RESULTS

The results of the study are presented in tables (1-19), they include the following parts:

Part (I): Socio-demographic characteristics (table 1-4)

Part (II): Knowledge of the studied nurses (table 5-8)

Part (III): Performance of the studied nurses (table 9-13)

Part (IIV): Nurses' attitude about problems of nasogastric tube feeding (table14-16):

Part (V): Correlations (tables 17-21)**.**

Part(I): Characteristics of the studied subjects.

Table(1):Number& Percentage Distribution of Nurses According to their General Characteristics.

Items	Numbers (60)	Percentage %
- Age in years		
<20	21	35.0
20-25	29	48.3
>25	10	16.7
Mean ± SD 21.9 ± 3.3 years		
- Years of experience		
<2 year	10	16.7
2- 5year	32	53.3
>5year	18	30.0
Mean ± SD 4.09 ± 2.7		
- Level of education		
Technical institute of nursing	12	20
Secondary school of nursing	48	80

Table(1): this table shows that the mean age of the studied nurses is 21.9 ± 3.3 years and more than half of them (53.3%) have years of experience between 2- 5 years with mean 4.09 ± 2.7 years. This table also illustrate that 80% of the studies nurses are graduate from secondary school of nursing .

Fig (1) :Distribution of the Studied Nurses According to their Qualification.

20 %

80%

Technical institute of nursing 20%

Secondary school of nursing 80%
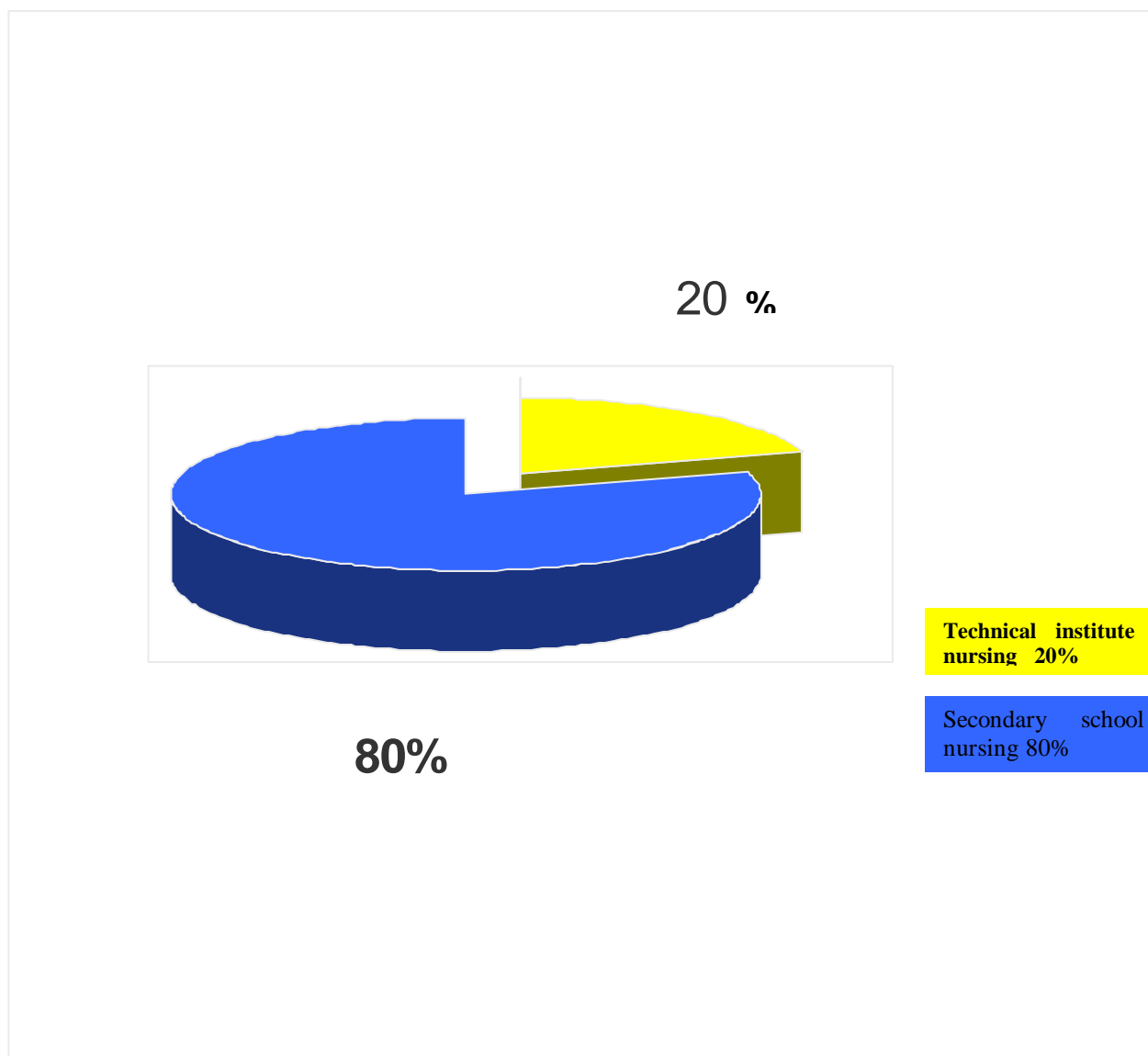
Table(2): Number & Percentage Distribution of High-Risk Neonates According to their Characteristics.

