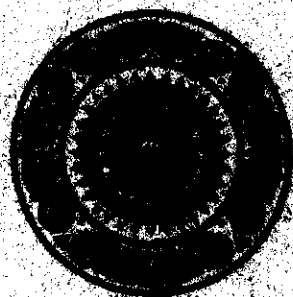


RESULTS



RESULTS

Table (1): Volume of ejaculate (ml) among smokers and non smokers.

	Smokers (n = 44)		Non smokers (n =12)	
	Vol. (ml)	No.	Vol. (ml)	No.
	0.5	1	2.0	3
	1.5	5	2.5	2
	2.0	15	3.0	5
	2.5	2	3.5	1
	3.0	15	4.0	1
	4.0	6		
Mean \bar{X}	2.545		2.792	
St. deviation \pm SD	\pm 0.834		\pm 0.620	
S.E	0.126		0.179	
t	1.129			
P	> 0.05			

There is no significant variation in volume of ejaculate between smokers and non smokers.

Table (2): Sperm count (million/ml) among smokers and non smokers.

	Smokers (n = 44)		Non smokers (n =12)	
	Mill./ml	No.	Mill./ml	No.
	< 20	6	70-74	1
	20 -39	4	75-79	1
	40-59	12	80-84	1
	60-79	13	85-89	1
	≥ 80	9	90-94	2
			95-99	2
			100-109	2
			≥ 110	2
Mean \bar{X}	53.227		91.667	
St. deviation ± SD	± 23.855		± 12.673	
S.E	3.596		3.658	
t	7.493			
P	< 0.001			

There is a significant variation in sperm count between smokers and non smokers.

Table (3): Percent of sperm motility among smokers and non smokers.

	Smokers (n = 44)		Non smokers (n =12)	
	% motility	No.	% motility	No.
	0	1	60	4
	20	1	65	1
	30	5	70	4
	40	4	75	3
	50	15		
	55	1		
	60	14		
	70	3		
Mean \bar{X}	49.205		67.5	
St. deviation \pm SD	\pm 14.016		\pm 6.216	
S.E	2.113		1.794	
t	6.599			
P	< 0.001			

The percent of motile sperms in smokers shows significant decrease compared to non smokers.

Table (4): Percent of sperms with forward progressive motility (F.P.M) among smokers and non smokers.

	Smokers (n = 44)		Non smokers (n =12)	
	% F.P.M	No.	% F.P.M	No.
	0	5	30	3
	5	4	35	2
	10	2	40	3
	15	2	45	2
	20	6	50	2
	25	5		
	30	15		
	35	3		
	40	2		
Mean \bar{X}	20.795		39.167	
St. deviation \pm SD	± 11.611		± 7.334	
S.E	1.750		2.117	
t	6.688			
P	< 0.001			

The percent of sperms with forward progressive motility in smokers is significantly lowered compared to non smokers.

Table (5): Percent abnormal forms among smokers and non smokers.

	Smokers (n = 44)		Non smokers (n =12)	
	% Abn.	No.	% Abn.	No.
	10	1	10	1
	20	4	15	1
	25	1	20	2
	30	8	25	2
	35	6	30	3
	40	11	35	2
	50	7	50	1
	60	1		
	70	1		
	75	2		
	80	1		
	100	1		
Mean \bar{X}	41.25		27.083	
St. deviation \pm SD	\pm 17.558		\pm 10.544	
S.E	2.647		3.004	
t	3.512			
P	< 0.001			

There is a significant increase in the percentage of sperms with abnormal forms in smokers compared to non smokers.

Table (6): Percent of dead sperms among smokers and non smokers.

	Smokers (n = 44)		Non smokers (n =12)	
	% dead	No.	% dead	No.
	10	1	10	1
	15	2	15	4
	20	9	20	5
	25	4	22	1
	30	14	25	1
	35	6		
	40	2		
	45	1		
	50	3		
	60	1		
	90	1		
Mean \bar{X}	31.932		18.083	
St. deviation \pm SD	\pm 13.860		\pm 4.1	
S.E	2.089		1.184	
t	5.767			
P	< 0.001			

The percent of dead sperms is significantly high in smokers compared to non smokers.

Table (7): α 1,4- glucosidase activity among smokers and non smokers (mu/ml).

	Smokers (n = 44)		Non smokers (n =12)	
	α -gl activity (mu/ml)	No.	α gl. Activity (mu/ml)	No.
	7.0	13	10.2	1
	7.5	2	10.7	1
	7.8	1	10.8	1
	8.0	6	11.0	5
	8.1	1	11.6	1
	8.2	1	11.9	1
	8.5	3	12.0	1
	8.6	4	12.5	1
	8.7	4		
	9.0	6		
	9.5	2		
	10.0	1		
Mean \bar{X}	8.086		11.225	
St. deviation \pm SD	\pm 0.861		\pm 0.645	
S.E	0.129		0.186	
t	13.829			
P	< 0.001			

The level of α -1,4-glucosidase activity among smokers is significantly reduced compared to non smokers.

