	<0.001
<b>vomiting</b>	0.633 $\pm$ 0.490	0.660 $\pm$ 0.479	0.266	>0.05	1.633 $\pm$ 0.490	0.666 $\pm$ 0.479	7.72	<0.001	1.566 $\pm$ 0.504	0.666 $\pm$ 0.479	7.08	<0.001
<b>Diarrhea</b>	0.566 $\pm$ 0.504	0.433 $\pm$ 0.504	1.025	>0.05	1.666 $\pm$ 0.479	0.433 $\pm$ 0.504	9.71	<0.001	1.566 $\pm$ 0.504	0.433 $\pm$ 0.504	8.70	<0.001
<b>Constipation</b>	0.866 $\pm$ 0.681	0.566 $\pm$ 0.626	1.776	>0.05	1.700 $\pm$ 0.466	0.566 $\pm$ 0.626	7.95	<0.001	1.33 $\pm$ 0.479	0.566 $\pm$ 0.626	5.35	<0.001
<b>Muocitis &amp; Thorthroat</b>	0.466 $\pm$ 0.507	0.666 $\pm$ 0.479	1.569	>0.05	1.800 $\pm$ 0.406	0.666 $\pm$ 0.479	9.87	<0.001	1.43 $\pm$ 0.504	0.666 $\pm$ 0.479	6.03	<0.001
<b>Anorexia</b>	0.300 $\pm$ 0.466	0.566 $\pm$ 0.504	2.128	>0.05	1.933 $\pm$ 0.253	0.566 $\pm$ 0.504	13.26	<0.001	1.63 $\pm$ 0.496	0.566 $\pm$ 0.504	8.31	<0.001
<b>Fatigue &amp; tiredness</b>	0.300 $\pm$ 0.466	0.366 $\pm$ 0.490	0.40	>0.05	1.900 $\pm$ 0.305	0.366 $\pm$ 0.495	14.54	<0.001	1.53 $\pm$ 0.507	0.366 $\pm$ 0.490	9.05	<0.001
<b>Bleeding</b>	0.666 $\pm$ 0.479	0.466 $\pm$ 0.507	1.569	>0.05	1.63 $\pm$ 0.490	0.466 $\pm$ 0.407	9.05	<0.001	1.800 $\pm$ 0.406	0.466 $\pm$ 0.507	11.22	<0.001
<b>Anemia</b>	0.266 $\pm$ 0.449	0.366 $\pm$ 0.490	1.829	>0.05	1.73 $\pm$ 0.449	0.366 $\pm$ 0.495	11.25	<0.001	1.866 $\pm$ 0.345	0.366 $\pm$ 0.490	13.69	<0.001
<b>Infection</b>	0.566 $\pm$ 0.504	0.533 $\pm$ 0.507	0.255	>0.05	1.866 $\pm$ 0.345	0.366 $\pm$ 0.490	13.69	<0.001	1.700 $\pm$ 0.466	0.533 $\pm$ 0.507	9.27	<0.001
<b>anxiety</b>	0.833 $\pm$ 0.746	0.600 $\pm$ 0.498	1.270	>0.05	1.200 $\pm$ 0.466	0.533 $\pm$ 0.507	9.27	<0.001	1.933 $\pm$ 0.253	0.600 $\pm$ 0.679	10.13	<0.001

Shows that there were the highest mean score of the study group (1.200 $\pm$ 0.466) immediately post and (1.933 $\pm$  0.2530) after one month related (anxiety). highly significant improvement in knowledge regarding to practice mean scores of study group toward radiotherapy side effect during immediate post test and one month after test as compared to control group p (<0.001).



**Figure (2) Total knowledge regarding to practice toward reducing radiotherapy side effect of the study group subjects pre, immediately and after on month of educational program.**

Table (5) Distribution of radiotherapy side effect among study group subjects at different times pre, immediately, after one month .

Patient problems	Before				Immediately Post				After one month			
	Study Group	Control Group	Independet T Test	P Value	Study Group	Control Group	Independet T Test	P Value	Study Group	Control Group	Independet T Test	P Value
	Mean $\pm$ SD	Mean $\pm$ SD			Mean $\pm$ SD	Mean $\pm$ SD			Mean $\pm$ SD	Mean $\pm$ SD		
Nausea	0.466 $\pm$ 0.507	0.566 $\pm$ 0.502	0.766	>0.05	0.533 $\pm$ 0.507	0.600 $\pm$ 0.498	0.513	<0.05	0.333 $\pm$ 0.479	0.600 $\pm$ 0.498	2.11	<0.05
Vomiting	0.666 $\pm$ 0.479	0.633 $\pm$ 0.490	0.266	>0.05	0.333 $\pm$ 0.479	0.600 $\pm$ 0.498	2.11	<0.05	0.266 $\pm$ 0.449	0.600 $\pm$ 0.498	2.27	<0.05
Mucositis	0.733 $\pm$ 0.449	0.633 $\pm$ 0.490	0.823	>0.05	0.266 $\pm$ 0.449	0.666 $\pm$ 0.479	3.33	<0.05	0.266 $\pm$ 0.449	0.666 $\pm$ 0.479	3.33	<0.05
Constipation	0.633 $\pm$ 0.490	0.800 $\pm$ 0.406	1.43	>0.05	0.366 $\pm$ 0.490	0.766 $\pm$ 0.430	3.36	<0.001	0.366 $\pm$ 0.490	0.766 $\pm$ 0.430	3.36	<0.001
Diarrhea	0.800 $\pm$ 0.406	0.733 $\pm$ 0.449	0.602	>0.05	0.200 $\pm$ 0.406	0.766 $\pm$ 0.431	5.26	<0.05	0.667 $\pm$ 0.253	0.766 $\pm$ 0.430	7.67	<0.001
Altered taste	0.700 $\pm$ 0.466	0.700 $\pm$ 0.466	0.00	>0.05	0.300 $\pm$ 0.466	0.666 $\pm$ 0.479	3.00	<0.05	0.300 $\pm$ 0.466	0.666 $\pm$ 0.479	3.00	<0.05
Anorexia	0.666 $\pm$ 0.479	0.800 $\pm$ 0.406	1.61	>0.05	0.333 $\pm$ 0.479	0.766 $\pm$ 0.430	3.68	<0.05	0.233 $\pm$ 0.430	0.766 $\pm$ 0.430	4.80	<0.001
Dry mouth	0.733 $\pm$ 0.449	0.700 $\pm$ 0.466	0.282	>0.05	0.266 $\pm$ 0.449	0.666 $\pm$ 0.479	3.33	<0.001	0.166 $\pm$ 0.379	0.666 $\pm$ 0.479	4.81	<0.001
Stress	0.833 $\pm$ 0.379	0.700 $\pm$ 0.466	0.21	>0.05	0.166 $\pm$ 0.379	0.666 $\pm$ 0.479	4.48	<0.001	0.133 $\pm$ 0.345	0.666 $\pm$ 0.479	4.94	<0.001
Fatigue	0.366 $\pm$ 0.490	0.533 $\pm$ 0.507	1.29	>0.05	0.633 $\pm$ 0.490	0.566 $\pm$ 0.504	0.519	>0.05	0.200 $\pm$ 0.406	0.666 $\pm$ 0.479	3.10	<0.05
Heart burn	0.566 $\pm$ 0.504	0.633 $\pm$ 0.490	0.519	>0.05	0.433 $\pm$ 0.504	0.666 $\pm$ 0.479	1.83	>0.05	0.200 $\pm$ 0.406	0.666 $\pm$ 0.479	4.06	<0.001
Wight loss	0.366 $\pm$ 0.490	0.533 $\pm$ 0.507	1.294	>0.05	0.533 $\pm$ 0.490	0.500 $\pm$ 0.508	1.03	>0.05	0.433 $\pm$ 0.504	0.500 $\pm$ 0.508	0.510	>0.05
Skin changes	0.900 $\pm$ 0.305	0.733 $\pm$ 0.449	1.68	>0.05	0.100 $\pm$ 0.305	0.966 $\pm$ 0.430	1.00	>0.05	0.066 $\pm$ 0.253	0.766 $\pm$ 0.430	7.97	<0.001
Difficult swallowing	0.780 $\pm$ 0.466	0.866 $\pm$ 0.345	1.03	>0.05	0.700 $\pm$ 0.466	0.833 $\pm$ 0.379	1.06	<0.05	0.366 $\pm$ 0.490	0.833 $\pm$ 0.379	4.12	<0.001

