

**Table (1):** Distribution of psychiatric nursing students according to educational qualification.

Educational qualification	psychiatric nursing Students (n= 85)	
	N	%
Secondary School Certificate.	66	77.7
Technical Health Institute Diploma.	19	22.3

Table (1) showed that the educational qualification of the majority of nursing students was secondary school certificate compared to those with technical health institute diploma. The distributions of students with secondary school certificate were: 77.7%, while the students with technical health institute diploma 22.3%.

**Table (2):** Mean scores of students Knowledge and concept about critical thinking and it's relation to nursing process in the study and control groups before and after the program.

Item	Pre-program Study group	Post-program Study group	Pre-program Control group	Post-program Control group
	N =42	N = 42	N =43	N = 43
	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD
Matching question about nursing process	0.88 ±1.04	2.43 ±0.67	1.27±1.16	49.V.0
Paired T Test: P-Value:	8.55 < 0.001		1.07 > 0.05	
Fill in the blank	0.86 ± 0.90	5.17 ±2.08	1.60 ± 1.63	2.67±1.90
Paired T Test P-Value:	18.5 < 0.001		3.56 < 0.01	
III-chose correct answer(about nursing process& critical thinking)	5.00 ±2.65	13.1±1.74	6.30 ±2.65	7.00 ±2.01
Paired T Test P-Value:	14.3 < 0.001		1.37 < 0.05	
True and false: (about nursing process& critical thinking )	5.62 ±9.21	8.21 ±1.18	3.16 ±1.63	4.42 ± 1.71
Paired T Test: P-Value:	1.79 > 0.05		3.44 < 0.01	
Matching question about critical thinking	2.5 ±2.31	3.38±1.01	1.35 ±1.37	1.14 ±1.06
Paired T Test: P-Value:	2.29 < 0.05		0.75 > 0.05	
Total score of test	71.3±23.7	166.2 ±28.6	76.3 ± 23.5	82.7± 28.4
Paired T Test: P-Value:	18.3 < 0.001		1.36 > 0.05	

Table (2): this table revealed that there was a statistical significance difference between pre and post program study group about total score of knowledge and concept of critical thinking ( $p < 0.05$ ,  $< 0.001$ ). Meanwhile no statistical significance difference between their knowledge and concept about critical thinking in relation to *true and false* question, in addition, this table showed that there was no significance difference between pre and post control group knowledge and concept about critical thinking ( $p > 0.05$ ). Meanwhile there was significance difference between their knowledge and concept in relation to point of *Fill in the blank and true and false* question ( $p < 0.01$ ).

**Table (3):** Comparison of "California Critical Thinking Disposition Inventory" for studied and control group at pre and post program.

Item	Pre-program Study group	Post-program Study group	Pre-program Control group	Post-program Control group
	N = 42	N = 42	N = 43	N = 43
	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD
Truth Seeking	35.95 ± 6.30	49.31 ± 6.18	32.91 ± 7.94	32.91 ± 32.90
Paired T Test:	10.94		000.	
P-Value:	< 0.001		> 0.05	
Open-mindedness	33.74 ± 5.89	52.83 ± 6.45	32.72 ± 7.14	32.56 ± 7.31
Paired T Test	13.93		142.	
P-Value:	< 0.001		> 0.05	
Systematically	25.88 ± 3.97	43.81 ± 4.63	8.05 ± 33.28	33.14 ± 7.93
Paired T Test	20.25		075.	
P-Value:	< 0.001		> 0.05	
Inquisitiveness	35.17 ± 4.85	42.97 ± 4.54	30.65 ± 7.96	30.51 ± 7.69
Paired T Test:	7.62		087.	
P-Value:	< 0.001		> 0.05	
Self-Confidence	33.98 ± 6.92	43.36 ± 4.24	31.05 ± 10.44	30.60 ± 11.62
Paired T Test:	6.94		239.	
P-Value:	< 0.001		> 0.05	
Analyticity	31.12 ± 4.38	45.05 ± 4.24	33.30 ± 8.67	33.09 ± 8.71
Paired T Test:	13.34		121.	
P-Value:	< 0.001		> 0.05	
Maturity	1.45 ± 0.55	38.14 ± 6.14	29.84 ± 7.56	30.0 ± 7.56
Paired T Test:	38.00		091.	
P-Value:	< 0.001		> 0.05	
Total score of CCTDI scale	225.02 ± 18.81	315.48 ± 18.79	223.7 ± 26.58	222.8 ± 20.48
Paired T Test:	19.28		210.	
P-Value:	< 0.001		> 0.05	

