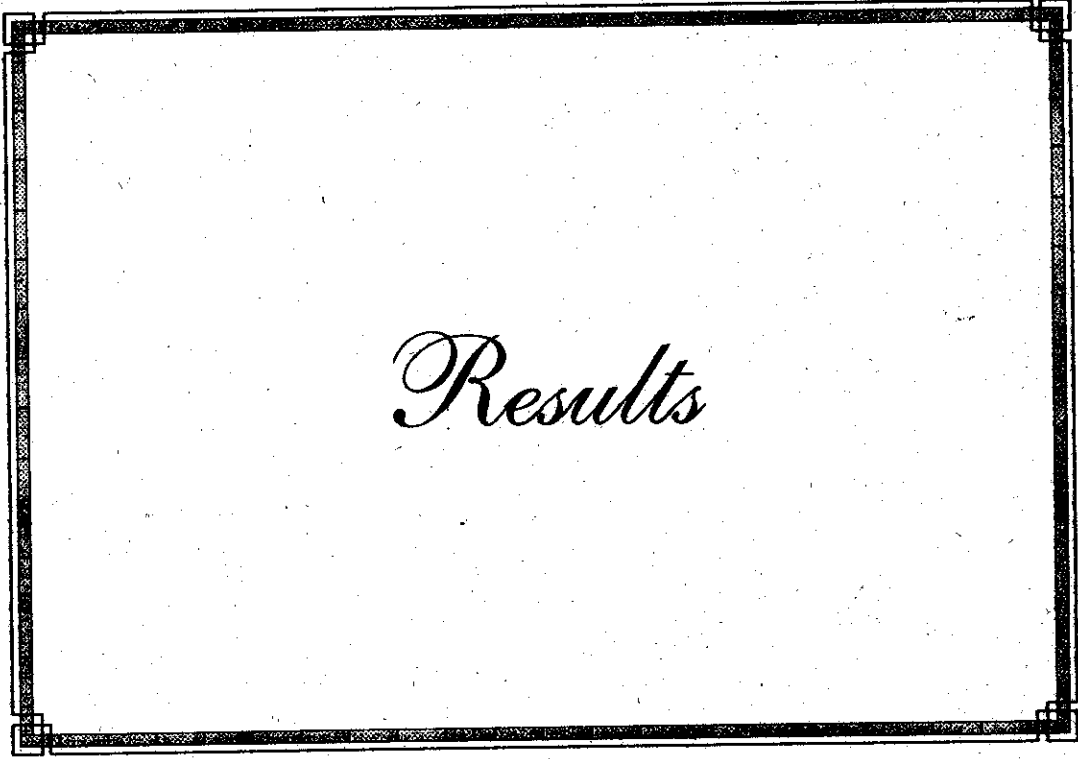




Results

RESULTS

Age and parity distribution and previous use of contraceptive methods are shown in tables 1, 2, and 3.

Table 1 : Age distribution of the IUCDs users.

Age group (Years)	Cu-T380 IUCD		Pro-Copper IUCD	
	No.	%	No.	%
up to 20y	11	22	14	28
21 - 25	15	30	17	34
26 - 30	15	30	10	20
31 - 35	5	10	4	8
36 - 40	4	8	5	10
Mean	25.5		25.0	
S.D.	5.5		6.1	

Table 2 : Parity distribution of the IUCDs users.

Parity	Cu-T380 IUCD		Pro-Copper IUCD	
	No.	%	No.	%
1	18	36	28	56
2	15	30	13	26
3	14	28	6	12
4	3	6	3	6
Mean	2.0		1.7	
S.D.	0.9		0.9	

Table 3 : Previous use of contraceptive methods.

Previous use	Cu-T380 IUCD		Pro-Copper IUCD	
	No.	%	No.	%
No previous use	27	54	25	50
Previous use of:				
a) Oral C. pills (O.C.P)	12	24	4	8
b) IUCD	7	14	16	32
c) Both (O.C.P) and IUCD	3	6	4	8
d) other methods	1	2	1	2
Total	50	100	50	100

Table 4 : *Vaginal and cervical flora in relation to Copper T IUCD insertion.*

	Pre-insertion		Post- insertion		X ²	P Value
	No.	%	No.	%		
<u>Anaerobic</u>						
Gram positive cocci	13	26	27	54	6.13	<0.05
Gram positive bacilli	40	80	49	98	1.64	NS
Gram negative bacilli	4	8	15	30	7.04	<0.01
<u>Aerobic :</u>						
Gram positive cocci	44	88	50	100	0.98	NS
Gram negative cocci	2	4	2	4	0.00	NS
Gram negative bacilli	9	18	19	38	4.15	<0.05
Gram positive bacilli	23	46	38	76	5.31	<0.05
Yeast	17	34	20	40	0.30	NS