Shows that there were the highest mean score of the study group (0.700 $\pm$  0.466) related to difficult swallowing immediately post and (0.667 $\pm$  0.253) related to diarrhea after on month.

statistically significant improvement towered reducing radiotherapy side effect of study group with p value<0.05 except ( skin change ,weight loss, heart burn &fatigue) Also highly statistical significance in( constipation, Dry mouth & stress) p (<0.001) immediately post test as compared to control group and after one month highly significance improvement except (weight loss) .Also statistically significance in (nausea vomiting, Mucositis , Altered taste, fatigue ) as compared to control group.



*Part IV Patient Quality of life before, immediately post, and one month after.*

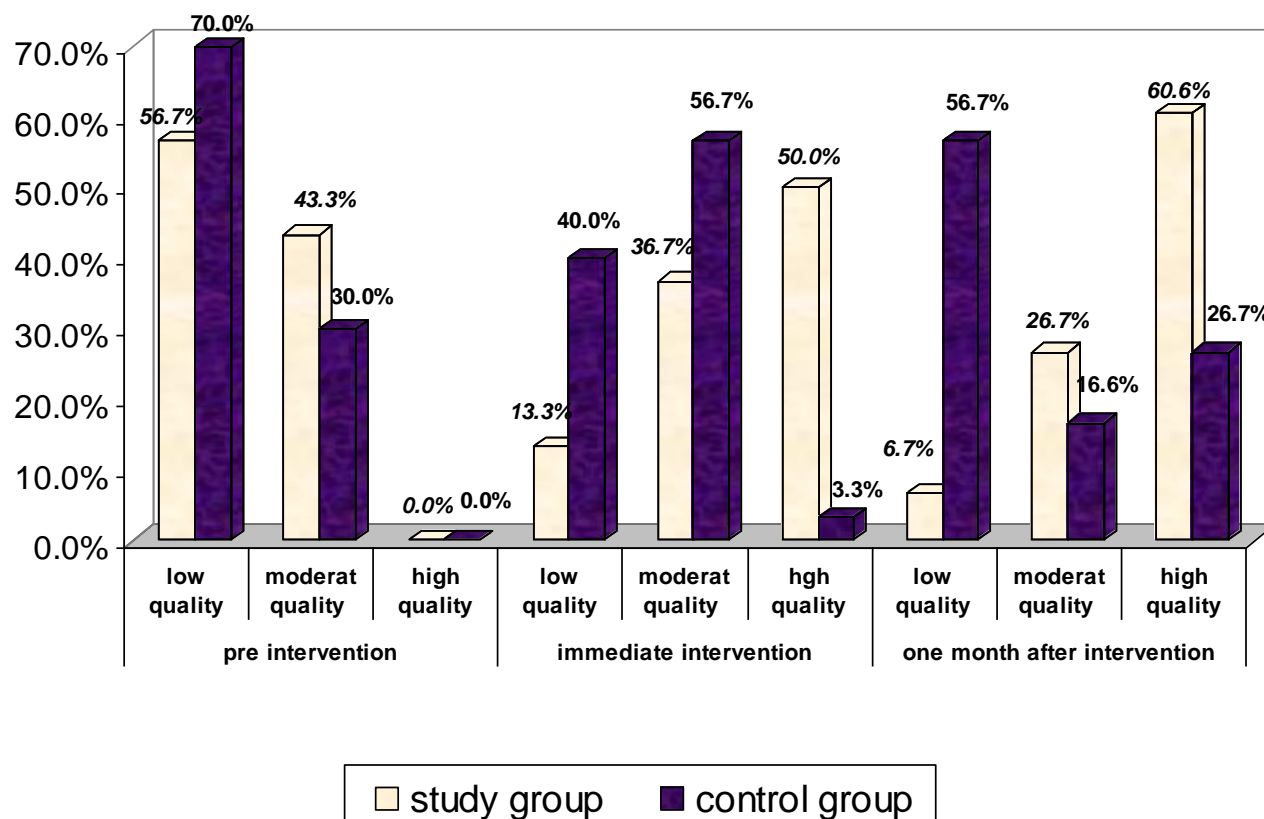
**Table (6): percentage distribution of the stages regarding their physical status for Study & control group subjects.**

