# A Five Year Retrospective Study of Female Sexual Assault in Qaluybia Governorate, Egypt

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#### **ABASTRACT**

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Background: Sexual assault has serious effects on the society and on victim's health. Aim: The aim of this work was to estimate the epidemiological features and characteristics of female sexual assault during the period from 2014 to 2018 in Qalyubia Governorate, Egypt. Subjects and Methods: This study was based on collection and analyze of retrospective data during the period from the start of January 2014 to the end of December 2018 from the archives of Qalyubia Medico-legal Department, Ministry of Justice, Egypt, with respect to demographics features, number of assailants, relationship between victim and perpetrator, time of reporting, pattern of physical and genital injuries. Results: The total number of sexual assault cases was 145 within the studied period. Most cases (49 %) were between 12-18 years old and came from the urban areas (70.3%). Unmarried cases constituted 90.3% and 94.5% of cases

were with normal mentality. Sexual assaults occurred mostly in the spring (44.14%). Most of the assailants were extrafamilial and unknown to the victims (70.34%). Most cases committed in the assailant's home 46.21% and a single assailant was the perpetrator of 81.4% of the cases. Complete vaginal penetration was the most frequent type of assault (44.1%). The most common type of non-genital injury was abrasion (49.5%), the highest percentage of genital injury was lacerations (39.8%), and the most common site was the hymen (35.3%). Most cases (65.5%) examined after the first month of assault and the shortest time between alleged assault and the examination was in the first day in 6.2%. **Conclusion:** The highest percentage of sexually assaulted cases in this study was unmarried female under eighteen. Most cases were examined late after the first month of assault and the crime mostly committed by one unknown assailant with complete vaginal penetration and hymen laceration was the most frequent type of genital injury.

**Keywords:** Sexual assault, Female victims, Qalyubia Governorate, Egypt.

#### **I-INTRODUCTION**

Sexual assault can be defined as any form of sexual contact or conduct without consent of the victim (Ellison et al., 2008). In Egypt, the establishment of any sexual relationship outside of marriage is an unlawful relationship and is criminalized by religions and the law and it is a violation of the law, values and ethics recognized in the Egyptian society (El-Elemi et al., 2011). Sexual assault is a crime against women all over the world that was met with silence in most of the time (Haider et al., 2014). The rate of sexual assault against female is in

increased manner all over the world and the international statistics are shocking (Tamuli et al., 2013). Worldwide about twenty percent of female have sexually abused in childhood (Krug et al., 2002). Sexual violence includes acts that range from oral annoyance to forced penetration and physical force (Sarkar et al., 2005). Whatever the circumstances, sexual assault leave a bad effect exist for life affecting the mental set up of the victims and their relatives (Bandyopadhay et al., 2013). Victims may be unacceptable by their relatives, may become unwanted by their

communities and may be murdered by the assailants (Tamuli et al., 2013). The victims may get a high harm of genital and general injuries, fatal effect, unintended pregnancy or sexually transmitted diseases (Drezett et al., 2012).

The number of cases of sexual assault may be higher than that recorded as some victims may not report as they may be ashamed or afraid from blaming by their community (World Health Organisation, 2008) and some of them belief that it is a private situation and no privacy offered to them if reporting about the assault. Also absence of specialists qualified to deal with these crimes and some of them do not appreciate what the victims have been subjected to. Some of victims are afraid of the perpetrator's revenge if the perpetrators are brought to justice; they may escape with lowest punishment and back to take revenge (Egypt violence against women study, 2009). So examination of sexual assault cases considers one of the most difficult jobs in forensic medicine and the responsibilities of the doctor are very hard (Green, 2000).

Accurate studying of the incidences of the sexual assaults gives significant guide and helps to get the main causes of these situations helping the community and authorities to put suitable measures and programs to decrease these crimes. So, the aim of this work was to estimate the epidemiological features and characteristics of female sexual assault during the period from 2014 to 2018 in Qalyubia Governorate, Egypt.

## **II-Subjects and Methods**

This study included collection of retrospective data during the period from the start of January 2014 to the end of December 2018 of alleged female sexual assault in Qalyubia Governorate, Egypt, from the archives of Qalyubia Medico-legal Department, Ministry of Justice after approval from authorities to see the records and analysis of all medico legal reports related to these living victims. The data

obtained from the records included the age of victim which was classified to four categories as following: child up to 11 years, adolescent (12-18 y), young adults (19-30 y), adults (older than 30 y), marital status (married or unmarried), mental state (normal or mentally ill), residence of victim (rural or urban), season of occurrence, number of assailants (one or more than one), relation between assailant and victim (intrafamilial or extrafamilial), location of assault (victim's assailant's home. assailant's home. workplace, the fields or isolated place or other), the time passed between assault and the medico-legal examination (in the 1st day, 2<sup>nd</sup> day up to 1 week, 1<sup>st</sup> week to the 1<sup>st</sup> month or after the 1<sup>st</sup> month), type of assault (vaginal, anal or mixed), type of nongenital injuries (abrasions, contusions, fracture bone, joint sprain, head injury, broken teeth, bite marks or multiple types of injuries) and genital injuries (redness and swelling, abrasions, contusions, lacerations or multiple types of injuries). These data were collected, tabulated in specially designed sheet (Appendix 1) and statistical tests were calculated.

Inclusion criteria include: females, all ages, sexually assaulted cases while exclusion criteria include: males, any cases rather than sexual assault cases as head injuries, firearms injuries, abortion cases, infirmity cases, poisonous cases etc...

#### **Statistical Analysis**

All the tested variables were expressed as numbers and percentages. Chi square test was used and P value of  $\leq 0.05$  was considered statistically significant. All analyses were performed using SPSS (Statistical package for social science) version 16 software (SpssInc, Chicago, ILL Company) (Greenberg et al., 1996).

### **III-RESULTS**

Out of 6061 recorded cases at Qalyubia Medico legal Department, Ministry of Justice, Egypt, during the period from January 2014 to December 2018, only 145 were victims of sexual assault **Table(1)**.