NS = Non - significant

<0.05 = Significant

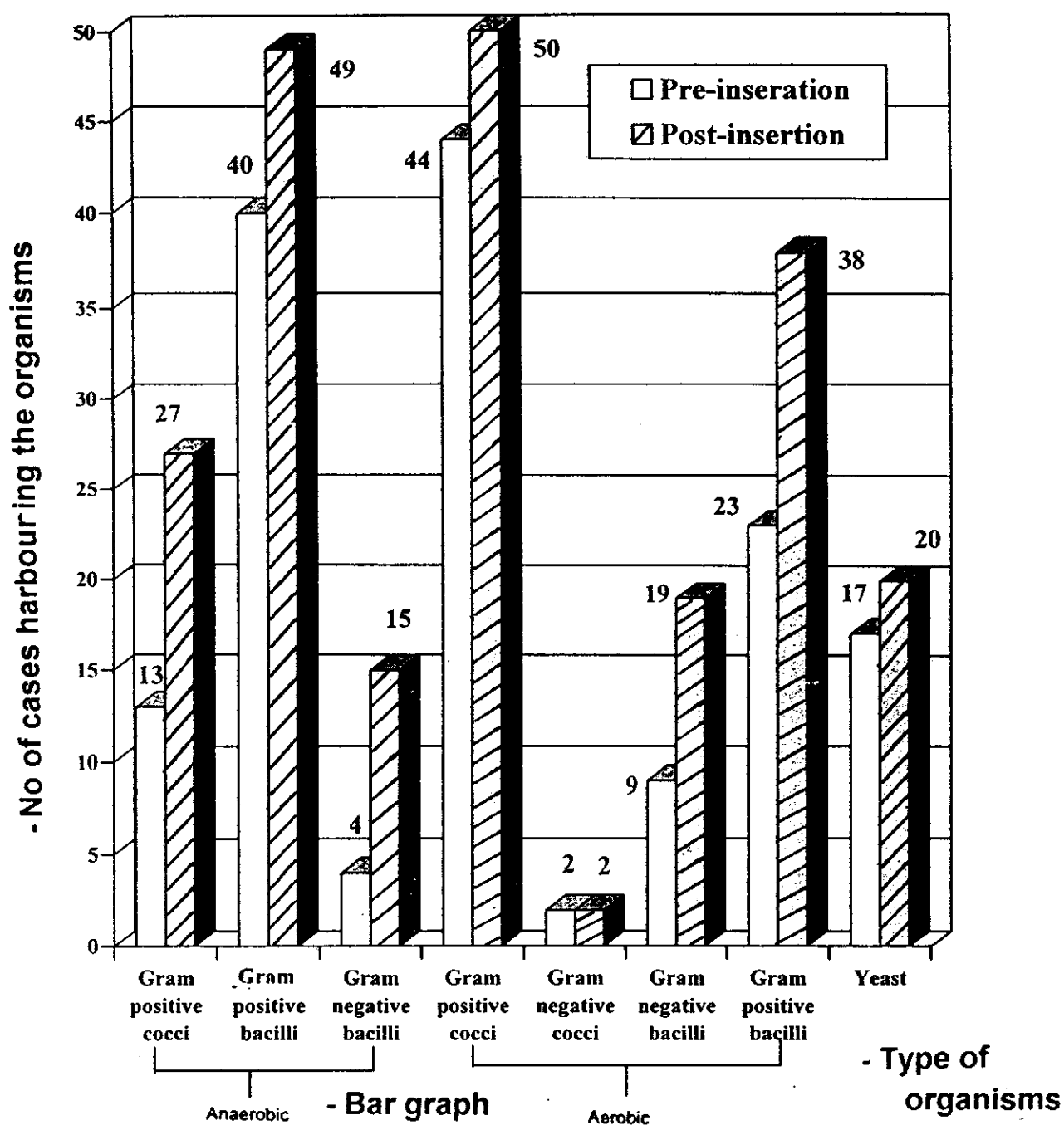


Figure 3 : Vaginal and cervical flora in relation to Copper T IUCD insertion.

From table (4) and figure (3), it is clear that the aerobic gram negative and positive bacilli increased after the insertion of the device ($P<0.05$). The anaerobic gram positive cocci increased after insertion of the device ($P<0.05$). The anaerobic gram-negative bacilli increased markedly after the insertion of the device ($P<0.05$).

Table 5 : *Different cervical and vaginal micro-organisms in relation to Copper T IUCD insertion.*

	Vaginal culture						Cervical culture					
	Pre-insertion		Post-insertion		X ²	P Value	Pre-insertion		Post-insertion		X ²	P value
	No	%	No	%			No	%	No	%		
<u>Aerobic :</u>												
Staph. aureus	10	20	11	22	0.05	NS	8	16	6	12	0.33	NS
Staph. albus	8	16	6	12	0.33	NS	8	16	6	12	0.33	NS
Corynebacterium	10	20	12	24	0.23	NS	11	22	18	36	2.38	NS
E- Coli	3	6	5	10	0.54	NS	1	2	2	4	0.34	NS
Streptococci	4	8	7	14	0.92	NS	2	4	12	24	8.31	<0.05
Coliform bacilli	1	2	2	4	0.34	NS	2	4	2	4	0.00	NS
Sarcina	3	6	2	4	0.21	NS	1	2	1	2	0.00	NS
Neisseria Species	1	2	1	2	0.00	NS	1	2	1	2	0.00	NS
Haemophilus Sp.	--	--	4	8	5.35	<0.05	--	--	4	8	5.35	<0.05
Proteus	1	2	--	--	1.01	NS	1	2	--	--	1.01	NS
Anthracid	1	2	1	2	0.00	NS	1	2	1	2	0.00	NS
<u>Anaerobic :</u>												
Peptococci	3	6	5	10	0.54	NS	5	10	5	10	0.00	NS
Peptostreptococci	3	6	10	20	4.33	<0.05	2	4	7	14	4.01	<0.05
Lactobacilli	20	40	23	46	0.37	NS	20	40	24	48	0.65	NS
Bacteroides	2	4	8	16	4.00	<0.05	2	4	7	14	4.01	<0.05
Clostridium Sp.	--	--	4	8	5.35	<0.05	--	--	4	8	5.35	<0.05
Yeast	4	8	4	8	0.00	NS	3	6	3	6	0.00	NS
Actinomyces	4	8	5	10	0.12	NS	6	12	8	16	0.33	NS

Figure(4): β haemolyticus
streptococci on blood agar.

Figure (5): Latose fermenter :
E coli on Mackonkey agar

Figure 6: Latose fermenter :
streptococci faecalis
on Mackonkey agar

Table 5, and figures (4, 5 and 6) demonstrate that aerobic microorganisms as *Staphylococci aureus*, *corynebacterium*, *E.coli*, *Streptococci* and *Coliform bacilli* increased in percentage after insertion of the device, but this increase was not significant except with *Haemophilus* species. ($P < 0.05$)

Cervico-vaginal flora was dominated by lactobacilli. Some microorganisms appeared after insertion of the device (*Haemophilus* species and *Clostridium* species). Others disappeared after insertion of the device (*Proteus*) or decreased (*Staphylococcus albus*). Anaerobic microorganisms as *peptococci*, *peptostreptococci*, *lactobacilli* and *bacteroids* increased. Yeast was found before and after insertion of Copper IUCD. *Actinomyces* was increased after insertion of the device.

The vaginal and cervical flora in relation to Pro-copper (Azzam's) IUCD are shown in table (3) and figure (2).