Variable	Before				X <sup>2</sup>	P	Immediately post				X <sup>2</sup>	P	After one month				X <sup>2</sup>	P
	study Group		Control group				study Group		Control group				study Group		Control group			
	N	%	N	%			N	%	N	%			N	%	N	%		
Feeling of fatigue Absent	0	0	0	0	1.87	>0.05	14	46.7	14	46.7	30.55	<0.001	9	30	13	43.3	43.70	<0.001
Mild	0	0	0	0			16	53.3	14	46.7			9	30	11	36.7		
Moderate	10	33.3	10	33.3			0	0	2	6.6			12	40	6	20		
Sever	20	66.7	20	66.7			0	0	0	0			0	0	0	0		
Feeling of Loss of apatite Absent	0	0	0	0			0.072	>0.05	18	60			16	53.3	50.74	<0.001		
Mild	0	0	0	0	7	23.3			9	30	14	46.7	5	16.7				
Moderate	10	33.3	11	36.7	5	16.7			5	16.7	7	23.3	10	33.3				
Sever	20	66.7	19	63.3	0	0			0	0	4.	13.3	11	36.7				
Feeling of -Presences of pain Absent	0	0	0	0	0.835	>0.05			6	20	12	40	46.55	<0.001			8	26.6
Mild	0	0	0	0			15	50	9	30	11	36.7			13	43.3		
Moderate	8	26.7	11	36.7			9	30	9	30	11	36.7			9	30		
Sever	22	73.3	19	63.3			0	0	0	0	0	0			0	0		
Feeling of Sleeping disturbance Absent	0	0	0	0			0.574	>0.05	16	53.3	17	56.7			26.21	<0.001	4	13.3
Mild	0		0	0	14	46.7			13	43.3	22	73.3	17	56.7				
Moderate	19	63.3	6	20	0	0			0	0	4	13.3	4	3.3				
Sever	11	36.7	24	80	0	0			0	0	0	0	0	0				

<b>Feeling of Nausea &amp; vomiting</b> Absent	0	0	0	0	<b>6.136</b>	<b>&gt;0.05</b>	0	0	0	0	<b>44.31</b>	<b>&lt;0.001</b>	14	46.7	10	33.3	<b>60.55</b>	<b>&lt;0.001</b>
Mild	0	0	0	0	<b>6.136</b>	<b>&gt;0.05</b>	11	36.7	7	23.3	<b>44.31</b>	<b>&lt;0.001</b>	14	46.7	15	50	<b>60.55</b>	<b>&lt;0.001</b>
Moderate	24	80	22	73.3			12	40	16	53.3			16	53.3	5	16.7		
Sever	6	20	8	26.7			7	23.3	7	23.3			0	0	0	0		
<b>Feeling of Diarrhea or constipation</b> Absent	0	0	0	0	<b>0.568</b>	<b>&gt;0.05</b>	0	0	0	0	<b>37.27</b>	<b>&lt;0.001</b>	10	33.3	7	23.3	<b>40.50</b>	<b>&lt;0.001</b>
Mild	0	0	0	0			5	16.7	5	16.7			17	56.7	17	56.7		
Moderate	21	70	21	70			22	73.3	16	53.3			3	10	6	20		
Sever	9	30	9	30			3	10	9	30			0	0	0	0		
<b>Feeling of Skin change</b> Absent	0	0	0	0	<b>0.938</b>	<b>&gt;0.05</b>	6	20	6	20	<b>44.55</b>	<b>&lt;0.001</b>	10	33.3	0	0	<b>49.43</b>	<b>&lt;0.001</b>
Mild	0	0	0	0			18	60	14	46.7			1	3.3	1	3.3		
Moderate	10	33.3	6	20			6	20	10	33.3			19	63.3	16	53.3		
Sever	20	66.7	24	80			0	0	0	0			0	0	13	43.3		
<b>Feeling of Alopecia</b> Absent	0	0	0	0	<b>0.292</b>	<b>&gt;0.05</b>	5	16.7	2	6.7	<b>56.87</b>	<b>&lt;0.001</b>	5	16.7	9	30	<b>69.25</b>	<b>&lt;0.001</b>
Mild	0	0	0	0			18	60	23	76.6			9	30	5	16.7		
Moderate	22	73.3	21	70			5	16.7	3	10			12	40	12	40		
Sever	8	62.7	9	30			2	6.6	2	6.7			4	13.3	4	13.3		
<b>-Feeling of Dry mouth</b> Absent	0	0	0	0	<b>2.571</b>	<b>&gt;0.05</b>	9	30	13	43.3	<b>16.81</b>	<b>&lt;0.05</b>	9	30	13	43.3	<b>53.73</b>	<b>&lt;0.001</b>
Mild	0	0	0	0			21	70	17	56.7			21	70	17	56.7		
Moderate	5	16.7	9	30			0	0	0	0			0	0	0	0		
Sever	25	83.3	21	70			0	0	0	0			0	0	0	0		

Shows that there were highly significant improvement regarding physical health dimension of study group during immediate post test and one month after test as compared to control group p (<0.001)





**Figure (3): Total physical dimension of quality of life of the study group subjects pre, immediately and after on month of educational program.**



Table (7): Percentage distribution of the stages regarding their psychological status for Study &amp; control group subjects

Variable	Before				X <sup>2</sup>	P	Immediately post				X <sup>2</sup>	P	After one month				X <sup>2</sup>	P
	study Group		Control group				study Group		Control group				study Group		Control group			
	N	%	N	%			N	%	N	%			N	%	N	%		
difficult to cope with radiotherapy Absent	1	3.3	2	6.7	2.92	>0.05	18	60	12	40	66.42	<0.001	15	50	4	13.3	67.27	<0.001
Mild	10	33.3	10	33.3			12	40	9	30			13	43.3	10	33.3		
Moderate	19	63.3	18	60			0	0	9	30			2	6.7	16	53.3		
Sever	0	0	0	0			0	0	0	0			0	0	0	0		
Pad over all quality of life Absent	0	0	0	0	0.002	>0.05	14	46.7	9	30	61.22	<0.001	12	40	6	20	63.92	<0.001
Mild	13	43.3	16	53.3			13	43.3	6	20			14	46.7	11	36.7		
Moderate	17	56.7	14	46.7			3	10	12	40			4	13.3	10	33.3		
Sever	0	0	0	0			0	0	3	10			0	0	3	10		
Not Satisfying for life Absent	0	0	4	13.3	4.55	>0.05	15	50	5	16.7	52.24	<0.001	15	50	5	16.7	67.02	<0.001
Mild	12	40	14	46.7			13	43.3	14	46.7			13	43.3	14	46.7		
Moderate	18	60	12	40			2	6.7	7	23.3			2	6.7	7	23.3		
Sever	0	0	0	0			0	0	4	13.3			0	0	4	13.3		
Unable to concentrating or remembering things Absent	0	0	0	0	0.792	>0.05	13	43.3	11	36.7	18.69	<0.05	18	60	14	46.7	33.34	<0.001
Mild	13	43.3	19	63.3			12	40	9	30			12	40	9	30		
Moderate	17	56.7	11	36.7			5	16.7	10	33.3			0	0	7	23.3		
Sever	0	0	0	0			0	0	0	0			0	0	0	0		