Table 1: Female sexually assaulted cases in Qalyubia Governorate, Egypt, from 2014 to 2018

Year	Total No. Of Medicolegal Cases in Qalyubia Governorate,	No. and % o Sexual	f
1 cai	Egypt	N.	%
2014	1802	15	0.8
2015	1015	41	4
2016	1114	27	2.4
2107	1076	27	2.5
2018	1054	35	3.3
Total	6061	145	2.4

There were 15 cases (10.34%) in 2014, 41 (28.28%) in 2015, 27 (18.62%) in 2016, 27 (18.62%) in 2017, and 35 (24.14%)

in 2018, with the highest percent in the year 2015, and the lowest was in the year 2014, table (2) & fig. (1).

Table 2: Number and percentage of female sexual assault cases in each year in Qalyubia Governorate, Egypt, from 2014 to 2018

Year	N.	%
2014	15	10.34
2015	41	28.28
2016	27	18.62
2017	27	18.62
2018	35	24.14
Total	145	100

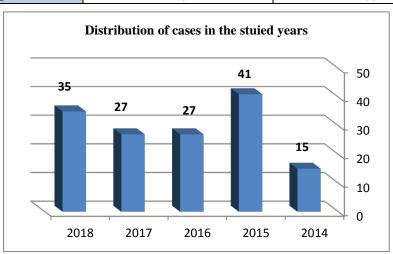


Fig.1: Number of female sexual assault cases in each year in Qalyubia Governorate, Egypt, from 2014 to 2018

As regard the age of the victims; **table (3)** shows the classification of female sexual assault victims according to age groups where the age of female victims was classified into 4 groups. The first one was up to 11 years, the second from 12 to 18 years, the third from 19 to 30 years, and the fourth

from older than 30 years. The most vulnerable age group to sexual assault was highly statistically significant (P <0.001) in the age group of 12 to 18 years (71 cases, 49%), and lowest among females aged older than 30 years (7 case, 4.8%).

Table 3: Distribution of female sexual assault victims by age groups of victims in Qalyubia Governorate, Egypt, from 2014 to 2018 (Chi square test)

				over nor a	50)									
Age group	2	2014	2	2015	2	2016	2	2017	2	2018	To	otal	$X^2$	P value
<b>(y)</b>	N.	%	N.	%	N.	%	N.	%	N.	%	N.	%		
Child (up to 11 y)	5	33.33	9	21.95	5	18.52	7	25.93	6	17.14	32	22.1		
Adolescent (12–18 y)	8	53.33	16	39.02	13	48.15	14	51.85	20	57.14	71	49	57 445	.0.001¥
Young adults (19–30 y)	2	13.33	13	31.71	7	25.93	5	18.52	8	22.86	35	24.1	57.445	<0.001*
Adults (older than 30 y)	0	0	3	7.32	2	7.41	1	3.7	1	2.86	7	4.8		
Total	15	10.34	41	28.28	27	18.62	27	18.62	35	24.14	145	100		

N. = number of cases \* highly significant  $X^2$ : Chi square test

According to residence of the victims **table (4) and fig. (2)** show the distribution of female sexual assault in relation to residence. The number of cases

who came from urban areas (102 cases, 70.3%) was statistically significant (P<0.001) higher than those who came from rural areas (43 cases, 29.7%)

Table 4: Distribution of female sexual assault victims according to residence in Qalyubia Governorate, Egypt, from 2014 to 2018 (Chi square test)

N. = number of cases \* highly significant  $X^2$ : Chi square test

	Residence	2	2014	2	2015	2	2016	2	2017	2	2018	To	tal	$\mathbf{X}^2$	P value
	Residence	N.	%	N.	%										
Ī	Rural	6	40	13	31.7	8	29.6	7	26	9	25.7	43	29.7	24.007	<0.001*
	Urban	9	60	28	68.3	19	70.4	20	74	26	74.3	102	70.3	24.007	<0.001
	Total	15	10.34	41	28.28	27	18.62	27	18.62	35	24.14	145	100		

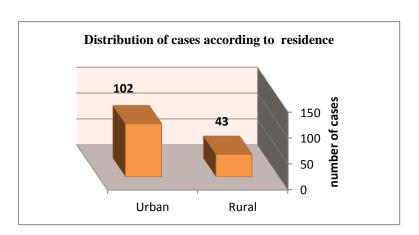


Fig.2: Distribution of female sexual assault victims according to residence in Qalyubia Governorate, Egypt, from 2014 to 2018

Regarding marital status, from the data showed in **table 5 and fig.3**, 14 victims (9.7%) were married, while the rest of the cases (131 cases, 90.3%) were unmarried

which was highly statistically significant (p <0.001).

Table 5: Distribution of female sexual assault victims according to marital status in Qalyubia Governorate, Egypt, from 2014 to 2018 (Chi square test)

Marital	2	2014	2	2015	2	2016	2	2017	2	2018	To	tal	$\mathbf{X}^2$	P value
Status	N.	%	N.	%										
Unmarried	13	86.7	36	87.8	24	88.9	27	100	31	88.6	131	90.3	94.407	<0.001*
Married	2	13.3	5	12.2	3	11.1	0	0	4	11.4	14	9.7	74.407	<0.001
Total	15	10.34	41	28.28	27	18.62	27	18.62	35	24.14	145	100		

 $N_{\cdot}$  = number of cases

\* highly significant

X<sup>2</sup>: Chi square test

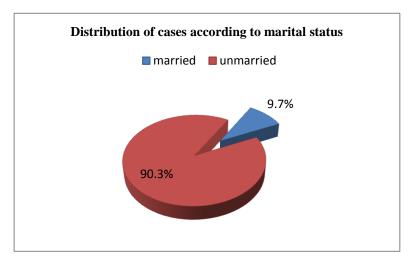


Fig.3: Bar chart shows the distribution of female sexual assault victims according to marital status in Qalyubia Governorate, Egypt, from 2014 to 2018

**Table 6** shows that only 8 victims (5.5%) had mental illnesses, while the rest of the victims (137 cases, 94.5%) had normal mentality which highly statistically significant (P < 0.001).

Table 6: Distribution of female sexual assault victims according to mental status in Qalyubia Governorate, Egypt, from 2014 to 2018 (Chi square test)

Mental	2	2014	2	2015	2	2016	2	2017	2	2018	To	otal	$\mathbf{X}^2$	P value
status	N.	%	N.	%										
Normal	13	86.7	39	95.1	24	88.9	27	100	34	97.1	137	94.5		
Mentally ill	2	13.3	2	4.9	3	11.1	0	0	1	2.9	8	5.5	1.148	<0.001*
Total	15	10.34	41	28.28	27	18.62	27	18.62	35	24.14	145	100		

N. = number of cases \* highly significant

X<sup>2</sup>: Chi square test

According to seasonal variation table7 and fig.4 show the distribution of female sexual assault according to seasonal variation. The highest proportion which was highly significant (P <0.001) occurred in spring (64 cases, 44.14%), followed by

summer (41 cases, 28.3%), then autumn (25 cases, 17.24%), and the lowest proportion occurred in winter (15 cases, 10.34%).