Table 6 : *Vaginal and cervical flora in relation to Pro-Copper IUCD insertion.*

	Pre-insertion		Post- insertion		χ^2	P Value
	No.	%	No.	%		
<u>Anaerobic</u>						
Gram positive cocci	21	42	31	62	0.60	NS
Gram positive bacilli	1	2	6	12	5.13	<0.05
Gram negative bacilli	50	100	50	100	0.81	NS
<u>Aerobic :</u>						
Gram positive cocci	47	94	44	88	0.18	NS
Gram negative cocci	3	6	3	6	0.00	NS
Gram negative bacilli	9	18	12	24	0.48	NS
Gram positive bacilli	26	52	32	64	0.87	NS
Yeast	12	24	11	22	0.05	NS

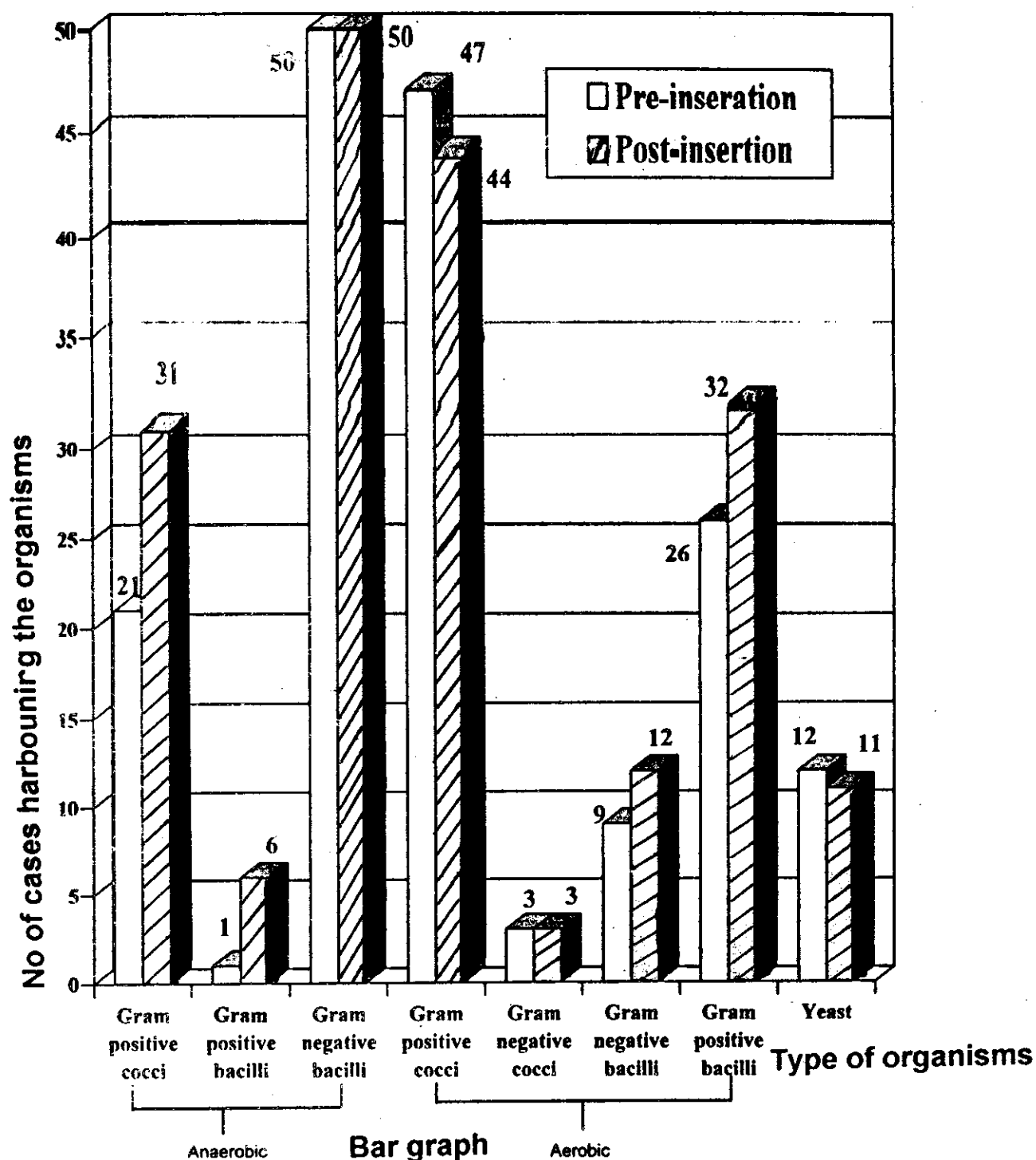


Figure 7 : Vaginal and cervical flora in relation to Pro-Copper IUCD insertion.

From table (6) and figure (7), it is clear that anaerobic gram positive bacilli has increased significantly post insertion ($P < 0.05$).

Table 7 : *Different cervical and vaginal micro-organisms in relation to Pro-Cooper IUCD insertion.*

	Vaginal culture						Cervical culture					
	Pre-insertion		Post-insertion		X ²	P Value	Pre-insertion		Post-insertion		X ²	P value
	No	%	No	%			No	%	No	%		
<u>Aerobic :</u>												
Staph. aureum	12	24	13	26	0.05	NS	9	18	10	20	0.06	NS
Staph. albus	7	14	6	12	0.09	NS	8	16	5	10	0.80	NS
Corynebacterium	11	22	15	30	0.83	NS	11	22	12	24	0.06	NS
E- Coli	4	8	6	12	0.44	NS	2	4	3	6	0.21	NS
Streptococci	3	6	5	10	0.54	NS	4	8	4	8	0.00	NS
Coliform bacilli	1	2	1	2	0.00	NS	2	4	1	2	0.34	NS
Sarcina	2	4	1	2	0.34	NS	2	4	--	--	2.04	NS
Neisseria Species	1	2	2	4	0.34	NS	2	4	1	2	0.34	NS
Proteus	--	--	1	2	1.01	NS	--	--	--	--	--	--
Anthracid	2	4	3	6	0.21	NS	2	4	2	4	0.00	NS
<u>Anaerobic :</u>												
Peptococci	4	8	6	12	0.44	NS	5	10	6	12	0.10	NS
Peptostreptococci	3	6	10	20	4.33	<0.05	8	16	9	18	0.07	NS
Lactobacilli	23	46	25	50	0.16	NS	21	42	22	44	0.04	NS
Bacteroides	2	4	8	16	4.00	<0.05	6	12	7	14	0.09	NS
Clostridium Sp.	--	--	4	8	5.35	<0.05	1	2	2	4	0.34	NS
Yeast	2	4	2	4	0.00	NS	2	4	--	--	2.04	NS
Actinomyces	4	8	6	12	0.44	NS	4	8	5	10	0.12	NS