Items	Numbers (150)	Percentage %
- Gestational age		
<30 weeks	2	1.3
30- 35	89	59.4
>35	59	39.3
Mean ± SD 33.4 ± 2.5		
Infant current age-		
>7 days	58	38.6
7- 14 days	64	42.7
>14 days	28	18.7
Mean ± SD 11.3 ± 10.4		

Table(2): this table illustrate that the mean gestational age of the high-risk neonate are 33.4 ± 2.5weeks, where more than half (59%) of them their gestational age between 30- 35 weeks. This table also shows that, the mean current age of neonate 11.3 ± 10.4 days, 42.7% of them have current age 7-14days .

Table(3) : **Number & Percentage Distribution of High-Risk Neonate According to their Weight on Admission and the Current Weight.**

| Items	Total N (150)	% (100%)
-Weight on admission		
<1500gm	29	19.3
1500-2000gm	77	51.4
>2000gm	44	29.3
Mean ± SD 1866.1 ± 499.9 gm		
-Infants'current weight		
>1500gm	33	22.0
1500-2000gm	73	48.7
>2000gm	44	29.3
Mean ± SD 1809.2 ± 463.8gm		

Table (3): This table reveals that the mean weight of neonate on admission is 1866.1 ± 499.9 gm. Meanwhile, the mean current weight is 1809.2 ± 463.8gm.

Table(4): Number & Percentage Distributions of High risk Neonate According to their Condition

Items	Total N (150)	% (100%)
- Preterm	28	18.7
- Preterm with RDS	113	75.3
-Surgical operation	9	6.0

Table(4): This table shows that 75.3% of high risk neonates are preterm with respiratory distress syndrome, while 18.7% & 6% of them are preterm and had surgical operation respectively.

Figure(2): Distribution of the High-Risk Neonate According to their Condition

.
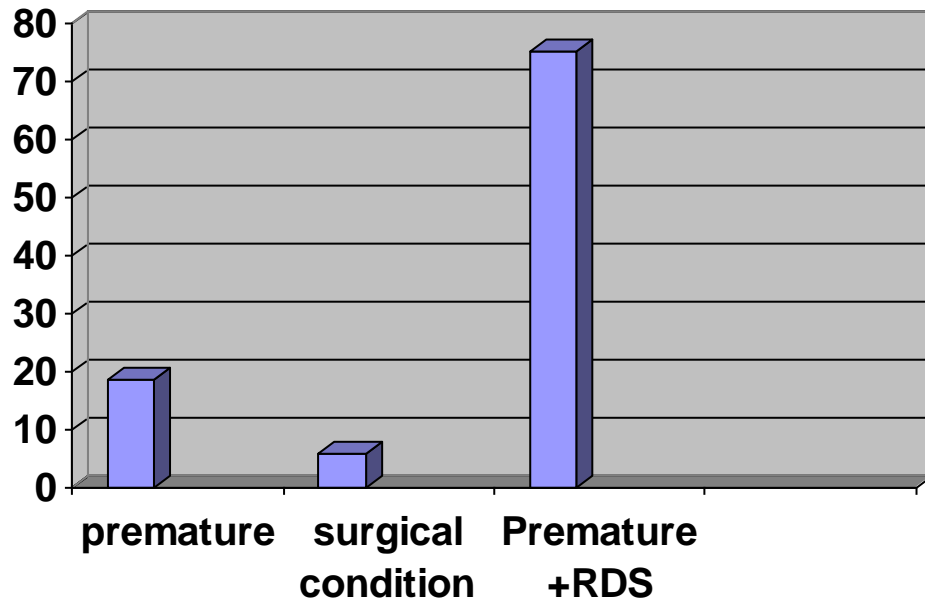
Part(II) : Distribution of Nurses' knowledge Regarding to High-Risk Neonates and nasogastric tube feeding.