Table (3): this table showed that there were highly statistical significance differences in relation to all items of *Critical Thinking Disposition Inventory* among studied group in pre and post program ( $p < 0.001$ ). While this table showed that there was no significance difference between pre and post control group in relation to all items of *Critical Thinking Disposition Inventory* ( $p > 0.05$ )

**Table (4):** The dispositional level of the psychiatric and mental health nursing students before and after the program toward "California Critical Thinking Disposition Inventory "

Item	Pre-program Study group N=42		Post-program Study group N=42		Pre-program Control group N=43		Post-program Control group N=43	
	N	%	N	%	N	%	N	%
<b>1-Truth Seeking</b>								
-Negative	10	23.8	1	2.4	22	51.2	22	51.2
-Ambivalence	24	57.1	2	4.9	11	25.6	13	30.2
-Positive	8	19.0	39	92.9	10	23.3	8	18.6
<b>2-Open-mindedness</b>								
-Negative	11	26.2	0	0.0	21	48.8	21	48.8
-Ambivalence	26	61.9	0	0.0	14	32.6	14	32.6
-Positive	5	11.9	42	100.0	8	18.6	8	18.6
<b>3-Systematically</b>								
-Negative	34	81.0	0	0.0	17	39.5	17	39.5
-Ambivalence	8	19.0	13	31.0	13	30.2	13	30.2
-Positive	0	0.0	29	69.0	13	30.2	13	30.2
<b>Inquisitiveness</b>								
-Negative	6	14.3	0	0.0	18	41.8	15	34.9
-Ambivalence	27	64.3	12	28.6	11	25.6	14	32.6
-Positive	9	21.4	30	71.4	14	32.6	14	32.6
<b>5-self confidence</b>								
-Negative (-)	12	28.6	0	0.0	18	41.9	15	34.9
-Ambivalence	22	52.4	26	61.9	15	34.9	15	34.9
-Positive	8	19.0	16	38.1	10	23.2	13	30.2
<b>6-analyticity</b>								
-Negative	16	38.1	0	0.0	19	44.2	19	44.2
-Ambivalence	25	59.5	3	7.1	13	30.2	13	30.2
-Positive	1	2.4	39	92.9	11	25.6	11	25.6
<b>7-maturity.</b>								
-Negative	24	75.1	4	9.5	27	62.8	30	69.8
-Ambivalence	17	40.5	21	50.0	9	20.9	5	11.6
-Positive	1	2.4	17	40.5	7	16.3	8	18.6
<b>Total Score</b>								
-Negative	16	38.1	2	4.8	0	0.0	04	9.3
-Ambivalence	26	61.9	4	9.5	38	88.4	35	81.4
-Positive	0	0.0	36	85.7	5	11.6	4	9.3

Table (4): illustrated that the majority of study group after implement the program got positive and ambivalence dispositional level toward systematically and self –confidence (**69.0% and 61.9%**) respectively. While more than three quarter of study group after implement the program got positive dispositional level toward Inquisitiveness (**71.4%**).and majority of study group after implement the program got positive dispositional level toward truth seeking, open-mindedness, analyticity and total score of California Critical Thinking Disposition Inventory "(**92.9%**),(**100.0%**),(**92.2%**) and (**85.7%**) respectively. While more than half of control group after implement the program got negative dispositional level toward truth seeking and maturity (**51.2%**) **and** (**69.8%**) respectively, while majority of control group were ambivalence dispositional level toward total score of California Critical Thinking Disposition Inventory (**88.4%**).

**Table (5):** Comparison of mean scores of Clinical performance competence in the study and control groups before and after the program.

