

CHAPTER IX

RESULTS

1.) Baseline Data

The baseline data were collected before starting the intervention for the purpose of assessing the comparability of the confounders between the control and the intervention groups. The confounders considered in this study were the durations of catheter indwelling , age and sex. Confounders need to be considered since they can affect the study final outcomes, the infection rates. Infection rates increase according to the increase of duration of catheter indwelling (Thornton and Andriole, 1970; Garibaldi, Burke, Dickman, and Smith, 1974). Age and sex also relate to infections. Aged patients and women have higher risk of getting infections because the aged patients have low immunity possibly due to drug received or senile degeneration and women have anatomically shorter urethra than that of men (Infection Control Committee, Ramathibodi Hospital, 1988). Confounders can cause bias in the study if they are not eliminated or randomly distributed in both groups. For this study, some confounders such as disease severity and concomitant treatment had been eliminated before the start of the study. That was a more severe group of patients who were in the same department and having urethral catheterization but were cared in the Intensive Care Unit was not included in the study. So was the group of nursing personnel in the intensive care unit. In

addition, the baseline data were collected in order to assess the actual burden resulting from nosocomial urinary tract infection at baseline.

1.1 Infection Data

1.1.1 Table 4 Comparison of Baseline Prognostic Factors

Variables	Groups	
	Gr. I (%) (control)	Gr. II(%) (experiment)
Numbers of cases	60	56
Sex M	39(65.0)	14(25.0)
F	21(35.0)	42(75.0)
Average Age	52	52
Durations of Indwelling catheter		
< 1 day	9(15.0)	7(12.5)
1-3 days	33 (55.0)	34(60.7)
4-7 days	17 (28.3)	15(26.8)
> 7 days	1 (1.7)	-

1.1.1 Baseline Prognostic Factors

a.) Numbers of Cases : There were sixty cases in group I which is the control group to be and fifty- six cases in group II which will be the experimental group.

b.) **Sex and Age** : In group I, the proportion of male to female cases was 2:1 (Male = 65%, Female = 35%). Average age was the same in both groups that was fifty-two years.

: In group II, fourteen cases were males and forty-two cases were females. The proportion of male to female was 1:3.

There was constraint on unit of randomization. It was impossible for this situation to use the patients as units of randomization since the intervention of the project dealing with educating the groups of nursing personnel. The nursing personnel perform their job as team work and taking care of patients by groups or units. Therefore, ward were used as the unit of randomization instead. However, there was some extent of difficulty on ward allocation. Since the numbers of male wards and female wards were odd numbers. Although both sexes have to be randomly distributed in each group because females have higher risk for infection (Infection Control Committee, Ramathibodi Hospital, 1988). Still, it is impossible for this situation because there were three male wards and three female wards.

c.) **Duration of Indwelling Urinary Catheter**

The duration of indwelling catheter was grouped into four categories. Those were duration of less than one day, one to three days, four to seven days and more than seven days.

In group I; There were nine cases indwelled catheter less than one day which represented fifteen percent. Most cases were indwelled catheter in duration of one to three days (33 cases

or fifty-five percent). There was very few case that was indwelled catheter in period of more than seven days.

In group II ; It was similar numbers of cases, as group I, indwelled urinary catheter in each category of durations. Most cases were indwelled in period of one to three days (34 cases or 60.7%).

1.1.2 Table 5 Comparison of Baseline Infection Rates in Each Duration of Indwelling Catheter between Groups

Observed time period	Control gr.(Gr.I)		Exp.gr.(Gr.II)		Sig.
	Inf. Rate	(\pm 1.645 SEM)	Inf. Rate	(\pm 1.645 SEM)	
<1	0	(0, 0)	0	(0, 0)	NS
1	6.5	(12.4, 0.6)	0	(0, 0)	NS
2	9.1	(16.3, 1.2)	12.5	(22.0, 3.0)	NS
3	26.3	(39.1, 13.5)	17.0	(28.7, 5.3)	NS
4	39.7	(55.3, 24.1)	42.5	(61.7, 23.3)	NS
5	44.5	(60.8, 28.2)	51.4	(72.5, 30.3)	NS
6	56.8	(74.7, 38.9)	61.1	(83.1, 39.1)	NS
7	72.5	(90.9, 54.1)	87.0	(105.9, 68.1)	NS