Table(5) : Number & Percentage Distribution of Nurses as Regards their Knowledge about High-Risk Neonates.

Items	Total (60)					
	Knowledge					
	Good		Average		Poor	
	N	%	N	%	N	%
-Concept of high-risk neonates	20	33.3	16	26.7	24	40.0
-C/ M of high-risk neonates	31	51.7	18	30.0	11	18.3
- Needs of high-risk neonates.	30	50.0	16	26.7	14	23.3

Table(5): This table illustrates that 40.0% of the studied nurses have poor knowledge regarding to concept of high-risk neonates. While, half (51.7% & 50.0%)of nurses have good knowledge regarding to clinical manifestation and needs of high- risk neonates respectively

Table(6) : Number & Percentage Distribution of Nurses as Regards their Knowledge about Nasogastric Tube Feeding

Items	Total (60)					
	Knowledge					
	Good		Average		Poor	
	N	%	N	%	N	%
-Concept of N.G.T feeding	28	46.7	20	33.3	12	20
-Sizes of nasogastric tube feeding.	37	61.7	12	20.0	11	18.3
- Uses of NGT.	32	53.3	12	20.0	16	26.7
-Importance of NGT.	34	56.7	14	23.3	12	20.0
-Type of feeding through NGT.	43	71.7	7	11.6	10	16.7
-Time of change NGT.	20	33.3	16	26.7	24	40.0

Table(6):As shown in this table, 20.0% of the studied nurses had poor knowledge about concept of nasogastric tube feeding. While nearly two third (71.1%) of nurses have good knowledge about the type of feeding through nasogastric tube. This table also illustrate that about one third (40.0%) of nurses have poor knowledge about time of change the nasogastric tube.

Table (7): Number & Percentage Distribution of Nurses According to their Knowledge about Problems of Nasogastric Tube .

Items	Total (60)					
	Knowledge					
	Good		Average		Poor	
	N	%	N	%	N	%
Problems related to NG tube						
-Nasopharyngeal trauma	1	1.7	1	1.7	58	96.6
-Ulceration nasal trauma	10	16.7	15	25.0	35	58.3
-Tube occlusion	10	16.7	10	16.7	40	66.6
-Tube displacement	5	8.3	7	11.7	48	80.0
Respiratory problems						
-Pulmonary aspiration	7	11.7	7	11.7	46	76.6
Gastro intestinal problems(GIT)						
-Diarrhea or constipation	20	33.3	20	33.3	20	33.3
-Nausea & vomiting	35	58.3	15	25.0	10	16.7
Metabolic problems						
-Dehydration	2	3.4	2	3.4	56	93.2
-Electrolyte alterations	5	8.3	5	8.3	50	83.4

Table (7): illustrates that 96.6% of the nurses have poor knowledge about the problems related to NG tube in the form of nasopharyngeal trauma. Meanwhile 76.6% of them have poor knowledge about respiratory problems. This table also shows that 33.3% & 58.3% of the studies nurses have good knowledge about GIT problems, while 83.4% of them have poor knowledge about electrolyte alterations.

Table (8): Number& Percentage Distribution of Nurses According to their Total Knowledge .

Items	Total	
Nurses' knowledge	N	%
Good	20	33.3
Average	18	30.0
Poor	22	36.7
Total	60	100

Table (8): This table shows that 33.3% of the studied nurses have good knowledge about high risk neonates & nasgastric tube feeding. Meanwhile 30.0% have average knowledge respectively.

Part (III): Distribution of Nurses' Performance Regarding to Nasogastric tube feeding

Table (9): Number & Percentage Distribution of Nurses as Regards their Preparation and Insertion of NGT Feeding.