Item	Pre-program Study group	Post-program Study group	Pre-program Control group	Post-program Control group
	N =82	N = 82	N =83	N = 83
	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD
Assessment	4.83±2.36	9.88±1.56	6.53 ± 2.423	6.58±3.22
Paired T Test:	13.58		0.072.	
P-Value:	< 0.001		> 0.05	
Planning	2.45± 2.78	8.02± 2.48	4.12± 2.22	5.63±3.04
Paired T Test	9.68		2.51	
P-Value:	< 0.001		< 0.05	
Recording	1.38± 1.38	4.67 ±0.93	1.77 ± 1.15	2.67±1.39
Paired T Test	13.33		2.95	
P-Value:	< 0.001		< 0.005	
Evaluation	000.±000.	3.74±1.47	000.±000.	000.±000.
Paired T Test:	16.52		-	
P-Value:	<0.001		-	
Cognitive	0.5±0.86	6.74±1.61	1.37 ±1.17	2.81±2.58
Paired T Test:	20.88		3.58	
P-Value:	< 0.001		< 0.001	
Effect	1.88 ±1.11	7.14±1.33	2.07 ±1.30	3.56 ±2.40
Paired T Test:	20.0		4.07	
P-Value:	< 0.001		< 0.001	
Affect	10.67 ±1.42	17.95 ±0.96	10.84 ±2.38	12.30 ±1.96
Paired T Test:	27.76		3.26	
P-Value:	< 0.001		< 0.05	
Psychomotor	8.69 ±1.77	20.38 ±1.48	8.74 ±1.79	12.05 ± 3.40
Paired T Test:	34.21		5.87.	
P-Value:	< 0.001		< 0.001	
Safety	3.74 ±0.83	4.69 ±0.46	3.67 ±0.84	3.30 ±1.01
Paired T Test:	6.99		1.725	
P-Value:	< 0.001		> 0.05	
Assistant needed	5.00 ±000.	5.00±000.	5.00 ±000.	5.00 ±000.
Paired T Test	-		-	
P-Value:	-		-	
Total Nursing care	39.95 ±5.29	90.98 ±4.30	45.07 ±4.68	55.65 ±9.00
Paired T Test	49.21		7.505	
P-Value:	< 0.001		< 0.001	

**Table (5)** pointed that the general improvement in performance competence to nursing care plan mean scores of study group in all items after implementation the program with a highly statistical significance differences at assessment, planning, recording, evaluation, cognitive, effect, affect, psychomotor, safety and total nursing care (**p<0.001**) respectively. Moreover, there was a statistical significance difference between pre and post program control group about their clinical performance, while there was no statistical significance differences in their clinical performance at point of assessment and safety (**p >0.05**).



**Table (6):** Distribution of the study and control group about their clinical performance in pre and post- program phases

Item	Pre-program Study group N=42		Post-program Study group N=42		Pre-program Control group N=43		Post-program control group N=43	
	N	%	N	%	N	%	N	%
<b>Assessment</b>								
-Fail	37	88.1	5	11.9	33	76.7	8	18.6
Pass	5	11.9	7	16.7	8	18.6	32	74.4
Good	0	0.0	23	54.8	2	4.7	1	2.3
Very Good	0	0.0	7	16.7	0	0.0	2	4.7
Excellent	0	0.0	0	0.0	0	0.0	0	0.0
<b>Planning</b>								
- Fail	37	88.1	11	26.2	36	83.7	30	69.8
Pass	9	9.5	22	52.4	5	11.6	10	23.3
Good	11	2.4	7	16.7	2	2.7	2	4.7
Very Good	0	0.0	2	4.8	0	0.0	1	2.3
Excellent	0	0.0	0	0.0	0	0.0	0	0.0
<b>Recording</b>								
-Fail	33	78.6	0	0.0	31	72.1	12	18.6
Pass	5	11.9	5	11.9	9	20.9	22	51.1
Good	3	7.1	11	26.2	3	7.0	3	7.0
Very Good	1	2.4	26	61.9	0	0.0	4	9.3
Excellent	0	0.0	0	0.0	0	0.0	2	4.7
<b>Intervention</b>								
-Fail	22	52.4	1	2.4	16	37.2	24	55.8
Pass	13	31.0	2	4.8	15	34.9	4	5.3
Good	6	14.3	12	28.6	11	25.6	7	16.3
Very Good	1	2.4	18	42.9	1	2.3	1	2.3
Excellent	0	0.0	9	21.4	0	0.0	7	16.3
<b>Evaluation</b>								
-Fail	42	100.0	23	54.8	43	100.0	43	100.0
Pass	0	0.0	4	9.5	0	0.0	0	0.0
Good	0	0.0	14	33.3	0	0.0	0	0.0
Very Good	0	0.0	1	2.4	0	0.0	0	0.0
Excellent	0	0.0	0	0.0	0	0.0	0	0.0
<b>Cognitive</b>								
-Fail	42	100.0	6	14.3	34	79.1	33	76.7
Pass	0	0.0	7	16.7	8	18.6	7	18.6
Good	0	0.0	13	31.0	1	2.3	1	2.3
Very Good	0	0.0	13	31.0	0	0.0	2	4.7
Excellent	0	0.0	3	7.1	0	0.0	0	0.0