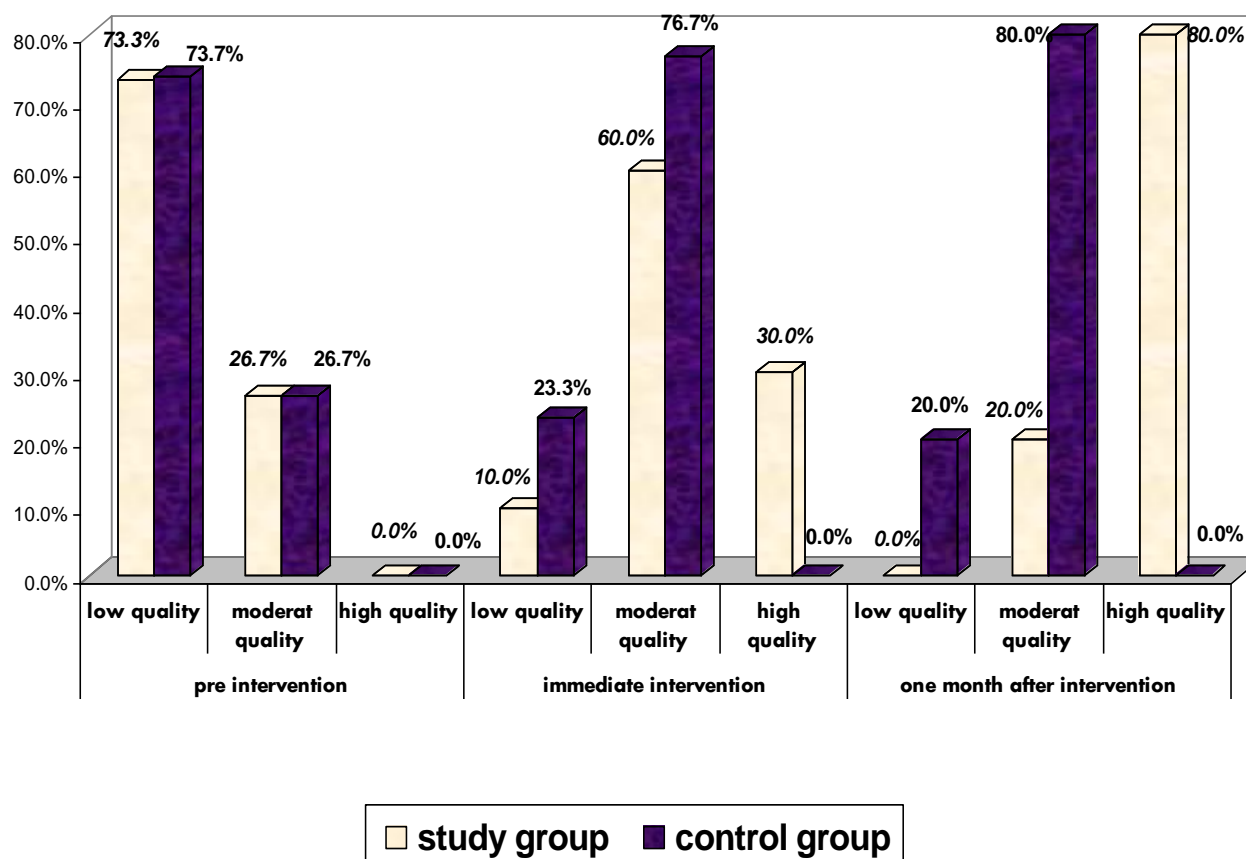


<b>Do feel a person not useful</b> Absent	0	0	0	0	<b>3.40</b>	<b>&gt;0.05</b>	15	50	4	13.3	<b>29.58</b>	<b>&lt;0.001</b>	18	60	15	50	<b>46.06</b>	<b>&lt;0.001</b>
Mild	7	23 .3	6	20			14	46.7	22	73.3			12	40	15	50		
Moderate	18	60	19	63.3			1	3.3	4	13.3			0	0	0	0		
Sever	5	16.7	5	16.7			0	0	0	0			0	0	0	0		
<b>Distressing about initial radiotherapy</b> Absent	0	0	0	0	<b>2.51</b>	<b>&gt;0.05</b>	18	60	14	46.7	<b>60.34</b>	<b>&lt;0.001</b>	12	40	11	36.7	<b>62.16</b>	<b>&lt;0.001</b>
Mild	0	0	0	0			12	40	16	53.3			16	53.3	12	40		
Moderate	16	53.3	15	50			0	0	0	0			2	6.7	7	23 .3		
Sever	14	46.7	15	50					0	0			0	0	0	0		
<b>- Distressing about the time of radiotherapy</b> Absent	0	0	0	0	<b>2.35</b>	<b>&gt;0.05</b>	19	63.3	5	16.7	<b>25.71</b>	<b>&lt;0.05</b>	22	73.3	20	66.7	<b>33.37</b>	<b>&lt;0.001</b>
Mild	6	20	4	13.3			11	36.7	22	73.3			8	26.7	10	33.3		
Moderate	20	66.7	14	46.7			0	0	3	10			0	0	0	0		
Sever	4	13.3	12	40			0	0	0	0			0	0	0	0		
<b>feeling of anxiety</b> Absent	0	0	0	0	<b>2.48</b>	<b>&gt;0.05</b>	14	46.7	1	3.3	<b>62.01</b>	<b>&lt;0.001</b>	22	73.3	20	66.7	<b>60.06</b>	<b>&lt;0.001</b>
Mild	6	20	4	13.3			7	23	19	63.3			8	26.7	10	33.3		
Moderate	11	36.7	13	43.3			9	30	10	33.3			0	0	0	0		
Sever	13	43.3	13	43.3			0	0	0	0			0	0	0	0		
<b>feeling of depression</b> Absent	0	0	0	0	<b>3.54</b>	<b>&gt;0.05</b>	12	40	11	36.7	<b>64.14</b>	<b>&lt;0.001</b>	26	86.7	22	73.3	<b>61.26</b>	<b>&lt;0.001</b>
Mild	5	16.7	13	43.3			15	50	13	43.3			4	13.3	4	13.3		
Moderate	19	63.3	16	53.3			3	10	6	20			0	0	4	13.3		
Sever	6	20	1	3.3			0	0	0	0			0	0	0	0		
<b>fearful from second cancer</b> Absent	0	0	0	0	<b>1.12</b>	<b>&gt;0.05</b>	14	46.7	11	36.7	<b>26.06</b>	<b>&lt;0.05</b>	16	53.3	16	53.3	<b>46.07</b>	<b>&lt;0.001</b>
Mild	3	10	4	13.3			14	46.7	12	40			10	33.3	8	26.7		
Moderate	15	50	19	63.3			2	6.6	7	23 .3			4	13.3	6	20		
Sever	12	40	7	23 .3			0	0	0	0			0	0	0	0		