Items	Total (60)			
	Competent		Incompetent	
	N	%	N	%
Preparation for insertion of nasogastric tube				
- Wash hands	40	66.7	20	33.3
- Prepare equipments	30	50	30	50
Insertion of nasogastric tube feeding				
- Measure tube for approximate length	50	83.3	10	16.7
- Lubricate tube with sterile water	12	20	48	80
- Insert the tube gently through one of the nares to predetermined mark	50	83.3	10	16.7
- Withdraw the tube if neonate cough, gag, cyanotic	60	100	-	-
- Secure the tube with tape	20	33.3	40	66.7
- Placement check	15	25	45	75

Table (9): As shows from this table 80%, 75% and 66.7% of the nurses are incompetent in lubrication of nasogastric tube feeding before insertion, check placement and in secure tube with tape respectively. While 100% and 83.3% are competent in withdraw tube if neonate cough or cyanotic and measuring tube gently respectively,.

Table (10): Number& Percentage Distribution of Nurses as Regards Formula Feeding through NGT.

Items	Total (60)			
	competent		incompetent	
	N	%	N	%
- Check the container and label with date & time	40	66.7	20	33.3
-Determined the amount of feeding as determined by doctor orders	60	100	-	-
- Position of the neonate with head of bed elevated 30 degree	25	41.7	35	58.3
- Shake products well before spiking	50	83.3	10	16.7
- Irrigate the tube before feeding	20	33.3	40	66.7
- Feeding through gravity	22	36.7	38	63.3
- Refill the syringe barrel ensuring that no air enters the feeding tube	50	83.3	10	16.7
- Irrigate after feeding	60	100	-	-
- Wash hands	30	50	30	50
-Recording	40	66.7	20	33.3

Table (10): As illustrates from this table 63.3%, 66.7% and 58.3% of the nurses are incompetent through feeding by gravity, during irrigation before feeding and position of the neonate during feeding respectively . Meanwhile all (100%)of the nurses are competent in relation to irrigation after feeding.

Table (11): Number & Percentage Distribution of Nurses as Regards Care of Neonate After Feeding

Items	Total (60)			
	Competent		Incompetent	
	N	%	N	%
-Burp the neonate	20	33.3	40	66.7
-Puts the neonate on his right side after feeding	15	25	45	75
-Clean nose with warm water & provide mouth care	15	25	45	75
-Wash skin with warm water thoroughly when removing old tape.	20	33.3	40	66.7

Table (11): As illustrated from this table 66.7% of the nurses are incompetent in relation to burp the neonate and wash skin with warm water thoroughly when removing old tape. While (75 %) of them are incompetent in relation to puts the neonate on his right side after feeding and clean nose with warm water & provide mouth care respectively .

Table (12): Numbers & Percentage Distribution of Nurses as Regards Care of the Tube

Items	Total (60)			
	Competent		Incompetent	
	N	%	N	%
-Dispose equipment	40	66.7	20	33.3
-Change tube every 48-72 hours	20	33.3	40	66.7
-Change the tape on the nose every other day	15	25	45	75

Table (12): This table illustrate that 66.7% and 75% of the studied nurses are incompetent in change tube every 48-72 and change the tape on the nose every other day respectively . This table also shows that, 66.7% of the nurses are competent as regards dispose equipment.

Table (13): Number & Percentage Distribution of Nurses According to their total Practice.

Items Nurses practice	Total	
	N	%
Competent	30	50
Incompetent	30	50
total	60	100

Table (13): This table shows that equal numbers of nurses (50%) had competent &incompetent performance about nasogastric tube feeding respectively.

Part (IV): Distribution Nurses' Regarding to Attitude about Problems of Nasogastric tube

Table (14): Number & Percentage Distribution of Nurses Regarding to their Attitude about Problems of Nasogastric Tube

Items	Total (60)									
	Strongly agree		Agree		Undecided		Disagree		Strongly disagree	
	No	%	No	%	No	%	No	%	No	%
The problems of N.G.T can be avoided	6	10	8	13.3	29	48.3	13	21.1	4	6.7
The problems of N.G.T are considered ordinary thing	16	7.26	8	13.3	9	15	-	-	27	45
Remove tube when any problems happen	31	51.7	4	6.7	3	5.0	9	15	31	21.7
The problems of nasogastric tube are not recurrent another time	12	20	29	48.3	1	1.7	7	11.7	11	18.3
The problems decrease with increase cases insertion nasogastric tube	9	15	41	68.3	4	6.7	2	3.3	4	6.7

Table (14): This table shows that 48.3% of the nurses undecided about the problems of N.G.T can be avoided. Meanwhile 45% of them strongly disagree about the problems of N.G.T are considered ordinary thing. This table also shows that more than half (68.3%)of nurses agree about the problem of NGT decrease with increase cases insertion of N.G.T.