2014 2015 2016 2017 2018  $\mathbf{X}^2$ P value **Total** N. % N. **%** N. % N. **%** N. % % 20 48.8 14 51.9 14 40 44.14 6 40 10 37 64

Table 7: Distribution of female sexual assault victims according to seasonal variation in Qalyubia Governorate, Egypt, from 2014 to 2018 (Chi square test)

Season **Spring** Winter 5 10.34 1 6.7 3 7.3 5 18.5 14.3 15 1 3.7 37.814 < 0.001\* 8 7 9 Summer 5 33.3 12 29.3 29.6 26 25.7 41 28.28 5 7 3 4 18.5 Autumn 20 6 14.6 14.8 20 25 17.24 10.34 41 28.28 27 Total 15 18.62 27 18.62 35 24.14 145 100

 $N_{\cdot}$  = number of cases \* highly significant X<sup>2</sup>: Chi square test

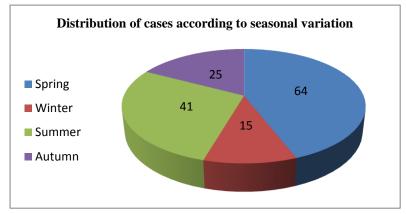


Fig.4: Bar chart shows the distribution of female sexual assault victims according to seasonal variation in Qalyubia Governorate, Egypt, from 2014 to 2018

According to the place of assault, most cases were committed in the assailant's home (67 cases, 46.21%) while eighteen cases (12.41%) occurred in the fields or isolated place, 7 cases (4.83%) occurred in victim's home, 6 cases (4.14%) occurred in assailant's workplace, 47 cases (32.41%) occurred in different other places; these differences were highly statistically significant (P < 0.001) (**Table 8**).

Table 8: Distribution of female sexual assault victims according to the place of assault in Qalyubia Governorate, Egypt, from 2014 to 2018 (Chi square test)

					,	001			`	•		/		
Place of assault	2	2014	2	2015	2	2016	2	2017	2	2018	To	otal	$\mathbf{X}^2$	P value
	N.	%	N.	%										
Victim's home	0	0	2	4.9	3	11.1	1	3.7	1	2.9	7	4.83		
Assailant's home	9	60	11	26.8	13	48.1	16	59.2	18	51.4	67	46.21		
Assailant's workplace	0	0	2	4.9	1	3.7	1	3.7	2	5.7	6	4.14	100.069	< 0.001
The fields or isolated place	0	0	10	24.4	3	11.1	2	7.4	3	8.6	18	12.41		
Other	6	40	16	39	7	26	7	26	11	31.4	47	32.41		
Total	15	10.34	41	28.28	27	18.62	27	18.62	35	24.14	145	100		

N. = number of cases\* highly significant X<sup>2</sup>: Chi square test According to the number of assailants, one hundred eighteen victims (81.4%) exposed to sexual assault by only one assailant, but the rest of victims exposed

to sexual assault by more than one assailants (27 cases, 18.6%); these differences were highly statistically significant (P <0.001) (**Table 9, Fig.5**).

Table 9: Distribution of female sexual assault victims according to number of the assailants in Qalyubia Governorate, Egypt, from 2014 to 2018 (Chi square test)

Number of	2	2014	2	2015	2	2016	2	2017	2	2018	To	tal	$\mathbf{X}^2$	P value
the Assailants	N.	%	N.	%										
1	15	100	29	70.7	20	74	24	88.9	30	85.7	118	81.4	57.110	<0.001*
>1	0	0	12	29.3	7	26	3	11.1	5	14.3	27	18.6		
Total	15	10.34	41	28.28	27	18.62	27	18.62	35	24.14	145	100		

N. = number \* highly significant  $X^2$ : Chi square test

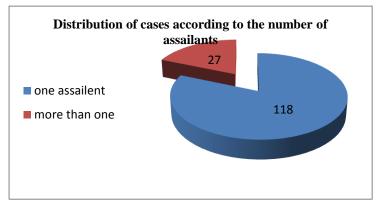


Fig.5: Bar chart shows the distribution of female sexual assault victims according to the number of assailants in Qalyubia Governorate, Egypt, from 2014 to 2018

As regarding victim-assailant relationship, the distribution of cases shows that one hundred and twenty eight assaults of 145 cases (88.27%) were extrafamilial to the victims, whereas 17 assaults (11.7%) were considered intrafamilial. From the extrafamilial cases, there were 102 cases

(70.34%) unknown to the victims, and 26 cases (17.93%) were known. From the intrafamilial cases, there were 7 cases of incest (4.83%), and 10 cases (6.9%) sexually assaulted by relatives; these differences were highly statistically significant (P <0.001) **Table 10**.

Table 10: Distribution of female sexual assault victims according the victim-assailant relationship in Qalyubia Governorate, Egypt, from 2014 to 2018 (Chi square test)

Victim-Assailant Relationship I-Intra familial	2	014	2	2015	2	2016	2	017	2	2018	Т	otal	$\mathbf{X}^2$	P value
	N.	%	N.	%	N.	%	N.	%	N.	%	N.	%		
a- Incest	0	0	2	28.57	2	28.57	2	28.57	1	14.29	7	4.83		
b- Relatives	1	10	1	10	3	30	2	20	3	30	10	6.90		
II- Extra familial													164.766	<0.001*
	N.	%	N.	%	N.	%	N.	%	N.	%	N.	%	104.700	<0.001
a- Known	4	15.4	8	30.8	7	26.9	2	7.7	5	19.2	26	17.93		
b- Unknown	10	9.8	30	29.4	15	14.7	21	20.6	26	25.5	102	70.34		

 $N_{\cdot}$  = number of cases

\* highly significant

X<sup>2</sup>: Chi square test

As regard the time of medico legal examination after the assault (the time between the assault and the examination of the victims), 9 cases (6.2%) examined in the first day of assault, 14 cases (9.7%)

examined from the second day to the first week, 27 cases (18.6%) examined from the first week up to the first month, and 95 cases (65.5%) examined after the first month (**Table11**).