<b>fearful from side effects of radiotherapy</b> Absent	0	0	0	0	<b>1.46</b>	<b>&gt;0.05</b>	13	43.3	7	23.3	<b>36.58</b>	<b>&lt;0.001</b>	15	50	12	40	<b>50.72</b>	<b>&lt;0.001</b>
Mild	1	3.3	9	30			12	40	10	33.3			12	40	6	20		
Moderate	16	53.3	14	46.7			5	16.7	10	33.3			3	10	12	40		
Sever	13	43.3	7	23.3			0	0	3	10			0	0	0	0		
<b>-fearful from spreading</b> Absent	2	6.7	3	10	<b>3.05</b>	<b>&gt;0.05</b>	12	40	11	36.7	<b>60.07</b>	<b>&lt;0.001</b>	12	40	13	43.3	<b>18.36</b>	<b>&lt;0.05</b>
Mild	16	53.3	18	60			12	40	6	20			18	60	10	33.3		
Moderate	12	40	9	30			6	20	13	43.3			0	0	7	23.3		
Sever	0	0	0	0			0	0	0	0			0	0	0	0		

Shows that there was highly statistically significant improvement regarding their psychological dimension of study group immediately post and after one month with  $p (<0.001)$ . Also statistically significance in (Unable to concentrating or remembering things, Fearful from secondary cancer & Distressing about the time of radiotherapy) immediately post test and (fearful from spreading) one month after test with  $p (<0.05)$  as compared to control group.



**Figure (4): Total psychological dimension of quality of life of the study group subjects pre, immediately and after on month educational program.**

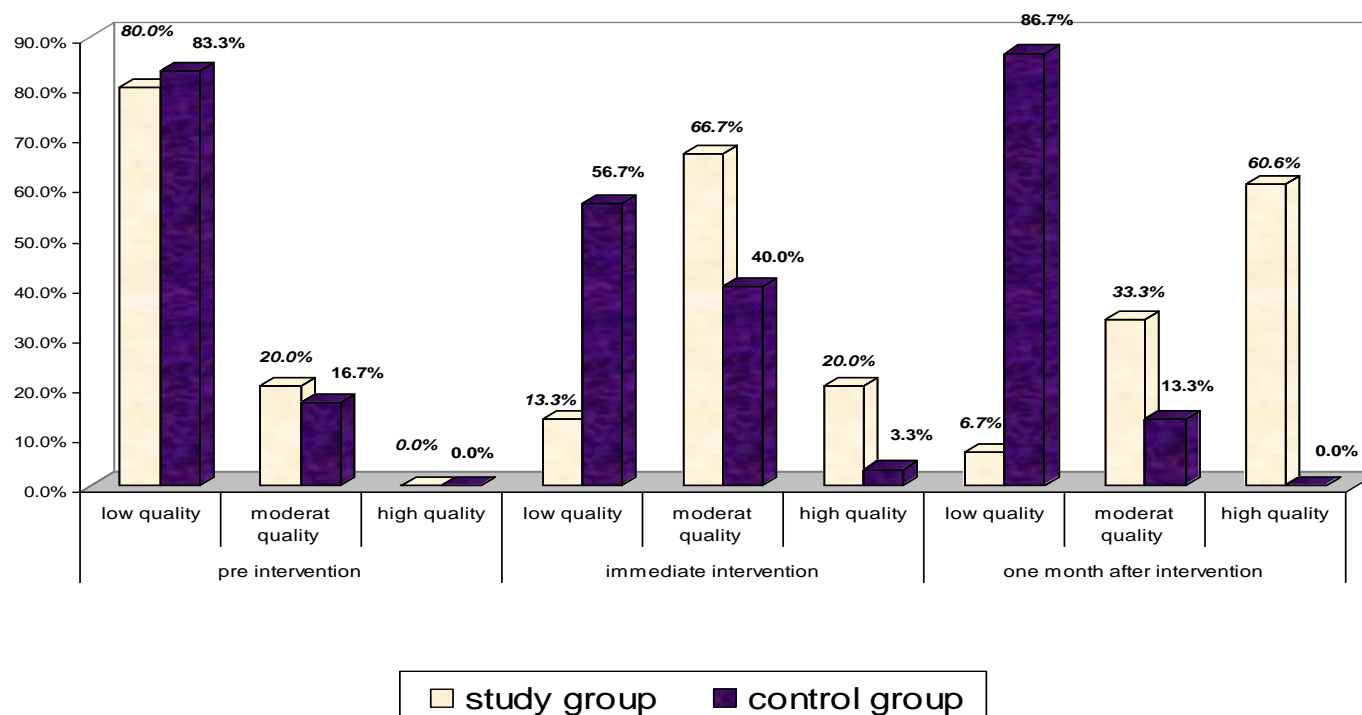


Table (8): Percentage distribution of the stages regarding their social status for study group subjects

Variable	Before				X <sup>2</sup>	P	Immediately post				X <sup>2</sup>	P	After one month				X <sup>2</sup>	P	
	study Group		Control group				study Group		Control group				study Group		Control group				
	N	%	N	%			N	%	N	%			N	%	N	%			
Extent to which illness is a sad thing for the family Absent	0	0	0	0	14.06	>0.05	15	50	17	56.7	40.69	<0.001	15	50	12	40	26.78	<0.001	
	Mild	11	36.7	2			6.6	12	40	11			36.7	12	40	16			53.3
	Moderate	13	43.3	11			36.3	3	10	2			6.6	3	10	2			6.7
	Sever	6	20	17			56.7	0	0	0			0	0	0	0			0
supporting received from others not enough Absent	0	0	0	0	8.004	>0.05	13	43.3	1	3.3	7.94	>0.05	21	70	18	60	5.23	>0.05	
	Mild	17	56.7	11			36.7	9	30	19			63.3	7	23.3	12			40
	Moderate	5	16.6	17			56.7	8	26.7	10			33.3	2	6.7	0			0
	Sever	8	26.7	2			6.6	0	0	0			0	0	0	0			0
extant that affects radiotherapy to personal relation ship Absent	0	0	0	0	4.22	>0.05	16	53.3	3	10	12.98	<0.05	24	80	3	10	35.4	<0.001	
	Mild	11	36.7	3			10	11	36.7	13			43.3	5	16.7	13			43.3
	Moderate	9	30.0	9			30	3	10	14			46.7	1	3.3	14			46.7
	Sever	10	33.3	18			60	0	0	0			0	0	0	0			0
extant that affects radiotherapy to sexuality Absent	0	0	0	0	5.86	>0.05	19	63.3	4	13.3	12.20	<0.05	22	73.3	1	3.3	5.95	>0.05	
	Mild	15	50.0	14			46.7	7	23.3	16			53.3	4	13.3	15			50
	Moderate	14	46.7	12			40	4	13.3	10			33.3	4	13.3	14			46.7
	Sever	1	3.3	4			13.3	0	0	0			0	0	0	0			0