Table (15): Number& Percentage Distribution of Nurses According to their Attitude about NGT

Items	Total (60)									
	Strongly agree		Agree		Undecided		Disagree		Strongly disagree	
	No	%	No	%	No	%	No	%	No	%
Report doctors when discovering problems of nasogastric tube	-	-	4	6.7	28	46.7	19	31.7	1	15
new graduated nurse insert N.G.T	20	33.3	28	46.7	1	1.1	-	-	11	18.3
shortage nursing staff can affect care of neonate with N.G.T	11	18.3	22	36.7	5	8.3	9	15	13	21.7
lack of experience affect N.G.T	23	38.3	3	5	13	21.7	16	26.7	5	8.3
The wrong of insertion of N.G.T have direct impact on neonatal life	2	3.3	17	28.3	4	6.7	35	58.3	2	3.3
un available resources increase problems of N.G.T	8	13.3	6	10	23	38.3	10	16.7	5.13	21.7

Table (15): This table illustrates that, 46.7% of nurses are undecided about report doctors when discovering problems of nasogastric tube. While 46.7% of them are agree about new graduated nurse insert N.G.T. This table also shows that 58.3% of nurses are disagree about the wrong of insertion of N.G.T have direct impact on neonatal life.

Table (16): Number & Percentage Distribution of Nurses According to their total Attitude.

-56-

Items Nurses attitude	Total	
	N	%
Positive	26	43.3
Negative	34	56.7
Total	60	100

Table (16): This table shows that 43.3% of the studied nurses have positive attitude, while 56.7% of them have negative attitude about problems of nasogastric tube.

Part(IIV):Correlation between nurses' characteristics and their knowledge about high-risk and nasogastric tube.

Table(17):Correlation between Nurses' Age and their Knowledge& Practice.

items	Age of the studied nurses	
	r	P
Experience	0.96	<0.01
Practice	0.61	<0.01
Knowledge	0.11	>0.05
Attitude	0.13	>0.05

Table (17): this table shows that there is highly significant correlation(r= 0.96, P<0.01) between age of the studied nurses and their experience and practice. Meanwhile there is no statistical significant correlation between age of studied nurses and their knowledge and attitude(r=0.11, 0.13, P >0.05).

Table(18):Correlation between Nurses' Experience and their Knowledge, Practice and Attitude.

items	Experience of the studied nurses	
	r	P
Practice	0.63	<0.01
Knowledge	0.06	>0.05
Attitude	0.11	>0.05

Table (18): this table shows that there is highly significant correlation(r 0.63, P <0.01) between years of experience of the studied nurses and their practice. Mean while there is no significant correlation between experience of studied nurses and their knowledge & attitude (r= 0.06, 0.11, P >0.05).

Table(19):Mean Score between Nurses' level of Education and their Knowledge& Practice.

items	Level of education			
	Technical institute of nursing N(12) **Mean ± SD**	Secondary school of nursing N(48) **Mean ± SD**	**t test**	**P**
Knowledge	8.5 ± 12.15	59. 58 ± 19.46	3.88	<0.01
Practice	19.17 ± 3.37	20.08 ± 5.04	0.596	>0.05

Table (19):This table shows that there is statistical significant relation (t, 3.88 , P <0.01) between nurses' qualification and their knowledge, It is obvious that nurses of technical school of nursing gain high mean score of knowledge than secondary school of nursing. This table also illustrate that there is no statistical significant relation between nurses qualification and their practice (t, 0.596 , P >0.05).

Table(20):Mean Score between Nurses' Knowledge and their Practice.

items	Knowledge score		
Practice	Mean ± SD	t test	P
Competent	66.3±22.0		
Incompetent	62.0 ± 18.6	0.82	>0.05

Table (20): this table illustrate that there is no significant relation between nurses' knowledge and their practice (t 0.82, P >0.05).

Table(21):Mean Score between Nurses' Attitude and their Knowledge& Practice.

items	Attitude			
	Positive N(26) Mean ± SD	Negative N(34) Mean ± SD	t test	P
Knowledge	60.0 ± 17.2	67.35 ± 22.2	1.45	>0.05
Practice	36.2± 5.3	32.1 ± 5.7	2.01	<0.05

Table (21):This table shows that there is significance relation (t 2.01, P <0.05) between nurses' attitude and their practice, it obvious that nurses with positive attitude gain high mean score of practice than negative attitude. This table also illustrate that there is no statistical significant relation (t 1.45 ,P >0.05) between nurses' attiude and their knowledge. Meanwhile