Table 11: Distribution of female sexual assault victims according to the time of medicolegal examination after the assault in Qalyubia Governorate, Egypt, from 2014 to 2018

Time of	2	2014	2	2015	2	2016	2	2017	2	2018	To	tal
Medicolegal Examination after the Assault	N.	%	N.	%								
1 <sup>st</sup> day	0	0	3	7.3	0	0	2	7.4	4	11.4	9	6.2
2 <sup>nd</sup> day up to 1 week	1	6.7	6	14.6	2	7.4	2	7.4	3	8.6	14	9.7
1 week-1 month	2	13.3	9	22	5	18.5	5	18.5	6	17.1	27	18.6
>month	12	80	23	56.1	20	74.1	18	66.7	22	62.9	95	65.5
Total	15	10.34	41	28.28	27	18.62	27	18.62	35	24.14	145	100

N. = number of cases \* highly significant

Regarding the types of alleged sexual assault of 145 victims, 64 cases (44.1%) had a history of complete vaginal penetration, 30 cases (20.7%) had a history of incomplete vaginal penetration which was

highly significant, 37 cases (25.5%) had an anal penetration, 4 cases (2.8%) had a history of complete mixed penetration, and 10 cases (6.9%) had incomplete mixed penetration(**Table12**).

Table 12: Distribution of female sexual assault victims according to the type of assault in Qalyubia Governorate, Egypt, from2014 to 2018 (Chi square test)

		Va	ginal					M	ixed		- Total	
	Co	mplete	Inco	omplete	A	Anal	Con	ıplete	Inco	nplete	_	<b>V.U.</b> 2
Year			12.298 e <0.0					X <sup>2</sup> P val	**			
	N.	%	N.	%	N.	N. %		%	N.	%	N.	%
2014	6	40	3	20	3	20	0	0	3	20	15	10.34
2015	17	41.5	8	19.5	11	26.8	2	4.9	3	7.3	41	28.28
2016	11	40.74	8	29.63	7	25.93	0	0	1	3.70	27	18.62
2017	15	55.6	6	22.2	4	14.8	1	3.7	1	3.7	27	18.62
2018	15	42.86	5	14.28	12	34.29	1	2.86	2	5.71	35	24.14
Total	64	44.1	30	20.7	37 25.5		4	2.8	10	6.9	145	100

N. = number of cases \* highly significant \*\*not significant  $X^2$ : Chi square test

As regarding non genital injuries one hundred and three victims (71%) of 145 cases showed evidence of general violence. When the injuries were involving more than two places of the body, it was named as

multiple injuries. The frequency of injuries in sexually assaulted females is represented in **Table 13**. Abrasions were the most common type (51 cases, 49.5%), followed by multiple injuries (20 cases, 19.4%). The

lowest percentage was fracture bone (1 case, 1%). Contusions, bite marks, broken teeth, joint sprain, and head injuries constituted

9.7% (10 cases), 7.8% (8 cases), 5.8% (6 cases), 4.9% (5 cases), and 1.9% (2 cases), respectively.

Table 13: Distribution of female sexual assault according to the type of non-genital injuries in Qalyubia Governorate, Egypt, from 2014 to 2018

Type of injury	N.	%
Abrasions	51	49.5
Contusions	10	9.7
Fracture bone	1	1
Joint sprain	5	4.9
Head injury	2	1.9
Broken teeth	6	5.8
Bite marks	8	7.8
Multiple types of injuries	20	19.4
Total no. of Non-Genital Injuries	103#	100

N. = number of cases \* highly significant \*only 103 cases that had registered data of total of 145 cases

Regarding the site and type of genital injuries the total genital injury was 91.7 % (133 of 145 cases); genital injuries were most commonly located in the hymen (47 cases, 35.3%), posterior fourchette (38 cases, 28.6%), vulva (12 cases, 9%), vagina (8 cases, 6%), anus (5 cases, 3.8%), and in more than one location (23 cases, 17.3%).

The most common type of genital injury was lacerations (53 cases, 39.8%) followed by multiple types injuries (46 cases, 34.6%), contusions (16 cases, 12%), abrasions (11 cases, 8.3%), and finally redness and swelling (7 cases, 5.3%); these differences were highly statistically significant (P <0.001) (**Table14**).

Table 14: Distribution of female sexual assault according to the site and type of genital injuries in Qalyubia Governorate, Egypt, from 2014 to 2018 (Chi square test)

	Genital Injuries	N.	%	$\mathbf{X}^2$	P value
	Vulva	12	9		<0.001*
Site of genital injuries	Hymen	47	35.3		
	Vagina	8	6		
	Posterior fourchette	38	28.6	66.173	
	Anus	5	3.8		
	More than one location	23	17.3		
	Total	133*	100		
	Redness and swelling	7	5.3		
Tune of conital	Abrasions	11	8.3		
Type of genital	Contusions	16	12	68.165	<0.001*
injuries	Lacerations	53	39.8	06.103	
	Multiple types of injuries	46	34.6		
	Total	133*	100		

N. = number of cases  $X^2$ : Chi square test

\* highly significant

\*only 133 cases that had registered data of total of 145 cases

Correlation between the ages of the victim with local injuries was highly statistically significant (p<0.001) and shows that anal penetration had the highest number of victims (27 cases, 84.4%) in age group up to 11 years while complete vaginal

penetration had highest number of cases in age group between 12 and 18 years (57 cases, 80.3%), while age group between 19 and 30 years incomplete vaginal penetration had highest number of cases (17 cases, 48.6%); table (15).

	Vaginal (N.=94)				Anal		Mixed (N.=14)			Total				
Age group (y)	Cor	nplete	Inco	omplete	(N.	.=37)	Con	plete	Inco	omplete			$\mathbf{X}^2$	P
Age group (y)	N.	%	N.	%	N.	%	N.	%	N.	%	N.	%	A	value
Up to 11 y	0	0	5	15.6	27	84.4	0	0	0	0	32	22.1		
12-18 y	57	80.3	4	5.6	7	9.9	0	0	3	4.2	71	49		
19-30 y	7	20	17	48.6	3	8.6	3	8.6	5	14.2	35	24.1	1.456	<0.001*
Older than	0	0	4	57.1	0	0	1	14.3	2	28.6	7	4.8		

Table15: Correlation between the age of the victim with local injuries in Qalyubia Governorate, Egypt, from 2014 to 2018 (Chi square test)

N. = number of cases \* highly significant

X<sup>2</sup>: Chi square test

#### **IV- DISCUSSION**

The rate of sexual assault against female is in increased manner all over the world and the international statistics are shocking (Tamuli et al., 2013). This retrospective study was conducted to estimate the epidemiological features and characteristics of sexual assault against female in Qalyubia Governorate, Egypt, from the start of January 2014 to the end of December 2018.

