RESULTS

Part 1: General Characteristics of Study Sample.

Table (1): Distribution of the Patients by their socio-demographic Characteristics.

Item	Study group (N=100) %	Control group (N=100) %	X^2	P-value
Age (year)				
<20	25	20		
20 - <40	64	68	0.72	P>0.05
40- 60	11	12		
Education:				
Illiterate	14	15		
Middle education	64	62	0.09	P>0.05
High education	22	23		
Occupation:				
Working	32	42	2.2	P>0.05
Housewife	68	58		
Residence:				
Urban	20	14	1.3	P>0.05
Rural	80	86		

This table shows that for the control group, more than two thirds (68%) of patients their age ranged from 20 to less than 40 years; (12%) of them, their age ranged from 40 to 60 years; and one fifth (20%) of them, their age was less than 20 years.

The same table indicates that, for the control group the majority (85%) of patient were educated, while the minority of them were illiterate (15%).

As regards occupation, the table reveals that for the control group slightly less than three fifths (58%) of the sample were housewives.

Concerning residence, the majority (86%) of the control group were in rural areas, while the minority of them (14%) in urban areas.

For the study group 25% of patients were <20 years old, while 75% were above 20 years old. Regarding the educational level 86% of women in the study group were educated. For occupation, 68% of patients were housewives, while the majority of cases in study group (80%) were residing rural areas.

Statistically Insignificants difference were observed between the study and control groups for all items ($p>0.05$).

Table (2): Distribution of Women According to their Medical Problems in Obstetric and Gynaecology Departments.

Item	Study group (N=100) %	Control group (N=100) %
Anaemia	28	38
Obesity	32	14
Hypertension	8	16
Premature rupture of membrane	5	11
Mixed of the above	27	21
X^2	1.04	
P-value	> 0.05	

This table shows that medical problems, in study group it is obvious that nearly one third (32%) and more than one quarter of them (28%) suffer from obesity and anaemia respectively, while the minority suffer from hypertension, malignancy and premature rupture of membrane. Also slightly more than one quarter (27%) suffer from mixed problems.

This table also shows the medical problems of the control group, where more than one third (38%) suffer from anaemia and approximately one fifth (21%) suffer from mixed causes. A statistically insignificant difference was observed between the two groups.

Table (3): Distribution of Women According to their Type and Duration of Operation, Drain, Type of Skin Closure and Type of Suture Used in Obstetric and Gynaecology Departments.

Item	Study group (N=100) %	Control group (N=100) %	X^2	P-value
Type of operation				
Moderate	71	63	1.5	>0.05
Major	29	37		
Duration of operation				
≤ 1 hour	60	66	0.8	<0.05
> 1hour	40	34		
Drain used				
Yes	31	28	0.22	>0.05
No	69	72		
Type of skin closure				
Mattress	19	17	0.14	>0.05
Subcutcular	81	83		
Type of suture				
Silk	17	8	3.5	>0.05
Vicryle	83	92		

This table represents operation characteristics of the study and control groups. Regarding type of operation, it was found that 71% and 63% had moderate operation in study and control groups respectively while 29% & 37% had major surgery in study and control groups respectively.

Concerning the duration of operation, found that for 60% and 66% of study and control groups respectively the operation lasts for ≤1hr, while for 40% and 34% it was >1hr.

The same table clarifies that 31% and 28% of patients in study and control groups respectively had drain, while 69% and 72% of patients in study and control groups respectively had no drain.

As regards skin closure, 19% and 17% of study and control groups respectively closed by mattress while 81% and 83% of both groups closed by subcuticular skin closure.

Considering type of suture used, 17% and 8% of study and control groups respectively used silk suture, while 83%, 92% of study and control groups respectively used vicryle suture.

The differences illustrated between items were statistically non-significant ($P>0.05$) except for duration of operation where the difference was statistically significant ($P<0.05$).

Table (4): Distribution of Women According to their Use for Antibiotics.

Item	Study group (N=100) %	Control group (N=100) %
Type of antibiotic		
Unasyn	27	18
Flumox	0	6
Velosef	41	46
Mixed of the above	32	30
X^2	0.10	
P-Value	> 0.05	

This table represents antibiotics used during operation, as shown that less than half (41%, 46%) in both groups used velosef, while slightly more than one quarter (27%) in the study group used unasyn compared to 18% in the control group.