Table 6 Baseline Life Table of Infection Rates

Days	Ni		Wi		Ei		Pi		CuPi		SEi		1.96 SEi	
	C.	E.	C.	E.	C.	E.	C.	E.	C.	E.	C.	E.	C.	E.
<1	60	56	9	7	-	-	1	1	1	1	-	-	-	-
1	51	49	9	12	3	-	.935	1	.935	1	.036	-	.071	-
2	39	37	8	10	1	4	.971	.875	.909	.875	.044	.058	.086	.115
3	30	23	7	7	5	1	.811	.949	.737	.830	.078	.071	.152	.138
4	18	15	3	4	3	4	.818	.692	.603	.575	.095	.117	.185	.229
5	14	7	3	1	1	1	.920	.846	.555	.486	.099	.128	.193	.251
6	10	5	2	-	2	1	.778	.800	.432	.389	.109	.134	.213	.263
7	6	4	1	2	2	2	.636	.333	.275	.130	.112	.115	.220	.225
8	3	-	-	-	-	-	1	-	.274	-	.112	-	.220	-
9	3	-	-	-	-	-	1	-	.274	-	.112	-	.220	-
10	3	-	1	-	-	-	1	-	.274	-	.112	-	.220	-
11	2	-	-	-	-	-	1	-	.274	-	.112	-	.220	-
12	2	-	-	-	-	-	1	-	.274	-	.112	-	.220	-
13	2	-	-	-	-	-	1	-	.274	-	.112	-	.220	-
14	2	-	-	-	-	-	1	-	.274	-	.112	-	.220	-
15	2	-	-	-	-	-	1	-	.274	-	.112	-	.220	-

Comparability Between the Groups in Infection Rates

The infection rates were estimated by using survival analysis and tested by using Mantel-Haenzel chi-square. The infection rates compared over the same time periods of both

groups persistently increased according to the increase of duration of indwelling catheter. However, when the differences between groups were tested it was not significant ($p = 0.55$). Then, subgroups analysis by using same statistics was done and found that in each cell of duration of indwelling catheter of both groups was not significantly different ($p > 0.05$).

1.2 Table 7 Baseline Personnel Behaviors

Items	Gr. I		Gr. II		χ^2
	O*/N**		O*/N**		P-Value
Personnel PN	63/63	100%	61/62	98.4%	0.993591
B1 Aseptic Tech.	17/23	73.9%	28/34	82.4%	0.663068
B3 Handwash Before.	0/23	-	4/34	11.8%	0.239018
B4 Handwash After.	1/23	04.3%	7/34	20.6%	0.179220
B6 Cath Stab.	14/63	22.2%	7/62	11.3%	0.162932
B7.1 Clamping/Closing Spigot.	0/6	-	0/19	-	-
B18 Sep.Container	47/59	79.7%	45/59	76.3%	0.824231
B21 Sep.Cyl.	27/37	72.9%	12/17	70.6%	0.884418

* Number of observations meeting the CDC control behaviors recommendation

** Number of total observations for individual category

Comparability Between Groups in Personnel Control Behaviors

There were twenty-three items of the control behaviors to be checked according to the CDC recommendation. Some items related to urinary tract infection did not occur during the study period ; such items about bladder irrigation procedure. Performances of certain items were channelled through the facility situation of the wards. There was no opportunity for behavioral variability . In such cases, there is no need for statistical tests. Those items were Close Drainage System Use and Treatment for Meatal care. The statistical analysis was done only on the items that were applicable and fluctuated within groups and between groups. Eight items of personnel control behaviors were analysed. They were 1.) The Personnel who Performed Catheterization 2.) The Use of Aseptic Technique 3.) Handwashing Immediately Before Catheterization 4.) Handwashing Immediately After Catheterization 5.) Urinary Catheter Stabilization After Insertion 6.) Clamping or Closing the Outflow Spigot 7.) Separation of the collecting Container Used for Emptying the Urine Bag 8.) Separation of the Cylinder Used for Recording Urine Per Hour. These baseline data were shown in Table 7.

The personnel who performed catheterization were mostly practical nurses (Gr.I= 100% Gr.II=98.4%). There was one medical student performing the catheterization in Group II which were the experimental group to be. The degree of performance in

almost every item of both groups were similar. There was no statistical significant differences between groups.