In the present study, 145 cases of female sexual assault were recorded over 5 years from 2014 to 2018 with the highest percent in the year 2015, and the lowest was in the year 2014. Recently in Egypt, Sherif et al. (2018) reported 174 cases of female sexual assault from a total of 299 sexual assaulted cases over 5 years from 2011 to 2014 in Gharbia Governorate, Egypt. Also, Sharaf El-Din et al. (2015) recorded 130 cases of sexual assault females over 5 years from 2009 to 2013 in Qalyubia Governorate, Egypt. Metwaly et al. (2013) also recorded 34 cases of female sexual assault from a total of 80 sexual assaulted cases in Oena governorate in a period from the first of January 2001, to the first January 2011.

In the present study, the most vulnerable age was between 12-18 years old (49%). The results of the present study was in agreement with study done by Sharaf El-Din et al. (2015) which reported that the highest percentage of victims was among age group 12 to 18 years, and the lowest was among females aged older than 30 years.

Also the results of the present study was in line with the study of Sherif et al. (2018) that founded the most cases (63.3%) were less than 18 years. This finding of the present study was similar to that of Kaushik et al. (2016) study as it was observed that incidences of alleged rape were most amongst girls of 14-17 years in 45.16% cases followed by 18-30 years in 31.64% cases. Pal et al. (2015) reported the age between 11-20 years as the highly affected age. The age of 11-15 years was highly affected age group according to study conducted by Suri and Sanjeeda (2013). At the same time, the study of Tariq et al. (2014) reported that the victims aged between 10-19 years constituted the most raped cases. Young age group may be more vulnerable than adults as they are weaker, they can be easily grabbed and overcome and easily deceived (Felson and Cundiff, 2014). Also the reason for this can be attributed to the fact that the young age does not have sufficient awareness in addition to the lack of knowledge about these and how to protect themselves (Hassan et al., 2007).

The results of the present study regarding the age of the victims founded that the lowest vulnerable age was females aged more than 30 years (4.8%). This result was in contrast with the study done by Bandyopadhay et al. (2013) who reported that the maximum numbers of study population were aged between 21-30 years (40%). Also Vertamatti et al. (2013) reported that 47.3% were between 20 and 39 years.

This age may be more vulnerable to sexual assault due to the increase in sexual attractiveness (Felson and Cundiff, 2014). The difference in the age of victims in many studies may be a result of different cultures and customs (Karanfil et al., 2013).

According to residence of the victims, the results of the present study revealed that the most cases came from urban areas (70.3%). The result of the present study was in line with Sherif et al. (2018) who reported that most of the studied cases were from urban areas (63.3%). Also the result of the present work was close to those of a study done by Das et al. (2013) that founded that 66.7% of sexual assault cases were from urban areas. This may be due to unawareness of female in rural area of Egypt how to reporting the sexual assault and their fear of stigma or being blamed and shamed in their community (El-Elemi et al., 2011). On contrary to the results of the present study, Islam et al. (2005) revealed that 80% individuals of sexual assault were inhabitants of rural areas and the rest of the victims were of urban areas. Also Celbis et al. (2006) observed that most cases of sexual assault in Turkey were from rural areas (76.2%).

Regarding marital status, the results of the present work revealed that 90.3% were unmarried. This result was in agreement with the study done by Sherif et al. (2018) who founded that unmarried cases were predominated (83%). Das et al. (2013) founded that 60.3% of female victims were unmarried. Also Pal et al. (2015) reported that 77.14% victims were unmarried. This result may be due to awareness and knowledge of married women about any sexual act thus leading them to take their caution (Sherif et al., 2018).

Regarding mental status the results of the present study showed that only (5.5%) had mental illnesses, while the rest of the victims (94.5%) had normal mentality. This result of the present work was in agreement with study done by Sharaf El-Din et al. (2015) who stated that small numbers were with mental illnesses, while the majority of victims had normal mentality. On contrary to

the result of the present study, Martin et al. (2006) and Brownlie et al. (2007) stated that the victims with mental disability are at great risk for sexual abuse.

According to seasonal variation the finding of the present work revealed that most cases occurred in spring (44.14%) and the lowest proportion occurred in winter (10.34%). This result in agreement with the study done by Sherif et al. (2018) that reported that most of sexual assault cases (31.4%) were in spring season. Also, Davies and Jones (2013) reported that most cases were in spring (28.2%). The high occurrence of sexual assault in spring may be due to the nice weather in that time of the year that promotes people to spent most of their time outside leading to increase vulnerability to sexual assault (Sivarajasingam et al., 2004). On the other hand, the study of Demireva et al. (2013) reported the highest incidence of sexual assault in summer (34.14%). Sukul et al. (2009) also reported that majority of the cases were occurred during summer months.

According to the place of assault, the result of the present study founded that the most cases were committed in the assailant's home (46.21%). This result was in line with study of Kaushik et al. (2016) who reported that the common site of assault was the house of perpetrator in 33.33% of cases. Also, the results of the present study were consistent also with the study of Pal et al. (2015) who reported the house of perpetrator as the most site of assault in 31.42% of cases. On the other hand, Arif et al. (2014) reported commonest place of assault was isolated place in 82.7% of cases. Also, Foumane et al. (2014) reported that the assault occurred mostly at the victim's home or the offender's home.

According to the number of assailants, the results of the present work founded that 81.4% of cases were exposed to sexual assault by only one perpetrator. Similarly, Sherif et al. (2018) stated that most of cases were done by a single assailant (78.6%). This finding was also consistent with the study of Kaushik et al. (2016) who reported that most of the cases (94.20%)

were committed by a single assailant. On contrary to the results of the present work, **Arif et al.** (2014) reported that 53.08% of cases done by multiple assailants. Also, **Vertamatti et al.** (2013) reported that in 11.9% of the cases more than one was the perpetrator.