<b>To what extent that affects radiotherapy to job</b>	0	0	0	0	<b>11.30</b>	<b>&gt;0.05</b>	22	73.3	5	16.7	<b>4.97</b>	<b>&gt;0.05</b>	24	80	5	16.7	<b>5.73</b>	<b>&gt;0.05</b>
Absent																		
Mild	11	36.7	11	36.7			8	26.7	21	70			6	20	17	56.7		
Moderate	16	53.3	14	46.7			0	0	4	13.3			0	0	8	26.6		
Sever	3	10.0	5	16.6			0	0	0	0			0	0	0	0		
<b>To what extent that affects radiotherapy to activity at home</b>	0	0	0	0	<b>15.92</b>	<b>&gt;0.05</b>	2	6.7	21	70	<b>2.22</b>	<b>&gt;0.05</b>	21	70	1	3.3	<b>0.426</b>	<b>&gt;0.05</b>
Absent																		
Mild	25	83.3	6	20			25	83.3	9	30			9	30	23	76.7		
Moderate	4	13.3	22	73.3			3	10	0	0			0	0	6	20		
Sever	1	3.3	2	6.7			0	0	0	0			0	0	0	0		
<b>Isolation caused by radiotherapy</b>	0	0	0	0	<b>11.48</b>	<b>&gt;0.05</b>	9	30	4	13.3	<b>16.11</b>	<b>&lt;0.05</b>	4	13.3	9	30	<b>33.24</b>	<b>&lt;0.001</b>
Absent																		
Mild	8	26.7	0	0			21	70	10	33.4			10	33.3	15	50		
Moderate	20	66.7	11	36.7			0	0	12	40			12	40	6	20		
Sever	2	6.6	19	63.3			0	0	4	13.3			4	13.3	0	0		
<b>financial burden</b>	0	0	0	0	<b>7.42</b>	<b>&gt;0.05</b>	6	20	25	83.3	<b>6.31</b>	<b>&gt;0.05</b>	25	83.3	1	3.3	<b>3.31</b>	<b>&gt;0.05</b>
Absent																		
Mild	11	36.3	5	16.7			13	43.3	5	16.7			5	16.7	13	43.3		
Moderate	15	50.0	11	36.7			11	36.7	0	0			0	0	16	53.4		
Sever	4	13.3	14	46.6			0	0	0	0			0	0	0	0		

Shows that there was statistically significant improvement regarding item of social dimension of study group (Extent that affects radiotherapy to personal relationship, Extent that affects radiotherapy to sexuality & Isolation caused by radiotherapy) immediately post test with  $P (<0.05)$  Also highly statistically significance in (Extent to which illness is a sad thing for the family, extent that affects radiotherapy to personal relationship & Isolation caused by radiotherapy) after one month with  $p (<0.001)$  as compared to control group.



**Figure (5): Total social dimension of quality of life of the study group subjects pre, immediately and after on month of educational program.**





Table (9): Percentage distribution of the stages regarding their spiritual status for study group subject

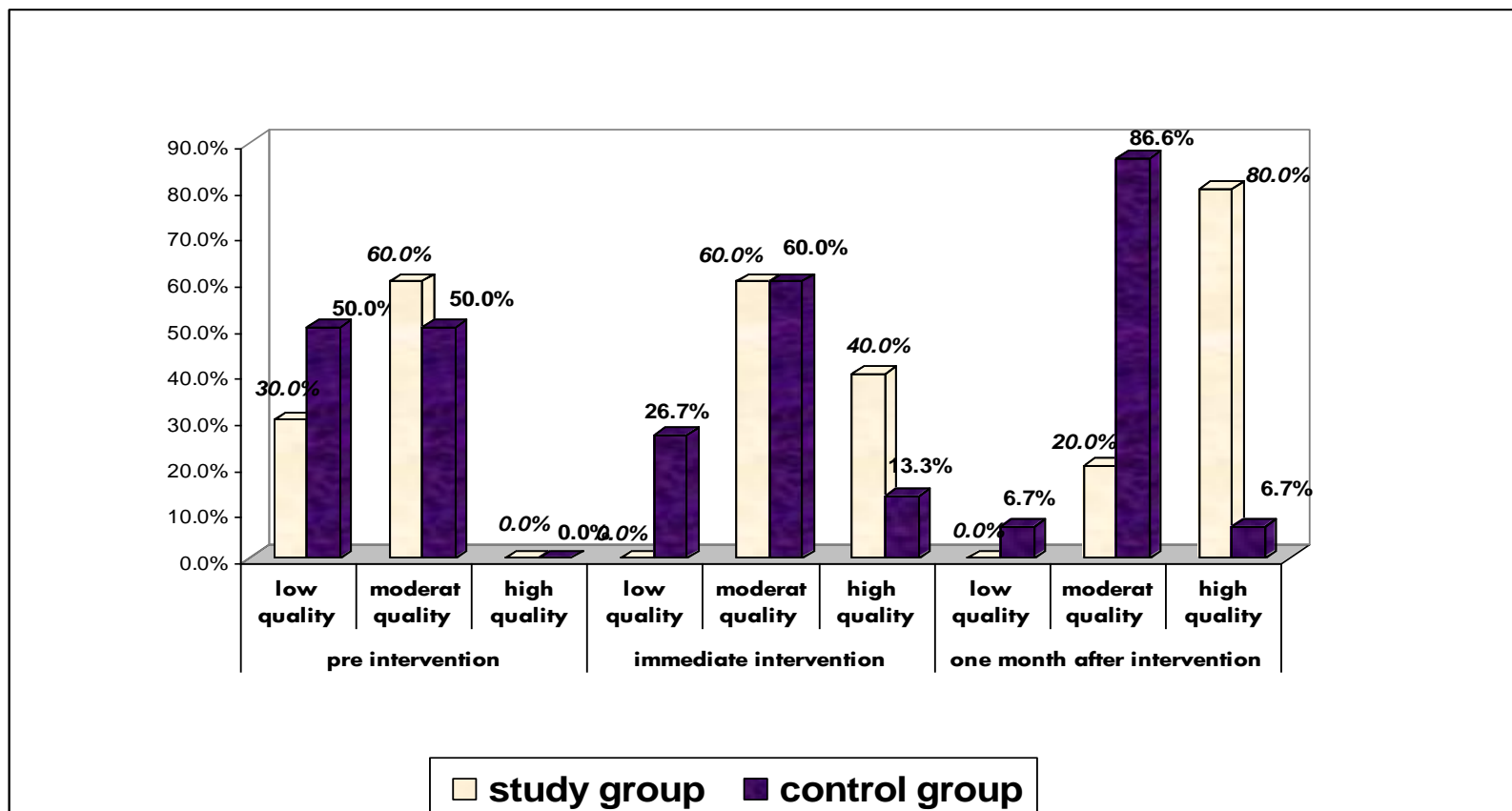
Variable	Before				X <sup>2</sup>	P	Immediately post				X <sup>2</sup>	P	After one month				X <sup>2</sup>	P
	study Group		Control group				study Group		Control group				study Group		Control group			
	N	%	N	%			N	%	N	%			N	%	N	%		
Amount of supporting from religious activities	12	40	10	33.3	7.009	>0.05	7	23.3	9	30	10.96	>0.05	17	56.6	12	40	97.2	>0.05
Absent																		
Mild	3	10	13	43.3			12	40	15	50			11	36.7	10	33.3		
Moderate	15	50	7	23.3			11	36.7	6	20			2	6.7	8	26.7		
Sever	0	0	0	0			0	0	0	0			0	0	0	0		
Amount of support personal spiritual activities	10	33.3	13	43.3	7.29	>0.05	9	30	8	26.7	16.88	<0.05	13	43.3	10	33.3	24.57	<0.05
Absent																		
Mild	9	30	8	26.7			11	36.7	14	46.6			9	30	11	36.7		
Moderate	11	36.7	9	30			10	33.3	8	26.7			8	26.7	9	30		
Sever	0	0	0	0			0	0	0	0			0	0	0	0		
Amount of confused about the future	1	3.3	4	13.3	5.86	>0.05	19	63.3	4	13.3	11.92	<0.05	19	63.3	0	0	18.36	<0.05
Absent																		
Mild	14	46.7	12	40			7	23.3	12	40			9	30	17	56.7		
Moderate	15	50	14	46.7			4	13.3	14	46.7			2	6.7	13	43.3		
Sever	0	0	0	0			0	0	0	0			0	0	0	0		
Radiotherapy not cause any positive change in life	3	10	13	43.3	3.93	>0.05	22	73.3	4	13.3	6.31	>0.05	20	66.7	8	26.7	13.40	<0.05
Absent																		
Mild	16	53.3	14	46.7			8	26.7	12	40			10	33.3	19	63.3		
Moderate	11	36.7	3	10			0	0	14	46.7			0	0	3	10		
Sever	0	0	0	0			0	0	0	0			0	0	0	0		
Sense of areas on for being a life	1	3.3	2	6.7	5.92	>0.05	18	60	8	26.7	1.59	>0.05	15	50	2	6.6	12.88	<0.05
Absent																		
Mild	4	13.3	22	73.3			12	40	19	63.3			12	40	11	36.7		
Moderate	25	83.3	6	20			0	0	3	10			3	10	17	56.7		
Sever	0	0	0	0			0	0	0	0			0	0	0	0		