Table 7 shows that, the incidence of aerobic micro-organisms as *Staphylococcus aureus*, *Corynebacterium*, *E.coli*, *Streptococci* increased but difference was statistically non significant. Anaerobic microorganisms as *Peptostreptococci*, *Bacteroids*, *Clostridium* species increased but the increase was also non significant statistically as regard to cervical cultures and statistically significant ($P<0.05$) as regard vaginal cultures. *Proteus* and *Clostridium* appeared in vaginal cultures after insertion of IUCD. *Sarcina* and yeast disappeared in cervical cultures after insertion of the device. The cervical cultures show no significant change in aerobic or anaerobic microorganisms.

Table 8 : *Statistical difference between Copper T IUCD and Pro-Copper IUCD in relation to post- insertion vaginal culture.*

	Copper T		Pro-Cooper		X^2	P Value
	No.	%	No.	%		
<u>Aerobic :</u>						
Staph. aureus	11	22	13	26	0.05	NS
Staph. albus	6	12	6	12	0.10	NS
Corynebacterium	12	24	15	30	0.00	NS
B- Coli	5	10	6	12	0.54	NS
Streptococci	7	14	5	10	0.92	NS
Coliform bacilli	2	4	1	2	0.34	NS
Sarcina	2	4	1	2	2.04	NS
Neisseria Species	1	2	2	4	0.00	NS
Haemophilus Sp.	4	8	--	--	5.35	<0.05
Proteus	--	--	1	2	1.01	NS
Anthracoïd	1	2	3	6	0.34	NS
<u>Anaerobic :</u>						
Peptococci	5	10	6	12	0.64	NS
Peptostreptococci	10	20	10	20	0.00	NS
Lactobacilli	23	46	25	50	0.04	NS
Bacteroides	8	16	8	16	0.00	NS
Clostridium Sp.	8	8	4	8	0.00	NS
Yeast	4	8	2	4	0.15	NS
Actinomyces	5	10	6	12	0.80	NS

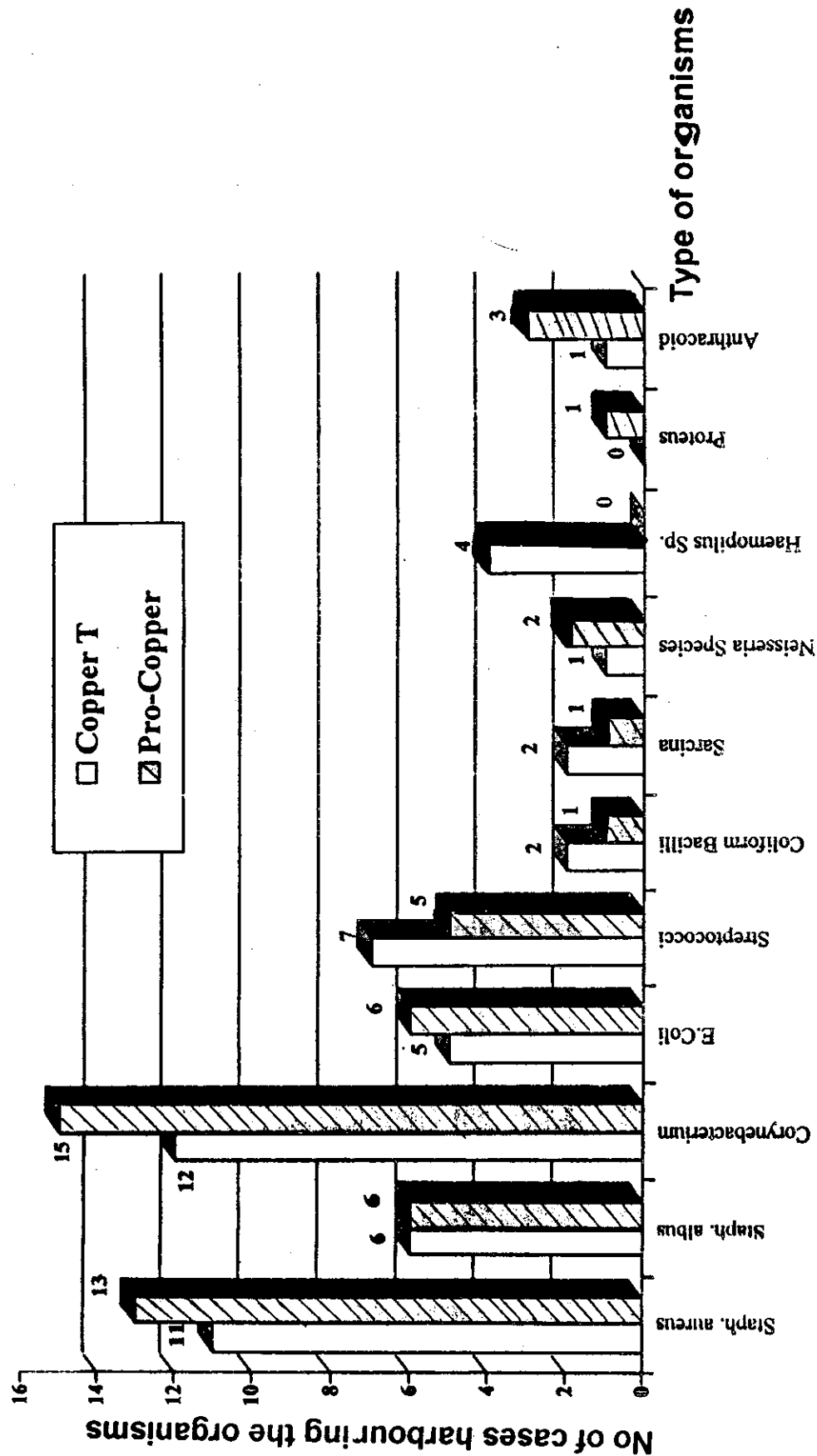


Figure 8 : Bar graph demonstrates Copper T IUCD and Pro-Cooper IUCD in relation to post- insertion vaginal culture (aerobic organisms).