As regarding victim-assailant relationship, in the present work 88.27% of cases were extrafamilial to the victims and 70.34% of them were unknown to the victims. This result was close to the result reported by Sherif et al. (2018) who stated that (91.3%) of the assaulted cases were considered extrafamilial assault, also Sharaf El-Din et al. (2015) reported 83.1% of cases were extra familial. For this reason, girls must learn and educated not to be alone with strangers (Badejoko et al., 2014). On contrary to the results of the present study, Karanfil et al. (2013) founded that the victim knew the assailant in 89.2% of the cases. Also, Kaushik et al. (2016) stated that 86.76% of sexual assault cases were committed by familiar persons. Also Yadav et al. (2014) reported that 90.4% of cases were known to the victim. These different results may be due to different cultural and traditional values in different community Sharaf El-Din et al. (2015).

The time between sexual assault and medico-legal examination is extremely important to proof the assault and the consequent rights of the victim and penalties for the perpetrator, however, most of the victims are late to report due to their fear of shame or because of society's perception of them Kaushik et al. (2016). In the present work as regard the time of medico legal examination after the assault there were 65.5% of cases examined after the first month and the lowest percentage of cases (6.2%) examined in the same day of assault. This was in agreement to Sharaf El-Din et al. (2015) who stated that most cases (43.8%) had medico-legal examination in the first week after the assault. Also this was in line with the study of Arif et al. (2014) who reported that in 65.4% of victims had medico-legal examination after 72 hours of assault. Also, Tamuli et al. (2013) reported that 77% of the victims had medico-legal examination after 72 hours of assault. The result of the present work was contrasted with the study of Pal et al. (2015) who reported that 42.85% of the cases were examined early on second day of the incidence. Also, Al-Azad et al. (2011) founded that 38.69 % of the victims reported to Forensic Medicine Department in the same day of incident. Also, Alempijevic et al. (2007) founded that 84% of cases were examined within 72 hours after sexual assault. This may be attributed to awareness of the victims about the importance of early reporting of the assault (Arif et al., 2014).

Regarding the types of alleged sexual assault the present study revealed that of 145 victims, 44.1% had a history of complete vaginal penetration, 25.5% had a history of anal penetration, 20.7% had a history of incomplete vaginal penetration, 6.9% had incomplete mixed penetration, and lastly 2.8% had a history of complete mixed penetration. This finding corroborated with Sharaf El-Din et al. (2015) who reported that approximately half of the victims (48.5%) had complete vaginal penetration, while anal penetration in 33.8%, then incomplete vaginal penetration occurred in 10.8%, complete mixed penetration occurred in lastly incomplete and penetration occurred in 3.1%. Similarly, Sherif et al. (2018) founded that 54% of cases had complete vaginal penetration followed by anal sex in 40% of cases. Also, Karanfil et al. (2013) reported that rape was the commonest form of sexual violence in 49.4% of cases. On contrast to the present result, Metwaly et al. (2013) founded that the highest percentage was sodomy 57.5% followed by 22.5% were buggery then 20% were rape.

As regarding non genital injuries, the result of the present work founded that 71% of 145 cases showed non genital injuries due to general violence. Abrasions were the most common type (49.5%), then multiple injuries (19.4%). The lowest percentage was fracture bone (1%). Contusions, bite marks, broken

teeth, joint sprain, and head injuries constituted 9.7%, 7.8%, 5.8%, 4.9% and 1.9%, respectively. This result was in line with Sharaf El-Din et al. (2015) who founded that 60.8% of the cases had non-genital injuries in the form of abrasions, followed by multiple injuries, then contusions, bite marks, broken bone, joint sprain, and head injuries, and the lowest percentage included burn and broken teeth. Also, Sherif et al. (2018) stated that the commonest non genital injuries were abrasions and contusions (46.75%, 41.55% respectively). On the other hand, Haider et al. (2014) in his study founded that only 41.4% of the victims had physical injuries in the form of abrasions and bruises in their bodies. Also, Daru et al. (2011) who found 13.1% of had non-genital injuries. physical injuries may be passed unnoticed in delayed examination or due to false allegation. Furthermore, in early examinations, subcutaneous contusions are unnoticed as they appear after forty-eight hours (Haider et al., 2014).

Regarding the site and type of genital injuries, the present work founded that the total genital injury was 91.7 % (133 of 145 cases); which mostly located in the hymen (35.3%) The most common type of genital injury was lacerations (39.8%) followed by multiple types of injuries (34.6%). This result was in agreement with Sharaf El-Din et al. (2015) who founded that the commonest type of genital injuries located in the hymen and the commonest type of injuries was laceration. Haider et al. (2014) founded old hymenal tear in 63.8% cases recent tear in 32.8% cases while Arif et al. (2014) observed old hymenal tear in 77.6% and fresh tear in 22.3% cases.

In this wok, children up to age 11 years were the most susceptible to anal penetration while the age group between 12 and 30 years were the most susceptible to complete vaginal penetration. This result was in line with Sherif et al. (2018) stated that most of cases were victims of rape (54%) and most of cases under the age of 18 years (40%) were subjected to anal sex. also Sharaf El-Din et al. (2015) who founded that the

highest percent of anal penetration was in children up to age 12 years while age group between 12 and 30 years were most susceptible to complete vaginal penetration.

### **V- CONCLUSION**

The highest percentage of sexually assaulted cases was unmarried female under eighteen. Most cases were examined late after the first month of assault and the crime mostly committed by one unknown assailant with complete vaginal penetration and hymen laceration was the most frequent type of genital injury.

#### VI- RECOMMENDATIONS

- More researches are needed to find out the real prevalence of female sexual assault in the different areas around Egypt as there is underestimation of this problem.
- Early reporting of sexual assaults without delay in examination to avoid loss of evidence and loss of victim's right.
- Protection programs to increase the awareness of the children and their family about early reporting of these assaults and how to protect themselves against these situations.

### **VII- REFERENCES**

- 1. Al-Azad M, Raman Z, Ahmad M, Wahab MA, Ali M, Khalil M (2011): Socio-demographic characterstics of alleged sexual assault (rape) cases in Dhaka city. Journal of Armed Forces Medical College, Bangladesh. 7(2):21-24.
- 2. Alempijevic D, Savic S, Pavlekic S et al. (2007): Severity of injuries among sexual assault victims. Journal of Forensic and Legal Medicine. 14(5):266–269.
- 3. Arif M, Ahmed M, Hanif F (2014): Natural sexual offences; medicolegal assessment in Punjab. The Professional Medical Journal. 21(5):980-86.