2.) Comparison in the first period of intervention

2.1 Infection Data

2.1.1 Table 8 Comparison of Prognostic Factors

Variables	Groups	
	Gr. I (%)	Gr. II(%)
Numbers of cases	82	86
Sex M	49(59.8)	23(26.7)
F	33(40.2)	63(73.3)
Average Age	57	59
Durations of Indwelling catheter		
< 1 day	15 (18.3)	17(19.8)
1-3 days	51 (62.3)	50 (58.1)
4-7 days	12 (14.6)	18 (20.9)
> 7 days	4 (4.8)	1 (1.2)
Dead	14 (17.0)	12 (14.0)

2.1.1 Comparison of Prognostic Factors in the First Period of Intervention

The first period of intervention took three months. The intervention was started at the beginning of month three and proceeded through the end of month five. According to the process of randomization group I was allocated as the control group and group II the experimental group.

a.) **Number of Cases** ; There were eighty-two cases in group I and eighty-six cases in group II.

b.) **Sex and Age** ; Group I; Forty-nine cases (59.8%) were males. Thirty-three (40.2%) were females. Average age of this group was fifty-seven years.

Group II; There were twenty-three male cases (26.6%) and female cases were sixty-three (73.3%). The average age of cases in this group was fifty-nine years.

c.) **Duration of Indwelling Catheter**

The numbers of cases in each category of durations were similar in both groups. Similarly, most cases in both groups had catheter indwelled for the duration of one to three days. There were similar numbers of cases indwelling for the duration of less than one day and duration of four to seven days.. The percent of cases who had catheter indwelled for longer than seven days was greater than the baseline data. Death rates of group I and group II were seventeen and fourteen percent respectively.

2.1.2 Table 9 Comparison Infection Rates in Each Duration of
Indwelling Catheter Between Groups

Observed time period	Control gr.(Gr.I)		Exp.gr.(Gr.II)		Sig.
	Inf. Rate	(\pm 1.645 SEM)	Inf. Rate	(\pm 1.645 SEM)	
<1	2.7	(5.7, 0.3)	0	(0, 0)	NS
1	10.7	(17.0, 4.5)	6.6	(11.7, 1.5)	NS
2	21.3	(30.4, 12.3)	21.5	(31.0, 12.0)	NS
3	44.2	(57.0, 31.4)	35.5	(47.7, 23.3)	NS
4	51.6	(65.4, 37.8)	50.3	(64.5, 36.2)	NS
5	51.6	(65.4, 37.8)	68.4	(83.2, 53.6)	NS
6	51.6	(65.4, 37.8)	68.4	(83.2, 53.6)	NS
7	73.1	(88.2, 58.0)	89.5	(102.0, 77.0)	NS

Table 10 Life Table of First Period Infection Rates

Days	Ni		Wi		Ei		Pi		CuPi		SEi		1.96 SEi	
	C.	E.	C.	E.	C.	E.	C.	E.	C.	E.	C.	E.	C.	E.
<1	82	86	13	17	2	-	.973	1	.973	1	.018	-	.036	-
1	67	69	13	16	5	4	.917	.934	.893	.934	.038	.031	.075	.062
2	49	49	13	10	5	7	.882	.840	.787	.785	.055	.058	.109	.113
3	31	32	7	8	8	5	.709	.821	.558	.645	.078	.074	.154	.145
4	16	19	2	3	2	4	.866	.771	.484	.497	.084	.086	.164	.169
5	12	12	2	2	-	4	1	.636	.484	.316	.084	.090	.164	.177
6	10	6	-	1	-	-	1	1	.484	.316	.084	.090	.164	.177
7	10	5	2	1	4	3	.550	.333	.269	.105	.092	.076	.181	.150
8	4	1	2	-	-	-	1	1	.269	.105	.092	.076	.181	.150
9	2	1	1	-	-	-	1	1	.269	.105	.092	.076	.181	.150
10	1	1	-	-	-	-	1	1	.269	.105	.092	.076	.181	.150
11	1	1	-	1	-	-	1	1	.269	.105	.092	.076	.181	.150
12	1	-	-	-	-	-	1	-	.269	-	.092	-	.181	-
13	1	-	-	-	-	-	1	-	.269	-	.092	-	.181	-
14	1	-	-	-	-	-	1	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	.269	-	-	-	-	-

Comparability Infection Rates Between Control Group and Experimental Group

During three months of guidelines application with education, infection rates were monitored and summarized in the same way as the baseline data. Mantel-Haenzel chi-square was used to test the differences of the infection rates curves. The

infection rates over the same time period in both groups were not statistical significant ($p=0.46$). Subgroups analysis was also done to test the differences of infection rates in each duration of indwelling catheter. It was also not significant in each duration of indwelling catheter; as shown in table 10.