Table (5): Distribution of Post Operative Women According to their Type of Organism isolated.

Item	Study group (N=100) %	Control group (N=100) %
Type of organism isolate		
S. aureus	45	46
E. coli	10	12
Pseudomonas	17	21
Proteus	14	11
Diphtheroid	4	4
Mixed of the above	10	6
X^2	1.08	
P-value	> 0.05	

This table displays types of organism isolated, it was found that, less than half of (45%, 46%) among both the study and control groups respectively had Staph. aureus organism as compared to other organisms; pseudomonas (17%, 21%), proteus (14%, 11%) E.coli (10%, 12%) diphtheroid (4%, 4%) and mixed (10%, 6%) among both the study and control groups respectively. A statistically insignificant difference was observed between the two groups.

Table (6): Distribution of Post Operative Women According to their Wound Healing and Reasons for Failure of Wound Healing.

Item	Study group (N=100) %	Control group (N=100) %
Reasons for failure of wound healing		
Poor hygiene	9	9
Nutritional habits	8	9
Remote infection	6	3
Poor, pre-, intra-, & post- operative care	7	11
Mixed of the above	70	68
X^2	3.1	
P-value	>0.05	

This table shows that more than two thirds (70%, 68%) of the study and control groups respectively reported many reasons for failure of wound healing as, poor hygiene, poor nutrition, remote infection, poor, pre-, intra-, post-operative care, i.e., slightly less than one third (30%, 32%) among the study and control groups respectively, who reported single reason. This difference was statistically non-significant ($p>0.05$).

Table (7): Distribution of Post operative Women According to their General and Local Signs and Symptoms of Wound Sepsis.

Signs & symptoms of wound sepsis	Study group (N=100) %	Control group (N=100) %	X^2	P-value
General signs & symptoms				
Fever	80	82	0.13	>0.05
Malaise & fever	20	18		
Local signs & symptoms				
Pain	100	100		
Tenderness	73	60	0.04	>0.05
Hotness	78	72		
Redness	27	40		

This table displays general signs and symptoms of wound sepsis. It was found that, the majority (8 0, 82%) of cases among the study and control groups respectively suffered from fever only, while, the minority (20%, 18%) respectively suffered from both malaise and fever. Regarding local signs and symptoms of wound sepsis, all cases had pain, majority of cases had tenderness (73%, 60%) and hotness (78%, 72%), while the minority had redness (27%, 40%), among the study and control groups respectively. Statistically insignificants difference were observed between the two groups regarding general and local signs and symptoms of wound sepsis.

Table (8): Distribution of Post operative Women According to their Degree of Infection.

Item	Study group (N=100) %	Control group (N=100) %
Degree of infection		
Slightly infection	52	50
Moderate infection	33	35
Severe infection	15	15
X^2	0.10	
P-value	> 0.05	

This table reveals that almost half of cases (52%, 50%) had slightly degree of infection as compared to about one third (33%, 35%) who had moderate infection, also the minority (15%, 15%) had severe wound among the study and control groups respectively. A statistically insignificant difference (P>0.05) was observed between the two groups.

Table (9): Distribution of Postoperative Women According to their Signs, Symptoms of Wound Sepsis.

Item	Study group (N=100) %	Control group (N=100) %	X^2	P-value
Redness				
None (0)	0	0	1.8	>0.05
Slight (1)	65	60		
Moderate (2)	34	35		
Extreme (3)	1	5		
Oedema				
None (0)	0	0	1.53	>0.05
Slight (1)	64	60		
Moderate (2)	34	35		
Extreme (3)	2	5		
Ecchymosis				
None (0)	0	0	0.3	>0.05
Slight (1)	67	65		
Moderate (2)	29	30		
Extreme (3)	4	5		
Discharge				
None (0)	0	0	1.1	>0.05
Slight (1)	67	63		
Moderate (2)	30	32		
Extreme (3)	3	5		
Approximation				
None (0)	0	0	0.9	>0.05
Slight (1)	48	42		
Moderate (2)	26	28		
Extreme (3)	26	30		

This table represents the distribution of postoperative women according to their signs and symptoms of wound sepsis. Results show that, most of cases among the two groups had slight degree of; redness (65%, 60%), oedema (64%, 60%), ecchymosis (67%, 65%), discharge (67%, 63%), and approximation (48%, 42%) as compared to moderate degree of redness (34%, 35%), of oedema (34%, 35%), of ecchymosis (29%, 30%) of discharge (30%, 32%) and approximation (26%, 28%) in the study and control group respectively. On the other hand, minorities had severe degree of redness (1%, 5%), of oedema (2%, 5%), of ecchymosis (4%, 5%), of discharge (3%, 5%) and approximation (26%, 30%) in study and control group respectively. The differences were statistically insignificant ($p>0.05$).