- 4. Badejoko OO, Anyabolu HC, Badejoko BO et al. (2014): Sexual assault in Ile-Ife, Nigeria. Nigerian Medical Journal. 55(3):254–259.
- 5. Bandyopadhay S, Ghosh S, Adhya S et al. (2013): A study on sexual assault victims attending a tertiary care hospital of eastern India. Journal of Dental and Medical Sciences. 6 (6):16-19.
- 6. Brownlie EB, Jabbar A, Beitchman J et al. (2007): Language impairment and sexual assault of girls and women: findings from a community sample. Journal of Abnormal Child Psychology. 35 (4):618–626.
- 7. Celbis O, Gokdog MR, Kaya M et al. (2006): Review of Forensic assessment of female referrals to the branch of legal medicine, Malatya region, Turky-1996– 2000. Journal of Clinical Forensic Medicine. 13 (1): 21–25.
- 8. Daru PH, Osagie EO, Pam IC, Mutihir JT, Silas OA, Ekwempu CC (20011): Analysis of cases of rape as seen at the Jos University Teaching Hospital, Jos, north central Nigeria. Nigerian Journal of Clinical Practice.14 (1): 47-51.
- 9. Das I, Chakraborty A, Batabyal S et al. (2013): A study on the sociodemographic profile of the victims of sex offences attending the Department of Forensic Medicine of a Tertiary Care Institute of Kolkata, West Bengal. Journal of Dental and Medical Sciences. 11(4):43-47.
- 10. Davies EA and Jones AC (2013): Risk factors in child sexual abuse. Journal of Forensic and Legal Medicine. 20 (3):146-150.
- 11. Demireva DR, Dimitrova MR, Burulyanova IS et al. (2013): Comparative investigation of the incidence of sexual assault in three regions of the Republic of Bulgaria during 1997-2006. Acta Facultatis Medicae Naissensis. 30(2):85-92.

- 12. Drezett J, Kurobe FC, Nobumoto CT, Pedroso D, Blake MT, Valenti VE (2012): Hydatidiform mole resulting from sexual violence. International Archives of Medicine. 5: 8-10.1186/1755-7682-5-8.
- 13. Egypt Violence Against Women Study (2009): A summary of findings. April 2009. Retrieved from: <a href="http://egypt.unfpa.org/pdfs/GENDE">http://egypt.unfpa.org/pdfs/GENDE</a> R/GBV/internal\_link\_EGYPT\_VIOL ENCE\_AGAINST\_WOMEN\_STUD Y\_english.pdf>.Google Scholar
- 14. El-Elemi AH, Moustafa SM, Hagras AM (2011): Reported cases of female sexual assault over 5 years period in Suez Canal area, Egypt: demographic study. Egyptian Journal of Forensic Sciences. 1(3-4):118–123.
- 15. Ellison SR, Subramanian S, Underwood R (2008): The general approach and management of the sexual assault patient. Missouri Medicine. 105(5):434–440.
- 16. Felson RB, Cundiff PR (2014): Sexual assault as a crime against young people. Archives of sexual behavior. 43:273–284.
- 17. Foumane P, Dohbit JS, Monebebimp F et al. (2014): Clinical study of rape against females at the Yaoundé Gyneco-Obstetric and Pediatric Hospital, Cameroun. Advances in Sexual Medicine. 4:11–16.
- 18. **Green W (2000):** Sexual assault and semen. In: Siegel et al., editors. Encyclopedia of Forensic Science. Section II. San Diego, San F., New York, Boston, London, Sydney, Tokyo: A Harcourt Science and Technology Company: 397–402.
- 19. Greenberg R S, Daniels R S, Flanders WD, et al. (1996): Diagnostic Testing. In: Medical Epidemiology. McGraw-Hill, New York, NY, 3rd ed., chapter (4): P.P. 77-89.
- 20. Haider A, Kamran S, Khan J, Saleem S (2014): A Study of Female Sexual Offences in the Year 2013 at DHQ

- Hospital Dera Ismail Khan. Ann Pak Inst Medical Science. 10(4): 187-192.
- 21. Hassan Q, Bashir MZ, Mujahid M, Munawar AZ, Aslam M, Marri MZ (2007): Medico-legal assessment of sexual assault victims in Lahore. The Journal of the Pakistan Medical Association. 57 (11):53942.
- 22. Islam M, Islam M, Sarkar M, Rashid M (2005): Profile of Sexual Assault Cases Registered in the Department of Forensic Medicine, Rajshahi Medical College. Journal of Teachers Association. 18 (2): 93-97.
- 23. Karanfil R, Keten A, Zeren C, et al. (2013): Evaluation of sexual assaults in Turkey. Journal of Forensic and Legal Medicine; 20(5): 404-407.
- 24. Kaushik N, Pal SK, Sharma A et al. (2016): A retrospective study of sexual assaults in southern range of Himachal Pradesh. International Journal of Health Sciences & Research. 6(2):342-351.
- 25. Krug EG, Mercy JA, Dahlberg LL, Zwi AB (2002): The world report on violence and health. Lancet 5; 360 (9339):1083-1088.
- 26. Martin SL, Ray N, Sotres-Alvarez D, et al. (2006): Physical and sexual assault of women with disabilities. Violence Against Women; 12 (9):823–837.
- 27. Metwaly M, Ismail AM, Sherif MM, Mahmoud FS, Mohammed NI, Assasa FM, (2013): Study about sexual offences in Quena governorates. J Forensic Res. 19 (2): 276-289.
- 28. Pal SK, Sharma A, Sehgal A, Rana A (2015): A study of sexual assault in northern range of Himachal Pradesh. International Journal of Medical Toxicology and Forensic Medicine. 5(2):64-72.
- 29. Sarkar SC, Lalwani S, Rautji R et al. (2005): A study of victims of sexual offences in South Delhi. Journal of family welfare. 51(1):60-66.