Table (8): Sperm count among smokers according to years of smoking.

	10 years (n = 12)	> 10 years (n = 32)
Mean \bar{X}	70.333	46.812
St. deviation \pm SD	± 12.594	± 11.735
t	5.619	
P	< 0.001	

The sperm count shows significant decrease with prolonged duration of smoking.

Table (9): Percent of sperm motility among smokers according to years of smoking.

	10 years (n = 12)	> 10 years (n = 32)
Mean \bar{X}	57.50	46.094
St. deviation \pm SD	± 6.216	± 7.335
t	5.152	
P	< 0.001	

The sperm motility shows significant decrease with prolonged duration of smoking.

Table (10): Percent forward progressive motility among smokers according to years of smoking.

	10 years (n = 12)	> 10 years (n = 32)
Mean \bar{X}	28.750	17.812
St. deviation \pm SD	\pm 6.784	\pm 2.359
t	5.463	
P	< 0.001	

The percent of sperms with forward progressive motility shows significant decrease with prolonged duration of smoking.

Table (11): Percent of dead sperms among smokers according to years of smoking.

	10 years (n = 12)	> 10 years (n = 32)
Mean \bar{X}	23.75	35.001
St. deviation \pm SD	\pm 6.440	\pm 7.428
t	4.943	
P	< 0.001	

The percent of dead sperms shows significant increase with prolonged duration of smoking.

Table (12): α -1,4-glucosidase activity among smokers according to years of smoking (mu/ml).

	10 years (n = 12)	> 10 years (n = 32)
Mean \bar{X}	8.625	7.884
St. deviation \pm SD	± 0.638	± 0.431
t	3.436	
P	< 0.001	

The level of α -1,4-glucosidase activity shows significant decrease with prolonged duration of smoking.

Table (13): Sperm count (million/ml) among smokers according to number of cigarettes smoked per day.

	20/day (n = 31)	21-60/day (n=13)
Mean \bar{X}	59.355	38.615
St. deviation \pm SD	± 20.442	± 22.692
t	2.846	
P	< 0.01	

The sperm count shows significant decrease with increased number of cigarettes smoked per day.

Table (14): Percent of sperm with forward progressive motility among smokers according to number of cigarettes smoked per day.

	20/day (n = 31)	(21-60)/day (n =13)
Mean \bar{X}	24.516	11.923
St. deviation \pm SD	\pm 8.341	\pm 11.280
t	3.630	
P	< 0.001	

The percent of sperms with forward progressive motility shows significant decrease with increased number of cigarettes smoked per day.

Table (15): Percent of dead sperms among smokers according to number of cigarettes smoked per day.

	20/day (n =31)	(21-60)/day (n =13)
Mean \bar{X}	27.904	41.538
St. deviation \pm SD	\pm 11.663	\pm 17.957
t	2.523	
P	< 0.05	

The percent of dead sperms shows significant increase with increased number of cigarettes smoked per day.

Table (16): α -1,4-glucosidase activity (mu/ml) among smokers according to number of cigarettes smoked per day.

	20/day (n=31)	(21-60)/day (n=13)
Mean \bar{X}	8.358	7.438
St. deviation \pm SD	± 0.593	± 0.669
t	4.301	
P	< 0.001	

The level of α -1,4-glucosidase activity shows significant decrease with increased number of cigarettes smoked per day.

Table (17): Correlation coefficient (r) between α -1,4-glucosidase activity and other parameters among smokers.

α -1,4-glucosidase activity Other parameters	r	P
Sperm count	0.5139	< 0.05
Percent of sperm motility	0.5662	< 0.05
Percent of forward progressive motility	0.6104	< 0.05
Percent of dead sperms	0.1239	> 0.05
Percent of abnormal forms	0.2254	> 0.05

There is significant correlation between the level of α -1,4-glucosidase activity and sperm count, percent of sperm motility and percent of sperms with forward progressive motility.

There is no significant correlation between the level of α -1,4-glucosidase activity and percent of dead sperms or percent of sperms with abnormal forms.

Table (18): Semen quality parameters by smoking status.

	Smokers	Non smokers	P
Volume	2.545 \pm 0.834	2.792 \pm 0.620	> 0.05
Count	53.227 \pm 23.855	91.667 \pm 12.673	< 0.001
Motility	49.205 \pm 14.016	67.5 \pm 6.216	< 0.001
Forward progressive motility	20.795 \pm 11.611	39.167 \pm 7.334	< 0.001
Abnormal forms	41.25 \pm 17.558	27.083 \pm 10.544	< 0.001
Dead sperms	31.932 \pm 13.860	18.083 \pm 4.1	< 0.001
α -1, 4-glucosidase activity	8.086 \pm 0.861	11.225 \pm 0.645	< 0.001

Except the volume, all semen quality parameters are decreased significantly in smokers in comparison to non smokers.