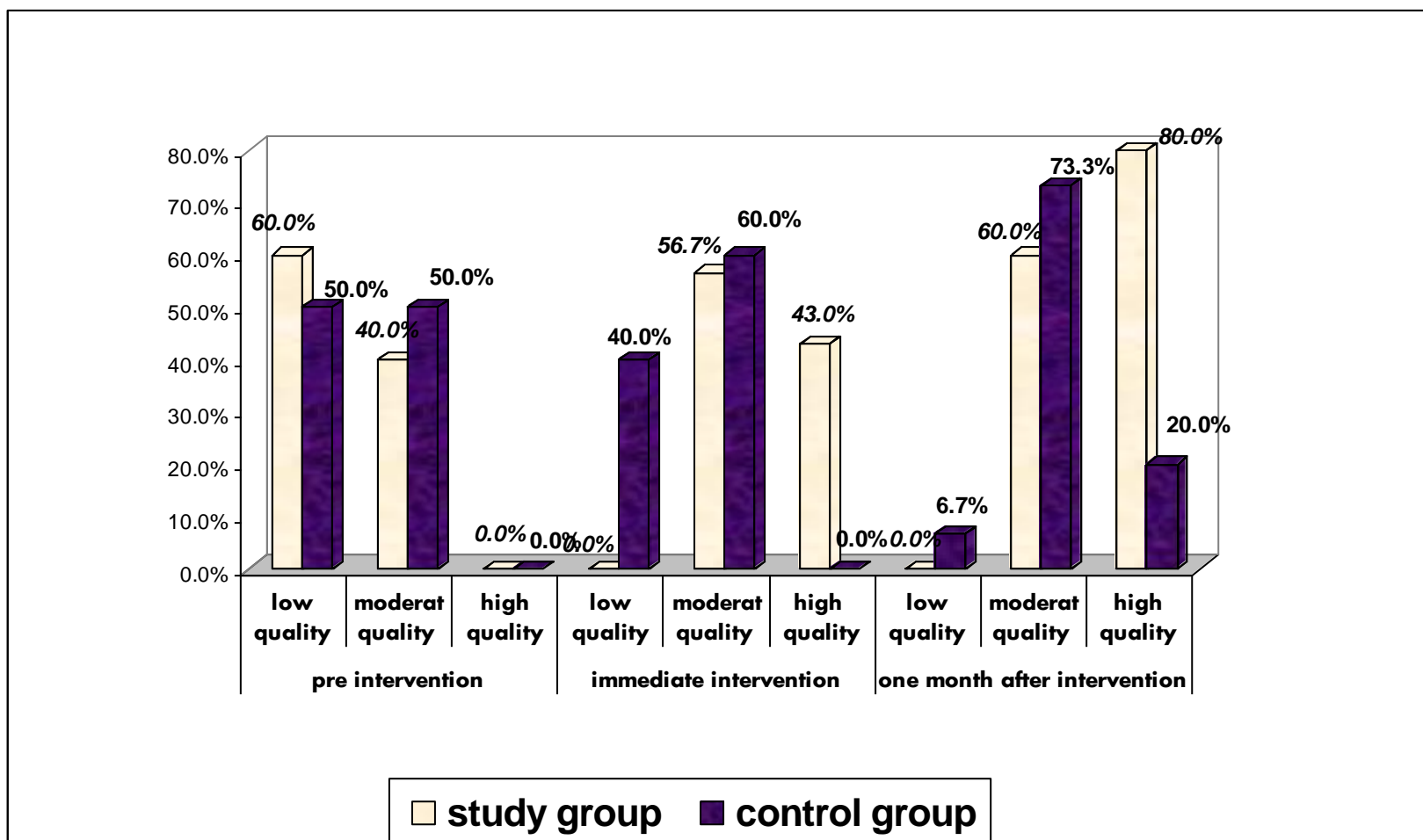
Continue (9)