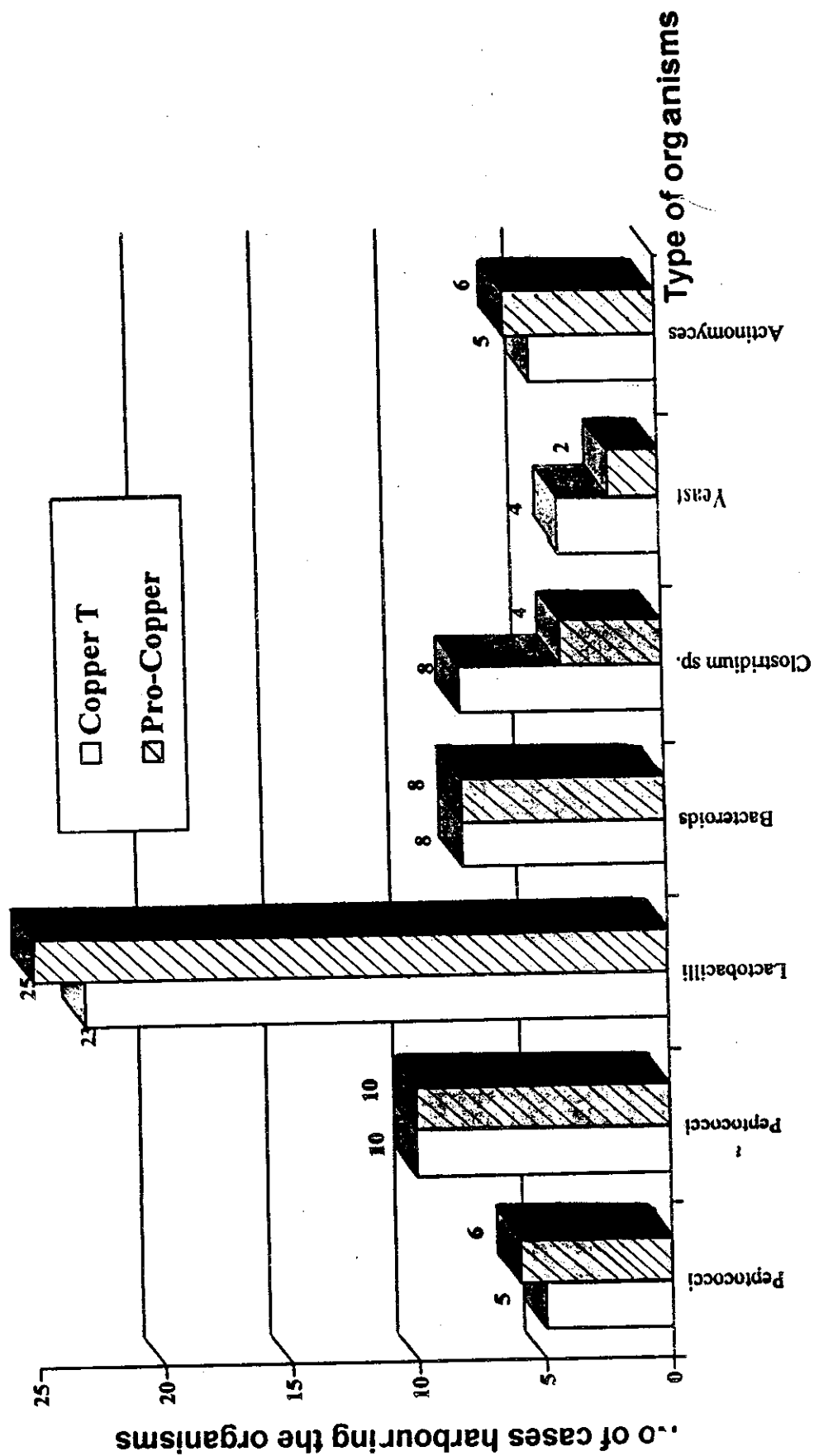


Figure 9 : Bar graph demonstrate Copper T IUCD and Pro-Cooper IUCD in relation to post- insertion vaginal culture (anaerobic organisms).

Table (8) and figures (8, 9) shows statistical difference between Copper T and Pro-copper IUCD in relation to post-insertion vaginal culture, Where only *Haemophilus* species showed statistically significant difference in relation to Pro-copper ($P < 0.05$).

Table 9 : Statistical difference between Copper T IUCD and Pro-Cooper IUCD in relation to post- insertion cervical culture.

	Copper T		Pro-Cooper		X ²	P Value
	No.	%	No.	%		
<u>Aerobic :</u>						
Staph. aureus	6	12	10	20	1.19	NS
Staph. albus	6	12	5	10	0.10	NS
Corynebacterium	18	36	12	24	1.71	NS
E- Coli	2	4	3	6	0.21	NS
Streptococci	12	24	4	8	4.70	<0.05
Coliform bacilli	2	4	1	2	0.34	NS
Sarcina	1	2	--	--	1.01	NS
Neisseria Species	1	2	1	2	0.00	NS
Haemophilus Sp.	4	8	--	--	4.17	<0.05
Proteus	--	--	--	--	--	NS
Anthraxoid	1	2	2	4	0.34	NS
<u>Anaerobic :</u>						
Peptococci	5	10	6	12	0.10	NS
Peptostreptococci	7	14	9	18	0.30	NS
Lactobacilli	24	48	22	44	0.16	NS
Bacteroides	7	14	7	14	0.00	NS
Clostridium Sp.	4	8	2	4	0.00	NS
Yeast	3	6	--	--	8.70	<0.05
Actinomyces	8	16	5	10	0.54	NS