Table (10): Distribution of Postoperative Women According to their Wound Healing and Duration of the Hospital Stay.

Item	Study group (N=100) %	Control group (N=100) %	X^2	P-value
Duration of wound healing				
>10 days	52	50		
10-20 days	33	35	0.13	>0.05
21-30 days	15	15		
Duration of hospital stay				
>10 days	53	47		
10-20 days	36	40	0.2	>0.05
21-28 days	11	13		

Concerning duration of wound healing, table (10) reveals that, the mean duration of healing was lower in the study group than in the control group, with statistically insignificant difference found between the two groups (P>0.05).

This table clarifies that the mean duration of hospital stay was lower in the study group than in the control group, with statistically insignificant difference detected between the two groups (p>0.05).

Table (11): Relationship between Postoperative Women Age and their Degree of Wound Infection.

Different age groups	Degree of infection Study group $\overline{X}$ ±SD	Degree of infection Control group $\overline{X}$ ±SD	t-value	P-value
<20 years	2.60±0.7	2.62±0.7	0.8	>0.05
20-< 40 years	2.60±0.7	2.70±0.8	0.8	>0.05
40-60 years	2.63±0.7	2.60±0.7	0.1	>0.05

This table clarified that, the mean score pertaining to degree of wound infection was higher (2.63±0.7) in the old age (40-60 yrs) compared to other age groups among the study groups, while for the control groups, it was the highest (2.70±0.8) in the middle age groups (20 - < 40yrs). Statistically insignificant differences were detected between the study and control groups ($p>0.05$).

Table (12): Relationship between Women Residence and their Degree of Wound Infection.

Residence	Degree of infection Study group $\overline{X}$ ±SD	Degree of infection Control group $\overline{X}$ ±SD	t-value	P-value
Urban	2.46±0.61	2.56±0.76	1.0	>0.05
Rural	2.65±0.75	2.66±0.73	1.0	>0.05

This table shows that, the mean score pertaining to degree of wound infection was higher (2.65±0.75 & 2.66±0.73) in rural than urban groups, with statistically insignificant difference between the study and control groups (p>0.05).

Table (13): Relationship between Educated Women and their Degree of Infection.

Level of education	Degree of infection		t-value	P-value
	Study group $\overline{X}$ ±SD	Control group $\overline{X}$ ±SD		
Illiterate	2.78±0.90	2.80±0.78	0.7	>0.05
Middle education	2.61±0.72	2.63±0.75	0.20	>0.05
Higher education	2.50±0.70	2.57±0.70	0.70	>0.05

This table reveals that, the mean degree of infection score was higher (2.78±0.9 & 2.80±0.78) in the illiterate women among both the study and control groups, with statistically insignificant difference observed between the two groups.

Table (14): Relationship between Women Occupation and their Degree of Infection.

Occupation	Degree of infection		t-value	P-value
	Study group $\overline{X}$ ±SD	Control group $\overline{X}$ ±SD		
Working	2.56±0.8	2.64±0.8	0.71	>0.05
Housewife	2.65±0.7	2.66±0.7	0.10	>0.05

This table indicates that, the mean degree of wound infection score was higher (2.65±0.7 & 2.66±0.7) in housewife women than the working ones, among both the study and control groups, with statistically insignificant difference between groups ($p>0.05$).

Table (15): Relationship between Women Age and their Duration of Wound Healing.

Different age groups	Duration of wound healing/day		t-value	P-value
	Study group $\overline{X}$ ±SD	Control group $\overline{X}$ ±SD		
< 20 years	12.4±3.3	19.8±4.7	11.8	<0.001
20- < 40 years	11.2±3.2	19.5±4.5	13.7	<0.001
40-60 years	12.1±3.4	19.4±4.6	12.8	<0.001

This table shows that, the mean duration score of wound healing was the highest (12.4±3.3 & 19.8±4.7) in young age women (<20y) among both the study and control groups, with highly statistically significant difference between the two groups ($p<0.001$).