Fig. (1): Semen quality parameters by smoking status.

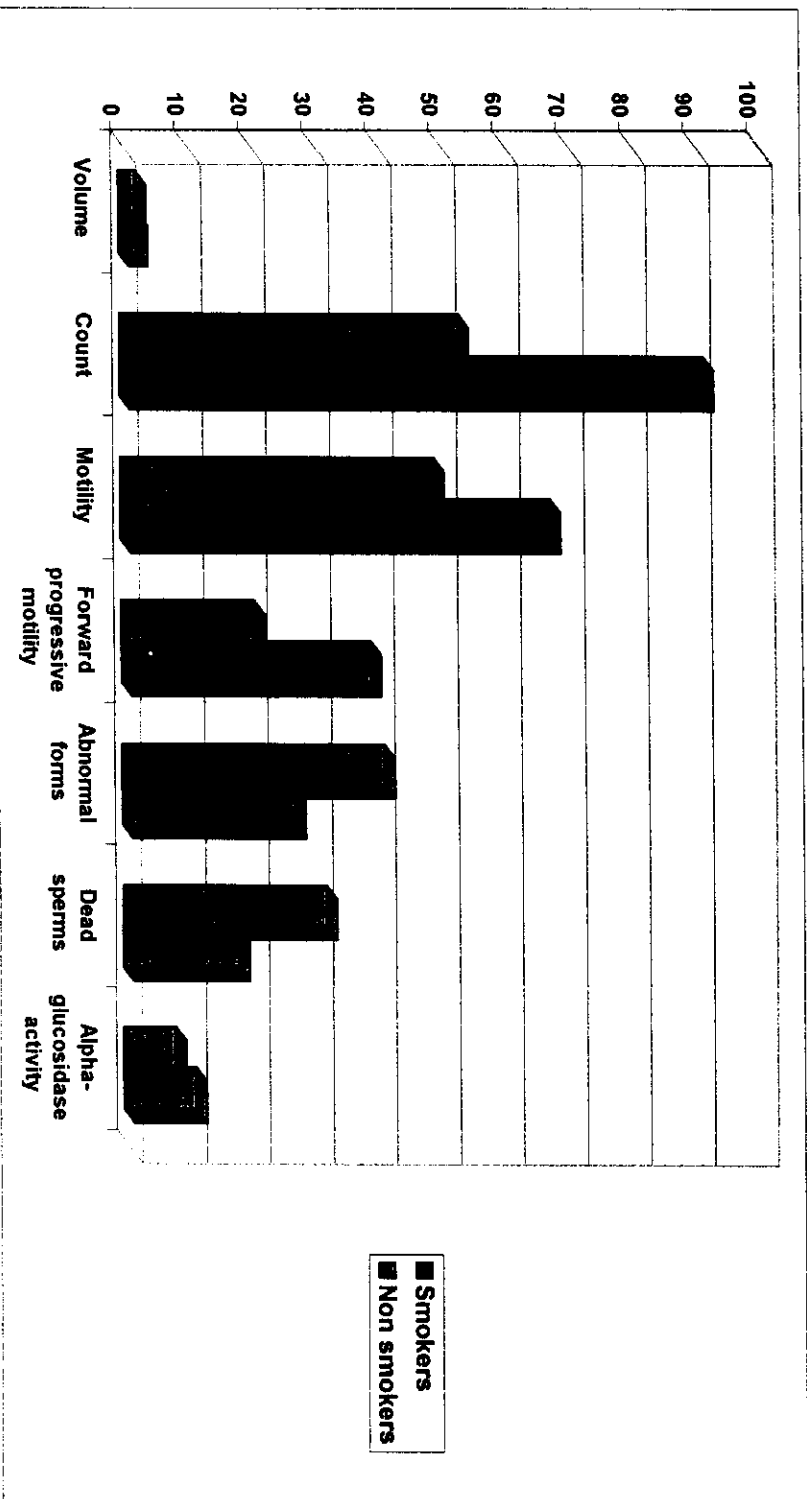


Table (19): Semen quality parameters according to years of smoking.

	10 years	> 10 years	P
Count	70.333±12.594	46.812±11.735	< 0.001
Motility	57.50 ± 6.216	46.094±7.335	< 0.001
Forward progressive motility	28.750± 6.784	17.812±2.359	< 0.001
Dead sperms	23.75 ± 6.440	35.001± 7.428	< 0.001
α-1, 4-glucosidase activity	8.625 ± 0.638	7.884± 0.431	< 0.001

Semen quality parameters decreased significantly with prolonged duration of smoking.