NS= Non- significant

<0.05 = Significant

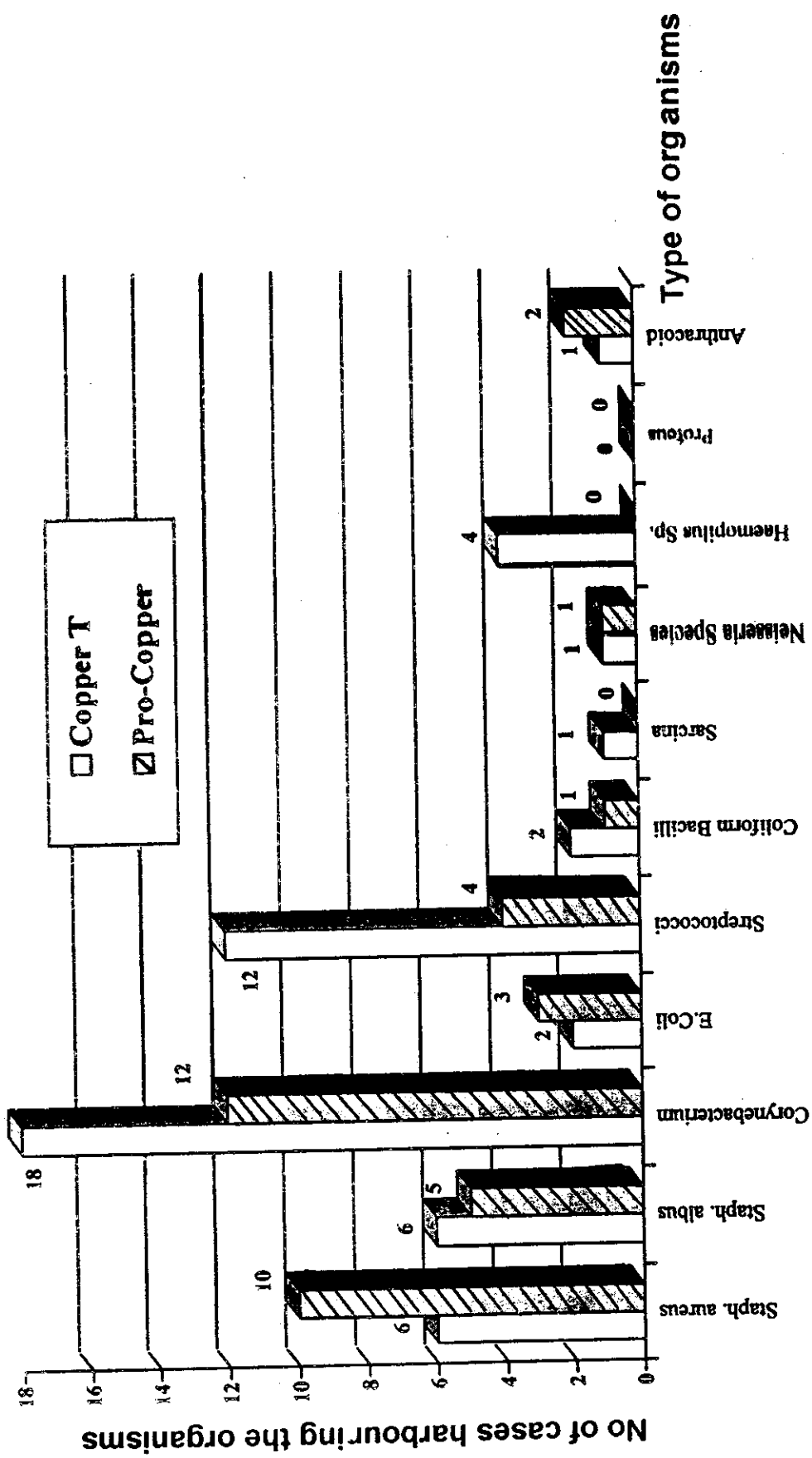


Figure 10 : Bar graph demonstrates Copper T IUCD and Pro-Cooper IUCD in relation to post-insertion cervical culture (aerobic organisms).