2.2 Table 11 Data of Personnel Behaviors

Items	Gr.I		Gr.II		X ²
	O*/N**	%	O*/N**	%	P-Value
Personnel PN	93/94	98.9%	88/88	100%	0.973614
B1 Aseptic Tech.	34/36	94.4%	41/41	100%	0.417231
B3 Handwash Before.	2/36	05.6%	19/41	46.3%	0.000174
B4 Handwash After.	21/36	58.3%	41/41	100%	0.000015
B6 Cath Stab.	37/94	39.4%	63/88	71.6%	0.000024
B7.1 Clamping/Closing Spigot.	5/34	14.7%	23/29	79.3%	0.000001
B18 Sep.Container	85/94	90.4%	86/88	97.7%	0.079344
B21 Sep.Cyl.	57/66	86.4%	69/70	98.6%	0.016510

* Number of observations meeting the CDC control behaviors recommendation

** Number of total observations for individual category

Comparability Between Groups in Personnel Control Behaviors

The eight items of personnel control behaviors were summarized in percentage. Chi-square was the statistics used for

testing the differences between groups for each item. Five out of eight items were significantly different between control group and experimental group; they were Handwashing immediately before catheterization , Handwashing immediately after Catheterization, Urinary catheter stabilization after insertion, Clamping or Closing the outflow spigot and Separate cylinder used for recording urine per hour; as shown in table 11.

3.) Comparison of Data in the Second Period of Intervention

The second period of the intervention also took three months. Both groups received alternative interventions. There are two specific reasons for this. First, it is deemed necessary to observe and monitor the sustainability of favorable behaviors after withdrawal of the intervention. Second, since resources for education intervention are limited, to avoid possible ethical problem, the original control ward need to receive the intervention programme. Since we introduced the intervention which might directly benefit the patients and only one group received the intervention during the first period. Therefore, the other group should have chance to receive the intervention as well. The intervention started at the beginning of the sixth month and proceeded through the end of the eighth month. Again, the nursing personnel behaviors and infections were monitored throughout this study period.

3.1) Infection Data

3.1.1 Table 12 Comparison of Prognostic Factors

Variables	Groups	
	Gr. II (%)	Gr. I(%)
Numbers of cases	90	88
Sex M	28 (31.1)	55(62.5)
F	62 (68.9)	33(37.5)
Average Age	53	52
Durations of Indwelling catheter		
< 1 day	10 (11.1)	14 (15.9)
1-3 days	67 (74.5)	57 (64.8)
4-7 days	11 (12.2)	16 (18.2)
> 7 days	2 (2.2)	1 (1.1)
Dead	12 (13.0)	13 (15.0)

3.1.1 Comparison of Prognostic Factors in the Second Period of Intervention

a.) **Numbers of Cases** There were eighty- eight cases in group I which was the experimental group. Ninety cases were included in group II or the control group.

b.) **Sex and Age** Group I; the proportion of males to females in this group was 5:3 (males = 62.5% and females =37.5%). The average age of group I was fifty- two years.

Group II; the proportion of males to females was 1:2 (males = 31.1% and females = 68.9%). Average age of cases in this group was fifty- three years.

c.) **Duration of Indwelling Catheter**

Most cases of both groups were also indwelled catheters for duration of one to three days (group I =64.8% group II =74.5%).

3.1.2 Table 13 Comparison Infection Rates in Each Duration of
Indwelling Catheter Between Groups

Observed time period	Control gr.(Gr.II)		Exp.gr.(Gr.I)		Sig.
	Inf. Rate	(\pm 1.645 SEM)	Inf. Rate	(\pm 1.645 SEM)	
<1	1.2	(3.0, -0.6)	1.3	(3.3, -0.7)	NS
1	8.6	(14.0, 3.2)	2.8	(5.9, -0.3)	NS
2	23.7	(33.4, 14.0)	16.4	(25.3, 7.5)	NS
3	33.8	(46.0, 21.6)	26.9	(38.9, 14.9)	NS
4	44.9	(60.4, 29.4)	35.7	(50.0, 21.4)	NS
5	51.0	(67.8, 34.2)	46.0	(62.3, 29.7)	NS
6	57.1	(74.5, 39.7)	52.0	(69.1, 34.9)	NS
7	65.7	(84.5, 47.0)	81.6	(98.1, 65.2)	NS