Fig. (2): Semen quality parameters according to years of smoking.

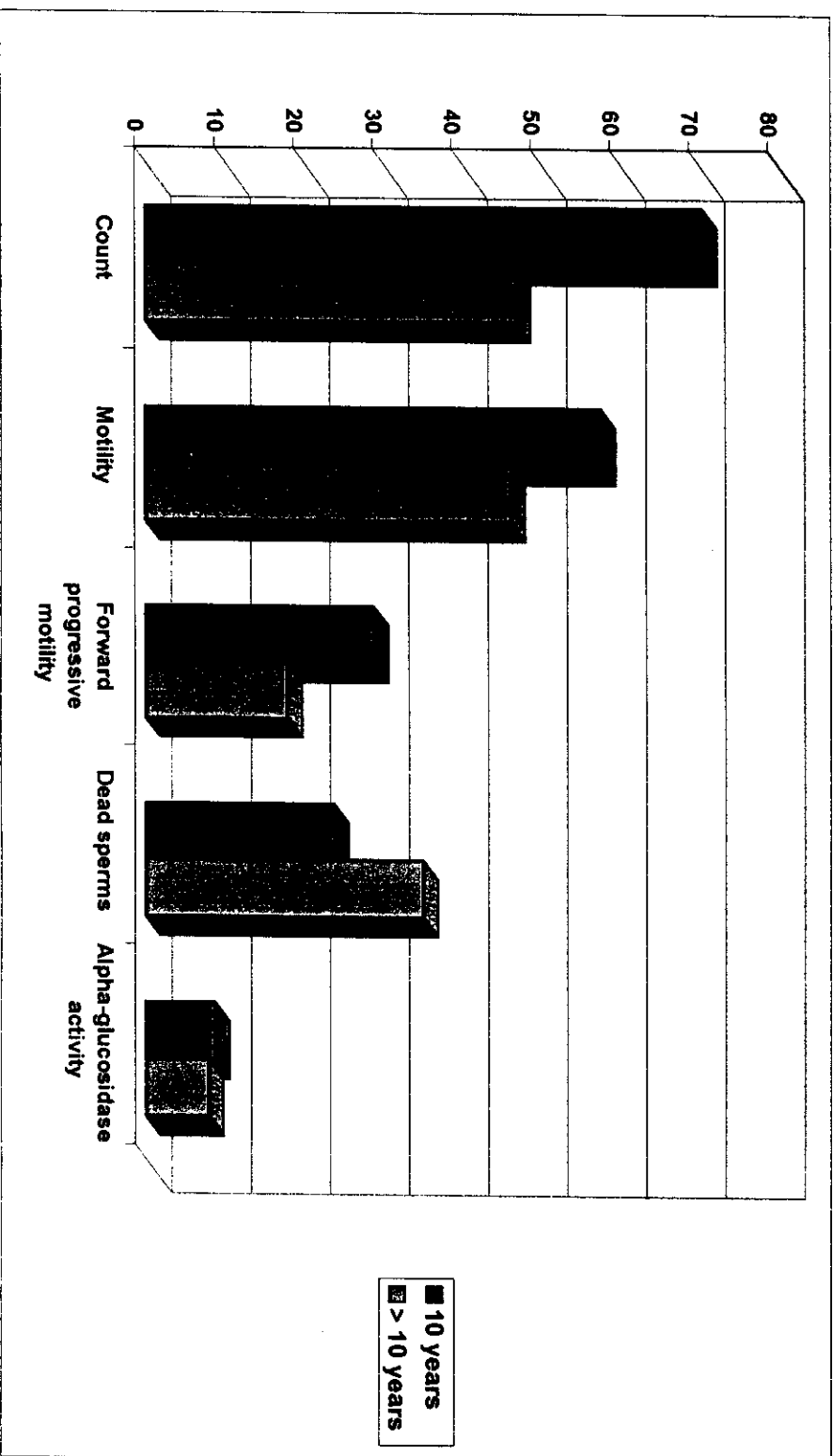


Table (20): Semen quality parameters according to the number of cigarettes smoked per day.

	20 /day	(21-60)/day	P
Count	59.355 ±20.442	38.615± 22.692	< 0.01
Forward progressive motility	24.516± 8.341	11.923 ± 11.280	< 0.001
Dead sperms	27.904± 11.663	41.538±17.957	< 0.05
α-1, 4-glucosidase activity	8.358±0.593	7.438± 0.669	< 0.001

Semen quality parameters decreased significantly with increased number of cigarettes smoked per day.

Fig. (3): Semen quality parameters according to the number of cigarettes smoked per day.