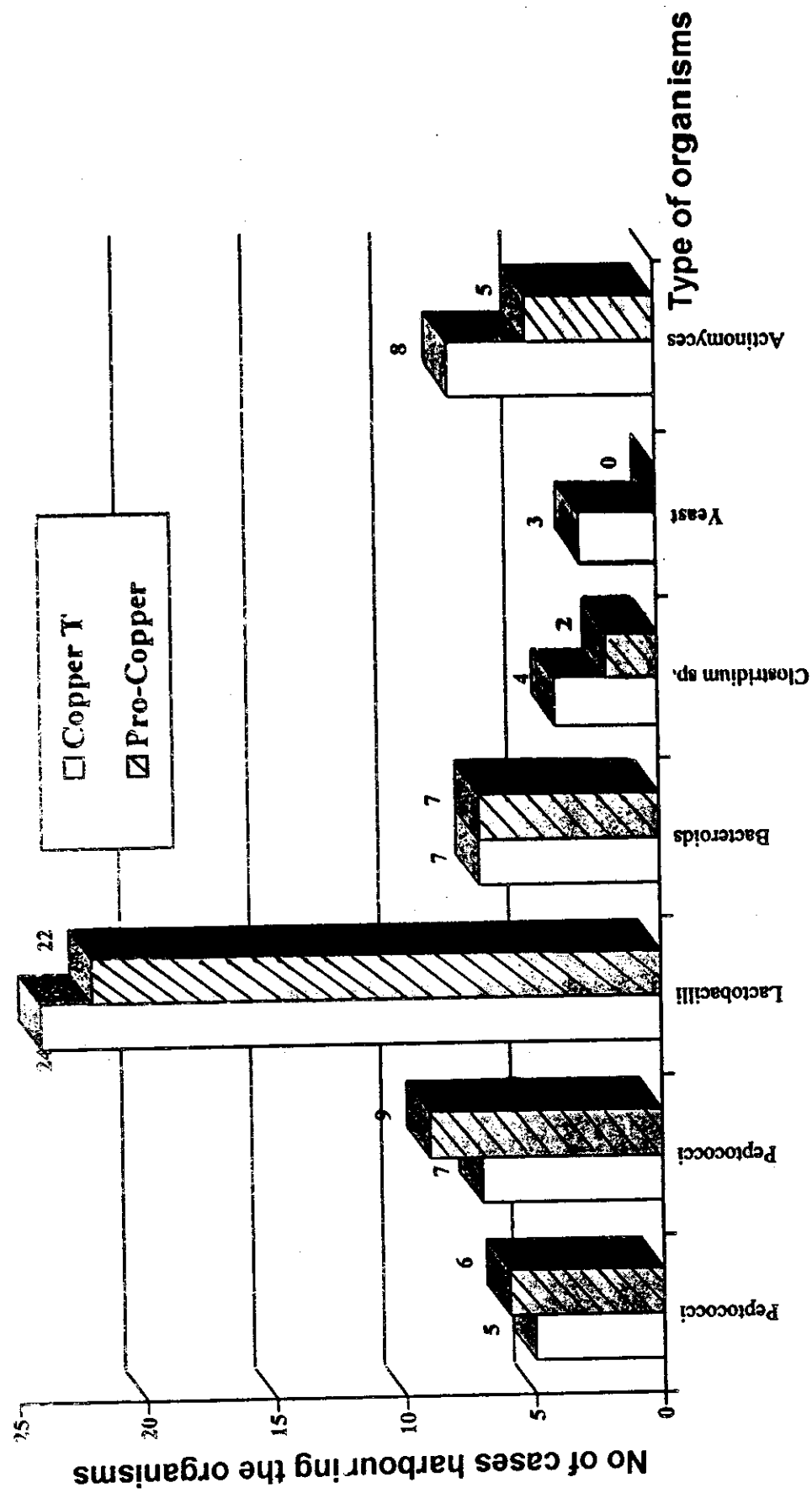


Figure 11 : Bar graph demonstrates Copper T IUCD and Pro-Copper IUCD in relation to post- insertion cervical culture (anaerobic organisms).

Table (9) and figures (10,11) showed statistical difference between Copper T IUCD and Pro-Copper IUCD in post-insertion cervical culture. Only Streptococci, Haemophilus species and yeast showed significant differences in relation to Pro-copper IUCD ($P<0.05$).

Table 10 : *Statistical difference between Copper T IUCD and Pro-Copper IUCD in vaginal and cervical flora.*

	Copper T		Pro- Copper		X ²	P Value
	No.	%	No.	%		
<u>Anaerobic</u>						
Gram positive cocci	27	54	31	62	0.39	NS
Gram positive bacilli	49	98	5	10	49.11	<0.01
Gram negative bacilli	15	30	50	100	46.65	<0.01
<u>Aerobic :</u>						
Gram positive cocci	47	94	44	88	0.98	NS
Gram negative cocci	2	4	3	6	0.21	NS
Gram negative bacilli	10	20	12	24	0.18	NS
Gram positive bacilli	30	60	33	66	0.00	NS
Yeast	20	40	11	22	3.09	NS

NS = Non- significant

<0.01 = Highly significant

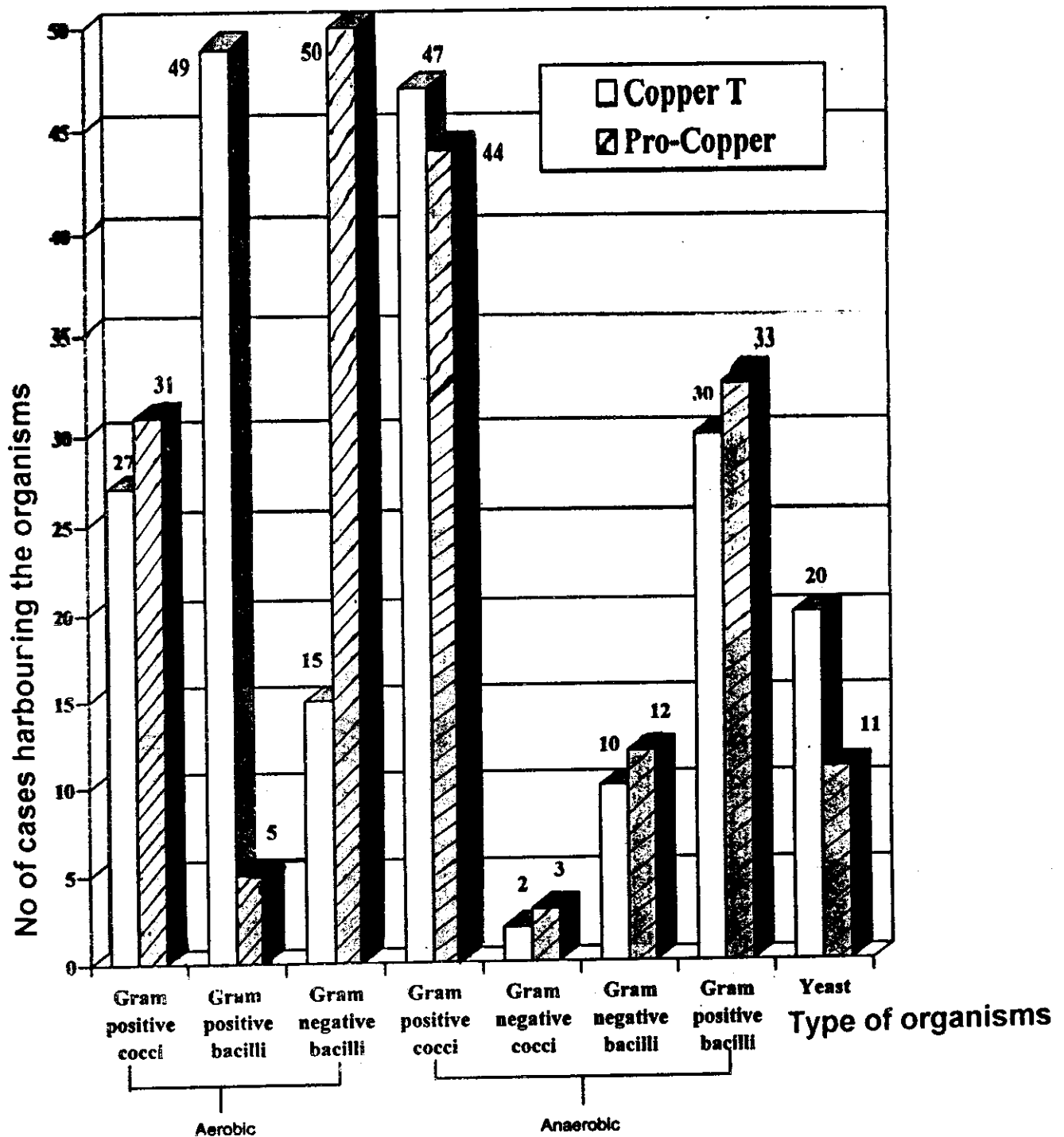


Figure 12 : Bar graph demonstrates *Copper T IUCD* and *Pro-Copper IUCD* in vaginal and cervical flora.