Table 14 Life Table of Second Period Infection Rates

Days	Ni		Wi		Ei		Pi		CuPi		SEi		1.96 SEi	
	C.	E.	C.	E.	C.	E.	C.	E.	C.	E.	C.	E.	C.	E.
<1	90	88	9	13	1	1	.988	.987	.988	.987	.011	.012	.022	.023
1	80	74	26	21	5	1	.925	.984	.914	.972	.033	.019	.065	.038
2	49	52	13	18	7	6	.835	.860	.763	.386	.059	.054	.115	.105
3	29	28	13	8	3	3	.866	.875	.662	.731	.074	.073	.146	.144
4	13	17	2	1	2	2	.833	.878	.551	.643	.094	.087	.185	.171
5	9	14	-	3	1	2	.888	.840	.490	.540	.120	.099	.200	.194
6	8	9	-	-	1	1	.875	.888	.429	.480	.106	.104	.208	.205
7	7	8	4	3	1	4	.800	.384	.343	.184	.114	.100	.224	.196
8	2	1	-	-	-	-	1	1	.343	.184	.114	.100	.224	.196
9	2	1	-	-	-	-	1	1	.343	.184	.114	.100	.224	.196
10	2	1	-	-	1	-	.500	1	.171	.184	.134	.100	.263	.196
11	1	1	-	-	-	-	1	1	.171	.184	.134	.100	.263	.196
12	1	1	-	-	-	-	1	1	.171	.184	.134	.100	.263	.196
13	1	1	-	-	1	-	-	1	-	.184	-	.100	-	.196
14	-	1	-	-	-	-	-	1	-	.184	-	.100	-	.196
15	-	1	-	-	-	-	-	1	-	.184	-	.100	-	.196

Comparability Infection Rates Between Groups in the Second Period of Intervention

After the third month, the alternative intervention was introduced. Group I received both the guidelines and education. Group II was the control group. The intervention took another

three months. The infections were monitored and at the end of the sixth month the infection rates over the time period of catheter indwelling durations were computed using survival analysis. The Mantel-Haenzel chi-square could not show any statistical significant differences of infection rates between the two groups ($p = 0.305$). We were not able to show any statistical significance when subgroups analysis was also done to test the differences of infection rates for each duration of catheter indwelling.

3.2 Table 15 Data of Personnel Behaviors

Items	Gr.II		Gr.I		X ²
	O*/N**		O*/N**		P-Value
Personnel PN	100/100	100%	108/108	100%	
B1 Aseptic Tech.	28/29	96.6%	46/46	100%	0.814759
B3 Handwash Before.	7/29	24.1%	25/46	54.3%	0.019474
B4 Handwash After.	29/29	100%	45/46	97.8%	0.814759
B6 Cath Stab.	57/100	57.0%	93/108	86.1%	0.000006
B7.1 Clamping/Closing Spigot.	2/3	66.7%	3/4	75.0%	0.545971
B18 Sep.Container.	98/100	98.0%	107/107	100%	0.447829
B21 Sep.Cyl.	93/94	98.9%	85/87	97.7%	0.946105

* Number of observations meeting the CDC control behaviors recommendation

** Number of total observations for individual category

Comparability Between Groups in Personnel Control Behaviors

As the alternative intervention was introduced, by the end of month six both group were exposed to the intervention. The personnel control behaviors were monitored and checked and finally summarized in percentage of practising according to the CDC control behaviors recommendation. Most items of the control behaviors of both groups were similar and the statistical test found there was no difference between the two groups. Except for two items which were Handwashing immediately before the performance and The catheter stabilization after insertion. These two were statistically significant when compared the control group with the experimental group. As it is shown in table 15.

4.) Comparison Within Groups of Personnel Control Behaviors

Table 16 Summary Comparison Within Groups of Personnel Behaviors

Items	P-Value between *Time1 and Time2*	
	Gr. I	Gr. II
B1 Aseptic Tech.	0.027	0.085
B3 Handwash Before.	0.001	0.034
B4 Handwash After.	0.000	0.000
B6 Cath. Stab.	0.000	0.001
B7.1 Clamping/Closing Spigot.	0.363	0.009
B18 Sep. Container.	0.177	0.020
B21 Sep. Cyl.	0.363	0.093

* Time1 = Time before intervention, Time2 = Time after intervention

This table shows the comparison within groups after the two groups have received the intervention. The personnel control behaviors of both groups after the intervention have significantly changed in the same items as those computed by the test of difference between groups. In addition, there has been one more item that has been detected a change that is the change in item of Aseptic Technique Use for Catheterization in Group I.