## Results

Item	Pre-program Study group N=42		Post-program Study group N=42		Pre-program Control group N=43		Post-program control group N=43	
	N	%	N	%	N	%	N	%
<b>Effect</b>								
-Fail	42	100.0	6	14.3	43	100.0	36	83.7
Pass	0	0.0	14	33.3	0	0.0	5	11.6
Good	0	0.0	22	52.4	0	0.0	2	4.7
Very Good	0	0.0	0	0.0	0	0.0	0	0.0
Excellent	0	0.0	0	0.0	0	0.0	0	0.0
<b>Affect</b>								
-Fail	32	76.2	0	0.0	43	100.0	31	72.1
Pass	10	23.8	0	0.0	0	0.0	9	20.9
Good	0	0.0	4	9.5	0	0.0	3	7.0
Very Good	0	0.0	12	28.6	0	0.0	0	0.0
Excellent	0	0.0	26	61.9	0	0.0	0	0.0
<b>Psychomotor</b>								
-Fail	42	100.0	3	7.1	16	37.2	14	33.3
Pass	0	0.0	10	33.3	15	34.9	16	38.1
Good	0	0.0	28	66.7	11	25.5	11	26.2
Very Good	0	0.0	0	0.0	1	2.3	1	2.3
Excellent	0	0.0	1	2.4	0	0.0	0	0.0
<b>Safety</b>								
-Fail	42	100.0	42	100.0	43	100.0	43	100.0
Pass	0	0.0	0	0.0	0	0.0	0	0.0
Good	0	0.0	0	0.0	0	0.0	0	0.0
Very Good	0	0.0	0	0.0	0	0.0	0	0.0
Excellent	0	0.0	0	0.0	0	0.0	0	0.0
<b>assistant needed</b>								
-Fail	42	100.0	42	100.0	43	100.0	43	100.0
Pass	0	0.0	0	0.0	0	0.0	0	0.0
Good	0	0.0	0	0.0	0	0.0	0	0.0
Very Good	0	0.0	0	0.0	0	0.0	0	0.0
Excellent	0	0.0	0	0.0	0	0.0	0	0.0
<b>Total Nursing Care Plan</b>								
Independent	0	0.0	1	2.4	0	0.0	0	0.0
Supervised	0	0.0	2	4.8	0	0.0	0	0.0
Assisted	0	0.0	32	76.2	0	0.0	9	20.9
Marginal	0	0.0	7	16.6	0	0.0	2	4.7
Dependent	42	100.0	0	0.0	43	100.0	32	74.4





**Table (6)** pointed that more than half of study group were pass in relation to planning (**52.4%**), and more than half were good in relation to assessment, effect, and psychomotor (**54.8%**), (**52.4 %**), (**66.7%**) respectively after program, also more than half of study group were very good and excellent in relation to recording and affect, (**61.9%**), (**61.9%**) respectively . While more than three quarter of study group were assisted at score of total nursing care plan, (**76.2%**), majority of this group failed to take safety measures and assistant needed (**100.0%**). while more than half of control group were failed in relation to planning, intervention (**69.8%**), (**55.8%**) respectively. While more than three quarter were pass in relation to assessment, Cognitive and Dependent at total score in nursing care plan (**74.4%**), (**76.7%**) and (**74.4%**) respectively. Finally majority of control group were failed in relation to effect, safety measure and assistant needed (**83.7%**), (**100.0%**) and (**100.0%**) respectively.



**Table (7):** The relationship between knowledge about critical thinking and nursing process and education levels in psychiatric nursing students.

Total score test about critical thinking before program	Education levels of psychiatric nursing Students (n= 85)				X <sup>2</sup>	P
	high school education(n=66)		Diploma of nursing (n=19)			
	No	%	No	%		
Fail	41	62.1	10	52.6	3.76 > 0.05	
Acceptance	25	37.9	8	42.1		
good	0	0.0	0	0.0		
Very Good	0	0.0	1	5.3		
Excellent	0	0.0	0	0.0		

Table (7) showed that the difference between knowledge about critical thinking and nursing process in relation to educational levels in psychiatric nursing students. The result revealed that there was no significant difference was found between diploma and higher school nurses in relation to knowledge about critical thinking and nursing process in relation to educational levels in psychiatric nursing students, (X<sup>2</sup> 3.76, P >0.05)

**Table (8):** comparison between critical thinking disposition inventory among Diploma of nursing and high school education before program