Table (10) and figure (12) shows statistical difference in species of microorganisms between Copper T IUCD and Pro-copper IUCD in vaginal and cervical flora. From the table, gram positive and gram negative bacilli showed highly significant difference as regard to Pro-copper IUCD.

Table 11 : Statistical difference between Copper T IUCD and Pro-Copper IUCD in relation to C/O after IUD.

	Copper T		Pro- Copper		X ²	P Value
	No.	%	No.	%		
Amenorrhea	1	2	--	--	1.01	NS
Vaginitis	3	6	--	--	3.09	NS
Menorrhagia	10	20	--	--	11.11	<0.01
Backache	12	24	7	14	1.62	NS
Spotting	4	8	37	74	45.02	<0.01
Dysmenorrhea	4	8	--	--	4.17	NS
Hypomenorrhoea	1	2	--	--	1.01	NS
Vaginal discharge	2	4	--	--	2.04	NS
Polymenorrhoea	1	2	1	2	0.00	NS
Irregular cycles	4	8	--	--	4.17	NS
Oligohypomenorrhoea	--	--	1	2	1.01	NS

NS = Non- significant

<0.01 = Highly significant

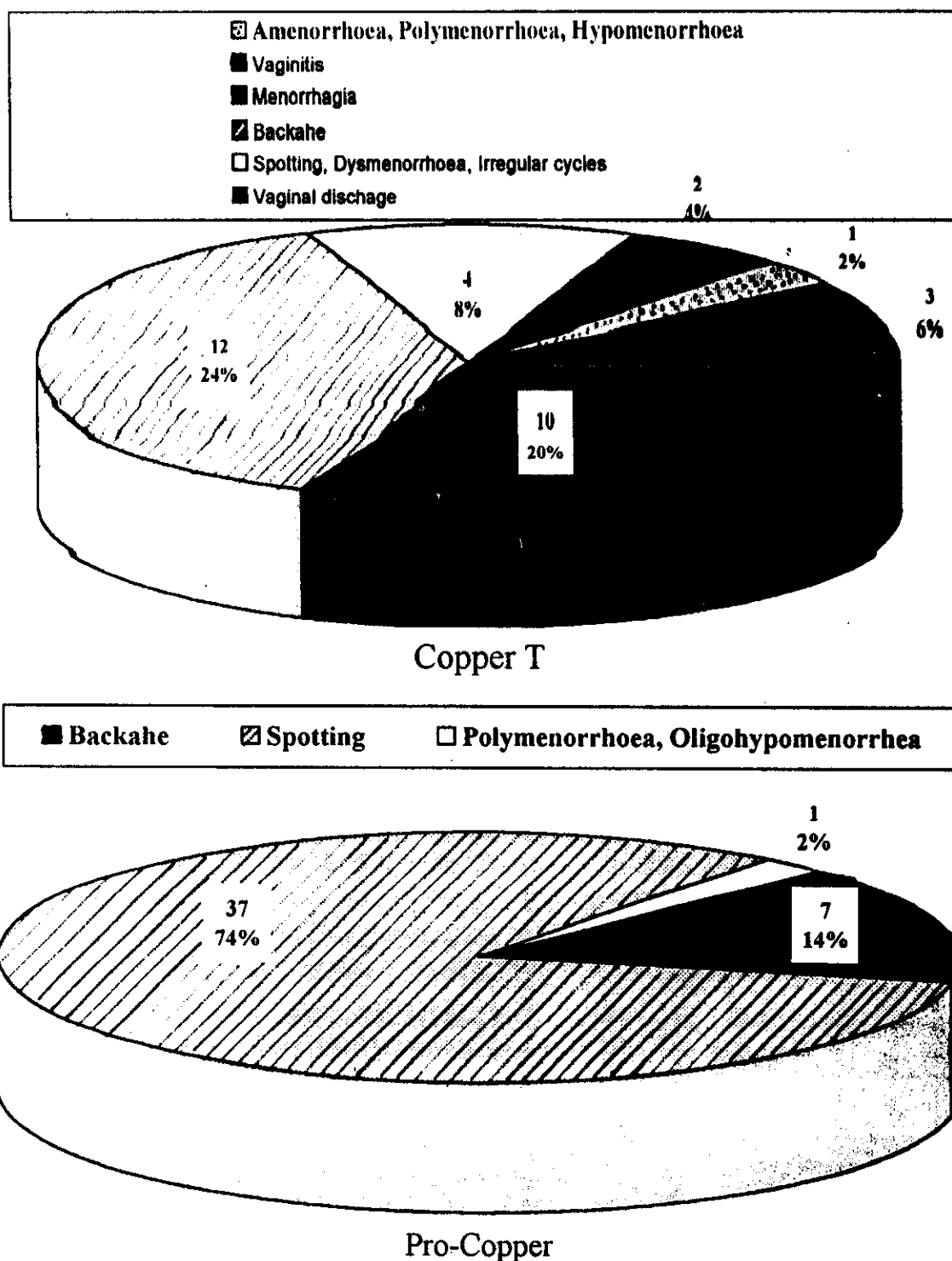


Figure 13 : Statistical difference between Copper T IUCD and Pro-Copper IUCD in relation to C/O after IUD.

Table (11) and figure (13) showed statistical difference between Copper T IUCD and Pro-copper IUCD in relation to complaint after IUCD. From the table, after Copper T insertion, (20%) of users complain of menorrhagia, (24%) of backache, (8%) of spotting, dysmenorrhea and irregularity of cycles, (4%) of vaginal discharge and (12%) of hypomenorrhea and polymenorrhea. After insertion of Pro-copper IUCD, no users complain of menorrhagia, dysmenorrhea, vaginal discharge or irregular cycles, (74%) complain of spotting, (14%) of backache and (2%) of oligohypomenorrhea. Menorrhagia with Copper T and spotting with Pro-copper showed statistical difference which was highly significant where P was less than 0.01