- 30. Sharaf El-Din Abeer AI, Elkholy Shereen MS, Metwally Eslam S, Farag Hesham A (2015): Pattern of Female Sexual Assault in Qalyubia Governorate, Egypt, During the Period from 2009 to 2013 A Retrospective Study. The American Journal of Forensic Medicine and Pathology. 36 (4): 276–284.
- 31. Sherif Marwa K, El-Gohary Mona M, El-Kelany Rabab S, Abo El-Noor Mona M (2018): Pattern of Sexual Assault in Gharbia Governorate during the Period between 2011-2014: Retrospective and Cross Section Study. Ain Shams Journal of Forensic Medicine and Clinical Toxicology. 30: 128-138.
- 32. Sivarajasingam V, Corcoran J, Jones D et al. (2004): Relations between violence, calendar events and ambient conditions. Injury. 35(5):467-473.
- 33. Sukul B, Chattopadhyay S, Bose TK (2009): A study of the victims of natural sexual offence in Bankuradistrict of West Bengal. Journal of Indian Academy of Forensic Medicine; 31(1): 25-29.
- 34. Suri S and Sanjeeda (2013): An analytical study of rape in Delhi. International Journal of Education and Psychosocial Research. 2 (3):60-68.
- 35. Tamuli RP, Paul B, Mahanta P (2013): A statistical analysis of alleged victims of sexual assault a retrospective study. Journal of Punjab Academy of Forensic Medicine & Toxicology. 13 (1):7-13.
- 36. Tariq SA, Qasim AP, Naeem M et al. (2014): Pattern of female medicolegal cases attending the casualty department of a teaching hospital. Journal of University Medical & Dental Collage, 5 (1):20-25.
- 37. Vertamatti MAF, de Abreu LC, Drezett J et al. (2013): Time lapsed between sexual aggression and arrival at the Brazilian health service.

- Journal of Human Growth and Development. 23 (1):46–51.
- 38. World Health Organization (2008): World report on violence and health. Geneva: WHO; 1-331.
- 39. Yadav A, Meena RL, Pathak D et al. (2014): A five year retrospective study of victims of sexual offences in Jaipur region. Indian Journal of Forensic Medicine and Toxicology. 8 (2):89-93.

# دراسة مرجعية فترة خمس سنوات لحالات الاعتداء الجنسي على الاناث في محافظة القليوبية ،جمهورية مصرالعربية

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المقدمــــة: الاعتداء الجنسي له آثار خطيرة على المجتمع وكذلك على الضحية و التي تشمل آثار نفسية وجسدية. هدف البحث: كان الهدف من هذا العمل هو دراسة نمط الاعتداءات الجنسية على الاناث في محافظة القليوبية بجمهورية مصر العربية.

خطة البحث: قد أجريت هذه الدراسة بأثر رجعي وشملت جمع الحالات وتحليلها خلال الفترة من بداية يناير 1.1.5 وحتى نهاية ديسمبر 1.1.5 من واقع سجلات مكتب الطب الشرعي بمحافظه القليوبية التابع لوزارة العدل بعد اخذ موافقة الجهات المسئولة. النتائج: بلغ اجمالي عدد حالات الاعتداء الجنسي على الاناث في محافظة القليوبية 1.1.5 حالله فترة الدراسة وكانت معظم الحالات (1.1.5) أقل من 1.1.5 عاما، وكانت معظمها من المناطق الحضرية (1.1.5) وشكل الغير متزوجين (1.1.5) من الحالات وحدثت معظمها في فصل الربيع (1.1.5), وقد وجد أن الاغتصاب هو النوع الأكثر شيوعا من أنواع الاعتداء الجنسي (1.1.5) وكان معظم المعتدين من خارج العلاقات الأسرية وغير معروفين للضحايا (1.1.5) بينما وجد أن المعتدي كان منفردا بضحيته في 1.1.5 من الحالات حيث تمت معظمها بمنزل الجاني (1.1.5) وكانت السحجات هي النوع الاكثر شيوعا من الاصابات الجسدية 1.1.5 وقد تم فحص معظم الحالات (1.1.5) بعد الشهر الاول من الوقعة، وكان تمزق غشاء البكارة أكثر الإصابات شيوعا عند الفحص الفرجي المهبلي (1.0.5).

الخلاصة: وخلصت هذه الدراسة الى ان النساء غير المتزوجات اللاتي نقل أعمارهن عن ١٨ عامًا وبقدرة عقلية سليمة قاطنات المناطق الحضرية شكلن الصحايا الرئيسيين للاعتداء الجنسي في محافظة القليوبية وقد كشفت هذه الدراسة أن الاغتصاب كان أكثر أنواع الاعتداء شيوعا و وجد أن المعتدي كان منفردا بضحيته في معظم الحالات وتم فحص اغلبهن بعد الشهر الأول من الاعتداء.

#### التوصيات: وتوصي هذه الدراسة بضرورة

- اجراء مزيد من الأبحاث لمعرفة مدى الانتشار الحقيقي للاعتداء الجنسي على الإناث في المناطق المختلفة في جميع أنحاء مصر.
  - الإبلاغ المبكر عن الاعتداءات الجنسية دون تأخير لتجنب فقدان الأدلة وفقدان حق الضحية.
- اعداد برامج لزيادة وعي الأطفال وأسرهم بشأن الإبلاغ المبكر عن هذه الاعتداءات وكيفية حماية أنفسهم من هذه الاعتداءات.

# Appendix 1: Form of the sheet used in the study

• Date
• Age (year)
• <b>Residence:</b> □ Rural Urban □
Marital state: □ Married □ Unmarried □
• Metal status: □ Normal ill □
• Season: □ Spring Winter □ Summer □ Autumn □
• Site of assault:   Victim's home Assailant's home   Assailant's workplace   The fields
or isolated place □ Other □
• Number of assailant: □ One assailant More than one □
• Relationship between the assailant and the victim:   Incest   Relative   Known
extrafmilial   Unknown extrafamilial
• Time of examination: $\Box$ 1 <sup>st</sup> day 2 <sup>nd</sup> day-1 week $\Box$ 1week-1 month $\Box$ > month
• Type of assault: □ Complete vaginal penetration Incomplete vaginal □ Anal □
Complete mixed □ Incomplete mixed □
• Type of non-genital injury: □ Abrasions Contusions □ Fracture bone□ Joint sprain□
Head injury □ Broken teeth □ Bite marks□ Multiple injuries □
• Site of genital injury: □ vulva Hymen □ Vagina □ Post fournchitte□ Anus □
More than one location □
• Type of genital injury: □Redness &Swelling Abrasions□ Contusions□ Lacerations□
Multiple injuries □