Scale Before Program	Education levels of psychiatric nursing Students (n= 85)				X <sup>2</sup>	P
	high school education(n=66)		Diploma of nursing (n=19)			
	No	%	No	%		
<b>1-Truth Seeking</b>						
-Negative (-)	28	42.4	4	21.1	3.99	> 0.05
-Ambivalence	28	42.4	9	47.4		
-Positive (+)	10	15.2	6	31.6		
<b>2-Open-mindedness</b>						
-Negative (-)	27	40.9	5	26.3	2.55	> 0.05
-Ambivalence	28	42.4	12	63.2		
-Positive (+)	11	16.7	2	10.5		
<b>3-Systematically</b>						
-Negative (-)	40	60.0	11	57.9	0.85	> 0.05
-Ambivalence	15	22.7	6	31.6		
-Positive (+)	11	16.7	2	10.0		
<b>4-Inquisitiveness</b>						
-Negative (-)	19	28.8	5	26.3	0.70	> 0.05
-Ambivalence	28	42.4	10	52.6		
-Positive (+)	19	28.8	4	21.1		
<b>5-self confidence</b>						
-Negative (-)	21	31.8	9	47.1	5.10	> 0.05
-Ambivalence	33	50.0	4	21.1		
-Positive (+)	12	18.2	6	31.6		
<b>6-analyticity</b>						
-Negative (-)	27	40.9	8	42.1	0.27	> 0.05
-Ambivalence	29	43.9	9	47.4		
-Positive (+)	10	15.2	2	10.5		
<b>7-maturity</b>						
-Negative (-)	42	63.6	9	47.4	3.35	> 0.05
-Ambivalence	17	25.8	9	47.4		
-Positive (+)	7	10.6	1	5.2		
<b>Total Score (CCTDI)</b>						
-Negative (-)	13	19.7	3	15.8	1.82	> 0.05
-Ambivalence	48	72.7	16	84.2		
-Positive (+)	5	7.6	0	0.0		

**Table (8)** showed that comparison between critical thinking disposition inventory among Diploma of nursing and high school education before program. The result revealed that there was no statistical significant difference between high school and Diploma of nursing regarding all item and total score of the California critical thinking disposition inventory ( **$X^2 1.82 P > 0.05$** ).



**Table (9):** The impact of the program on the student's knowledge about critical thinking, nursing process and California critical thinking disposition inventory in study group.

Total score of test after Program	Total score of CCTDI scale after program in study group						X <sup>2</sup>	P
	Negative n=2		Ambivalence n=4		Positive n=36			
	No	%	No	%	No	%		
Acceptance	0	0.0	0	0.0	4	11.1	1.52	> 0.05
Very good	1	50.0	1	25.0	15	41.7		
Excellent	1	50.0	3	75.0	17	47.2		

Table (9) clarified the impact of the program on the student's knowledge about critical thinking, nursing process and California critical thinking disposition inventory scale in study group .The result revealed that there was no significant difference between knowledge about critical thinking, nursing process and California critical thinking disposition inventory scale in study group ( X<sup>2</sup> 1.52, P >0.05)



**Table (10):** The impact of the program on the student's knowledge about critical thinking, nursing process and Clinical performance competence in study group after program.

Total score of test after Program	Total Clinical performance competence After Program In study group				X <sup>2</sup>	P
	Marginal n=10		Assisted n=32			
	No	%	No	%		
Acceptance	0	0.0	4	12.5	2.75	> 0.05
Very good	6	60.0	11	34.4		
Excellent	4	40.0	17	53.1		

**Table (10)** showed the impact of the program on the student's knowledge about critical thinking , nursing process and Clinical performance competence in study group after program .The result revealed that there was no significant difference on the student's knowledge about critical thinking ,nursing process and clinical performance competence in the study group after the program.

**Table (11):** The relationship between critical thinking and Clinical performance competence among studied group after program.

Total score of California critical thinking disposition inventory scale after program	Total Clinical performance competence After Program In study group				X <sup>2</sup>	P
	Marginal n=10		Assisted n=32			
	No	%	No	%		
Negative	1	10.0	1	3.1	0.81	> 0.05
Ambivalence	1	10.0	3	9.4		
Positive	8	80.0	28	87.5		

Table (11) showed the relationship between critical thinking and Clinical performance competence in study group after program. The result illustrated that the higher percentage at total score of critical thinking after program for positive related to assist (87.5%), also there was higher for positive at marginal (80.0%). (X<sup>2</sup> 0.81, P>0.05).