Don't feel hopeful for life	2	6.7	19	63.3	1.14	>0.05	0	0	19	63.3	19.85	<0.05	15	50	12	40	23.25	<0.001
Absent																		
Mild	20	66.6	11	36.7			14	46.7	11	36.7			14	46.7	11	36.7		
Moderate	8	26.7	0	0			12	40	0	0			1	3.3	7	23.3		
Sever	0	0	0	0			4	13.3	0	0			0	0	0	0		

Shows that there was statistically significant improvement regarding their spiritual dimension of study group (Amount of support personal spiritual activities, Amount of confused about the future& don't feel hopeful for life) immediately post test and statistically significant after one month in all items Except (amount of supporting from religious activities) with  $P < 0.05$  .Also highly statistically significance in (Don't feel hopeful for life) with  $p (< 0.001)$  as compared to control group.



**Figure (6): Total spiritual dimension of quality of life of the study group subjects pre, immediately and after on month of educational program.**



**Figure (5): Total of quality of life of the study group subjects pre, immediately and after on month.**



**Table (10) Relation between total quality of life and sociodemographic variable (age, sex and marital status) of the study group pre, immediately and after one month of educational program**

Total quality score	Total quality score at Pretest						Total quality score at Immediate post test						Total quality score at Follow-up test					
Variable	Low		Moderate		High		Low		Moderate		High		Low		Moderate		High	
Age	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
Less than 30	4	13.3	0	0.0	0	0.0	3	10	1	3.3	0	0.0	0	0.0	1	3.3	3	10
30 to less than 40	6	20	1	3.3			0	0.0	7	23	0	0.0			2	6.7	5	16.7
40 to less than 50	11	36.7	1	3.3	0	0.0	0	0.0	0	0.0	12	40	0	0.0	0		12	40
50 to 60	6	20	1	3.3	0	0.0	1	3.3	4	13.3	2	6.7	0	0.0	0		7	23
<b>X<sup>2</sup></b>	<b>X<sup>2</sup> = 0.767      P &gt; 0.05</b>						<b>X<sup>2</sup> = 38.72      P &lt; 0.001</b>						<b>X<sup>2</sup> = 5.79      P &lt; 0.05</b>					
<b>Sex</b>																		
Male	12	40	1	3.3	0	0.0	3	10	2	6.7	8	26.6	0	0.0	1	3.3	12	40
female	15	50	2	6.7	0	0.0	1	3.3	10	33.3	6	20	0	0.0	2	6.7	15	50
<b>X<sup>2</sup></b>	<b>X<sup>2</sup> = 0.136      P &gt; 0.05</b>						<b>X<sup>2</sup> = 6.19      P &lt; 0.05</b>						<b>X<sup>2</sup> = 0.136      P &gt; 0.05</b>					
<b>Marital status</b>																		
single	2	6.7	0	0.0	0	0.0	2	6.7	0	0.0	0	0.0			0	0.0	2	6.7
Married	19	63.3	2	6.7	0	0.0	2	6.7	8	26.6	11	36.7			2	6.7	19	63.3
Divorce	6	20	1	3.3	0	0.0	0	0.0	4	13.3	3	10			1	3.3	6	20
<b>X<sup>2</sup></b>	<b>X<sup>2</sup> = 0.370      P &gt; 0.05</b>						<b>X<sup>2</sup> = 14.86      P &lt; 0.05</b>						<b>X<sup>2</sup> = 0.370      P &gt; 0.05</b>					

This table shows that there were a highly significant relation between total QOL ,age immediately post with  $p < 0.001$  Also statistical significance between total QOL ,sex ,marital status immediately post test and between total QOL , age after one month with  $p < 0.05$  .

**Table (11) Relation between total quality of life and sociodemographic variable (diagnosis, occupation and level of education) of the study group pre, immediately and after one month of educational program**

Total quality score Variable	Total quality score at Pretest						Total quality score at Immediate post test						Total quality score at Follow-up test					
	Low		Moderate		High		Low		Moderate		High		Low		Moderate		High	
Diagnosis	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
Cancer brain	9	30	0	0.0	0	0.0	1	3.3	6	20	0	0.0	0	0.0	2	6.7	7	23.3
Cancer breast	7	23	1	3.3	0	0.0	3	10	6	20	2	6.7	0	0.0	1	3.3	7	23.3
Cancer bladder	8	26.6	2	6.7	0	0.0	0	0.0	0	0.0	9	30	0	0.0	0	0.0	0	00.0
Cancer uterus	3	10	0	0.0	0	0.0	0	0.0	0	0.0	3	10	0	0.0	0	0.0	13	43.3
<b>X2</b>	<b>X2 = 2.50</b>						<b>X2 = 22.13</b>						<b>X2 = 56.6</b>					
	<b>&gt;0.05</b>						<b>P &lt;0.05</b>						<b>P &lt;0.001</b>					
Occupation																		
Work	10	33.3	3	10			1	3.3	6	20	6	20			2	6.7	11	36.7
No work	17	56.7	0	0.0			3	10	6	20	8	26.7			1	3.3	16	53
<b>X2</b>	<b>X2 = 4.35</b>						<b>X2 = 0.766</b>						<b>X2 = 0.739</b>					
	<b>P &gt;0.05</b>						<b>P &gt;0.05</b>						<b>P &gt;0.05</b>					
Education																		
illiterate	7	23.3	2	6.7	0	0.0	1	3.3	4	13.3	4	13.3	0	0.0	2	6.7	7	23.3
Read & writ e	3	10	0	0.0	0	0.0	0	0.0	1	3.3	2	6.7	0	0.0	0	0.0	3	10
Secondary school	10	33.3	1	3.3	0	0.0	1	3.3	4	13.3	6	20	0	0.0	1	3.3	10	33.3
University	7	23.3	0	0.0	0	0.0	2	6.7	3	10	2	6.7	0	0.0	0	0.0	7	23.3
<b>X2</b>	<b>X2 = 2.50</b>						<b>X2 = 24.35</b>						<b>X2 = 2.99</b>					
	<b>P &gt;0.05</b>						<b>P &lt;0.001</b>						<b>P &gt;0.05</b>					

This table shows that there were a statistical significant in relation between total QOL, diagnosis pre and highly significance between total QOL, education immediate post and between total QOL , diagnosis after one month of educational program with  $p < 0.001$  .