Table (16): Relationship between Duration of Wound Healing of Women and their Residence.

Residence	Duration of wound healing/day		t-value	P-value
	Study group $\overline{X}$ ±SD	Control group $\overline{X}$ ±SD		
Urban	12.1±3.3	19.6±4.7	12.3	<0.001
Rural	11.7±3.3	19.4±4.5	13.0	<0.001

This table reveals that, the mean duration score of wound healing was higher (12.1±3.3 & 19.6±4.7) in urban residence, than rural among both the study and control groups, with highly statistically significant difference between the two groups ($p<0.001$).

Table (17): Relationship between Duration of Wound healing of Women and their Educational Level.

Educational level	Duration of wound healing/day		t-value	P-value
	Study group $\overline{X}$ ±SD	Control group $\overline{X}$ ±SD		
Illiterate	11.8±3.8	19.8±4.6	13.3	<0.001
Middle education	12.1±3.3	18.8±4.5	11.2	<0.001
Higher education	12.3±3.2	21.3±4.2	20.2	<0.001

This table clarifies that, the mean duration score of wound healing was the highest (12.3± 3.2 & 21.3±4.2) in highly educated women, among both the study and control groups, with highly statistically significant difference between the two groups ($p<0.001$).

Table (18): Relationship between Duration of Wound Healing of Women and their Occupation.

Occupation	Duration of wound healing/day		t-value	P-value
	Study group $\overline{X}$ ±SD	Control group $\overline{X}$ ±SD		
House wife	11.6±3.0	19.1±4.5	15.0	<0.001
Working	12.2±3.0	20.4±4.4	16.2	<0.001

This table indicates that, the mean duration score of wound healing was higher (12.2±3.0 & 20.4±4.4) in working women, than the housewives among both the study and control groups, with highly statistically significant difference between the two groups ($p<0.001$).

Table (19): Relationship between Degree of Wound Infection of Women and their Type of Operation.

Type of operation	Degree of wound Infection		t-value	P-value
	Study group $\overline{X}$ ±SD	Control group $\overline{X}$ ±SD		
Moderate operation	2.6±0.7	2.7±0.7	1.02	>0.05
Major operation	2.7±0.7	2.8±0.7	1.02	>0.05

This table indicates that, the mean degree of wound infection was higher (2.7± 0.7 & 2.8±0.7) in major operation than moderate one among both the study and control groups, with statistically insignificant difference between the two groups.

Table (20): Relationship between Degree of Wound Infection of Women and their Duration of Operation.

Duration of operation	Degree of wound infection		t-value	P-value
	Study group $\overline{X}$ ±SD	Control group $\overline{X}$ ±SD		
≤ an hour	2.5±0.6	2.58±0.7	0.9	>0.05
2 hour – 2hours	2.7±0.8	2.73±0.8	0.3	>0.05

This table shows that, the mean degree of wound infection was higher (2.70±0.8 & 2.73±0.8) in longer duration of operation (2 hours) or more than in less or equal an hour operation, among both the study and control groups, with statistically insignificant difference between both groups (p>0.05).

Table (21): Relationship between Type of Skin Closure and Degree of Wound Infection.

Type of skin closure	Degree of wound infection		t-value	P-value
	Study group $\overline{X}$ ±SD	Control group $\overline{X}$ ±SD		
Mattress	2.7±0.9	2.9±0.8	1.8	>0.05
Subcuticular	2.62±0.7	2.59±0.7	0.3	>0.05

This table shows that, the mean degree of wound infection was higher (2.7±0.9 & 2.9±0.8) in women with mattress skin closure than the subcuticular ones among both the study and control groups, with statistically insignificant difference between the two groups (p>0.05).

Table (22): Relationship between Type of Suture and Degree of Wound Infection.

Type of suture	Degree of wound infection		t-value	P-value
	Study group $\overline{X}$ ±SD	Control group $\overline{X}$ ±SD		
Silk	2.7±0.8	2.8±0.9	0.8	>0.05
Vicryle	2.62±0.7	2.64±0.7	0.2	>0.05

This table clarifies that, the mean degree of wound infection was higher (2.7±0.8 & 2.8±0.9) in women with silk suture than with vicryle ones, among both the study and control groups, with statistically insignificant difference between the two groups (p>0.05).

Table (23): Relationship between Medical Problem and Degree of Wound Infection among Women with Postoperative Wound in Obstetric and Gynaecology Departments.

Medical problem	Degree of wound infection		t-value	P-value
	Study group $\overline{X}$ ±SD	Control group $\overline{X}$ ±SD		
Anaemia	2.6±0.6	2.5±0.6	0.09	>0.05
Hypertension	5.5±1.8	5.3±1.1	1.3	>0.05
Obesity	2.5±0.8	2.9±0.9	2.9	<0.05
Premature rupture of membrane	3.2±0.4	2.6±0.8	6.7	<0.05
Mixed of the above	2.7±0.8	2.5±0.7	1.8	>0.05

This table reveals that, the mean degree of wound infection was present in all women with medical problems and the highest in women with hypertension and premature rupture of membrane (5.5± 1.8), (3.2 ±0.4) in the study group respectively, while in the control group, the highest was in obese women (2.9±0.9) with highly statistically significant differences between the two groups ($p<0.05$).

Table (24): Relationship between Type of Organism and Degree of Wound Infection among Women with Postoperative Wound sepsis.

Organism	Degree of wound infection		t-value	P-value
	Study group $\overline{X}$ ±SD	Control group $\overline{X}$ ±SD		
S. aureus	2.7±0.7	3.7±0.8	3.3	<0.05
E. coli	2.5±0.7	2.6±0.7	1.0	>0.05
Pseudomonas	2.8±1.0	2.3±0.5	4.4	>0.05
Proteus	2.6±0.8	3.0±0.8	3.6	>0.05
Diphtheroid	2.8±1.0	2.5±0.6	2.5	>0.05
Mixed of the above	2.3±0.5	3.3±1.2	7.7	<0.05

As shown in this table there is a statistically significant difference between the study and control groups regarding S. aureus, while for E. coli, pseudomonas, proteus, and diphtheroid, the mean differences were statistically insignificant between the study and control groups, (p= >0.05). The same table clarifies that the degree of wound infection was higher in control group than the study group regarding all organisms, i.e. with statistically significant difference (p<0.05).

Table (25): Relationship between Duration of Hospital Stay and Degree of Wound Infection.

Duration of hospital stay	Degree of wound infection		t-value	P-value
	Study group $\overline{X}$ ±SD	Control group $\overline{X}$ ±SD		
>10 days	2.13±0.3	2.4±0.5	4.5	<0.05
10- >20 days	2.9±0.6	2.7±0.7	2.0	<0.05
20-29 days	3.9±0.3	3.92±0.3	4.0	<0.05

This table indicates that, the mean degree of wound infection was higher (3.90±0.3 & 3.92±0.3) in women with long hospital stay among the study and control groups, with statistically significant difference between the two groups ($p<0.05$).

Table (26): Relationship between Duration of Wound Healing and Type of Skin Closure.

Type of skin closure	Duration of wound healing		t-value	P-value
	Study group $\overline{X}$ ±SD	Control group $\overline{X}$ ±SD		
Mattress	20.8±4.4	12.0±3.0	17.6	<0.001
Subcuticular	19.2±4.5	11.6±3.3	12.7	<0.001

This table reveals that, the mean duration of wound healing was higher (20.8±4.4 & 12.0±3.0) in women with mattress skin closure than those with subcuticular one among the study and control groups, with highly statistically significant difference between the two groups ($p<0.001$).

Table (27): Relationship between Duration of Wound healing and Type of Suture Used.

Type of suture	Duration of wound healing		t-value	P-value
	Study group $\overline{X}$ ±SD	Control group $\overline{X}$ ±SD		
Silk	11.9±3.0	19.5±4.8	12.7	<0.001
Vicryl	12.8±3.0	19.7±4.5	13.8	<0.001

This table clarifies that, the mean duration of wound healing is higher (12.8±3.0 & 19.7±4.5) in women with vicryle suture closure than those with silk suture, among the study and control groups, with highly statistically significant difference between two groups ($p<0.001$).