5.) Test of Homogeneity

Subgroup Analysis For Sex

Table 17 Baseline Male

Days	Gr.I			Gr.II		
	Ni	Wi	Ei	Ni	Wi	Ei
<1	39	8	0	14	2	0
1	31	8	2	12	2	0
2	21	3	1	10	5	1
3	17	3	4	4	4	0
4	10	2	2	CHI - Square MH = 0.1615603		
5	6	2	0	CHI - Square = 1.17		
6	4	1	1	CHI - Square Diff.= - 1.0084397		
7	2	2	0	= NS		

Table 18 Baseline Female

Days	Gr.I			Gr.II		
	Ni	Wi	Ei	Ni	Wi	Ei
<1	21	1	0	42	5	0
1	20	1	1	37	10	0
2	18	5	0	27	5	3
3	13	4	1	19	3	1
4	8	1	1	15	4	4
5	6	1	1	7	1	1
6	4	1	1	5	0	1
7	2	1	0	4	2	2
8	1	0	0			
9	1	0	0			
10	1	1	0			

CHI - Square MH = 0.3289638

CHI - Square = 0.01

CHI -Square Diff. = 0.3189638

= NS

There were thirty-nine male patients in group I and fourteen in group II. Twenty-one female patients in group I and forty-two in group II. When statistical test for homogeneity was done by using Mantel-Haenzel chi-square, there were no significant difference between the two groups in this period.

Subgroup Analysis for Sex in the First Period of intervention

Table 19 Male in First Intervention Period

Days	Gr.I			Gr.II		
	Ni	Wi	Ei	Ni	Wi	Ei
<1	49	7	1	23	6	0
1	41	7	4	17	5	0
2	30	10	3	12	3	0
3	17	4	5	9	3	1
4	8	1	1	5	0	2
5	6	1	0	3	1	0
6	5	0	0	2	0	0
7	5	0	3	2	0	1
8	2	2	0	1	0	0
9				1	0	0
10				1	0	0
11				1	1	0

CHI - Square MH = 1.345627

CHI - Square = 1.51

CHI -Square Diff. = - 0.164373

= NS

Table 20 Female in First Intervention Period

Days	Gr.I			Gr.II		
	Ni	Wi	Ei	Ni	Wi	Ei
<1	33	6	1	63	11	0
1	26	6	1	52	11	4
2	19	3	2	37	7	7
3	14	3	3	23	5	4
4	8	1	1	14	3	2
5	6	1	0	9	1	4
6	5	0	0	4	1	0
7	5	2	1	3	1	2
8	2	0	0			
9	2	1	0			
10	1	0	0			
11	1	0	0			
12	1	0	0			
13	1	0	0			
14	1	0	1			

CHI - Square MH = 1.505206

CHI - Square = 0.15

CHI -Square Diff. = 1.355206

= NS

In the first intervention period, there were forty-nine males in group I and twenty-three in group II. Thirty-three females were included in group I and sixty-three in group II. There were no significant difference between both groups when the test for homogeneity was done.

Subgroup Analysis for Sex in the Second Period of Intervention

Table 21 Male in the Second Period of Intervention

Days	Gr.I			Gr.II		
	Ni	Wi	Ei	Ni	Wi	Ei
<1	55	8	0	28	4	0
1	47	13	1	24	9	1
2	33	14	5	14	4	1
3	14	5	2	9	6	0
4	7	1	1	3	1	2
5	5	0	1			
6	4	0	0			
7	4	2	2			

CHI - Square MH = 0.0500685

CHI - Square = 0.28

CHI -Square Diff. = - 0.2299315

= NS

Table 22 Female in the Second Period of Intervention

Days	Gr.I			Gr.II		
	Ni	Wi	Ei	Ni	Wi	Ei
<1	33	5	1	62	5	1
1	27	8	0	56	16	5
2	19	4	1	35	9	6
3	14	3	1	20	7	3
4	10	0	1	10	1	0
5	9	3	1	9	0	1
6	5	0	1	8	0	1
7	4	1	2	7	4	1
8	1	0	0	2	0	0
9	1	0	0	2	0	0
10	1	0	0	2	0	1
11	1	0	0	1	0	0
12	1	0	0	1	0	0
13	1	0	0	1	0	1
14	1	0	0			
15	1	1	0			

CHI - Square MH = 0.3032907

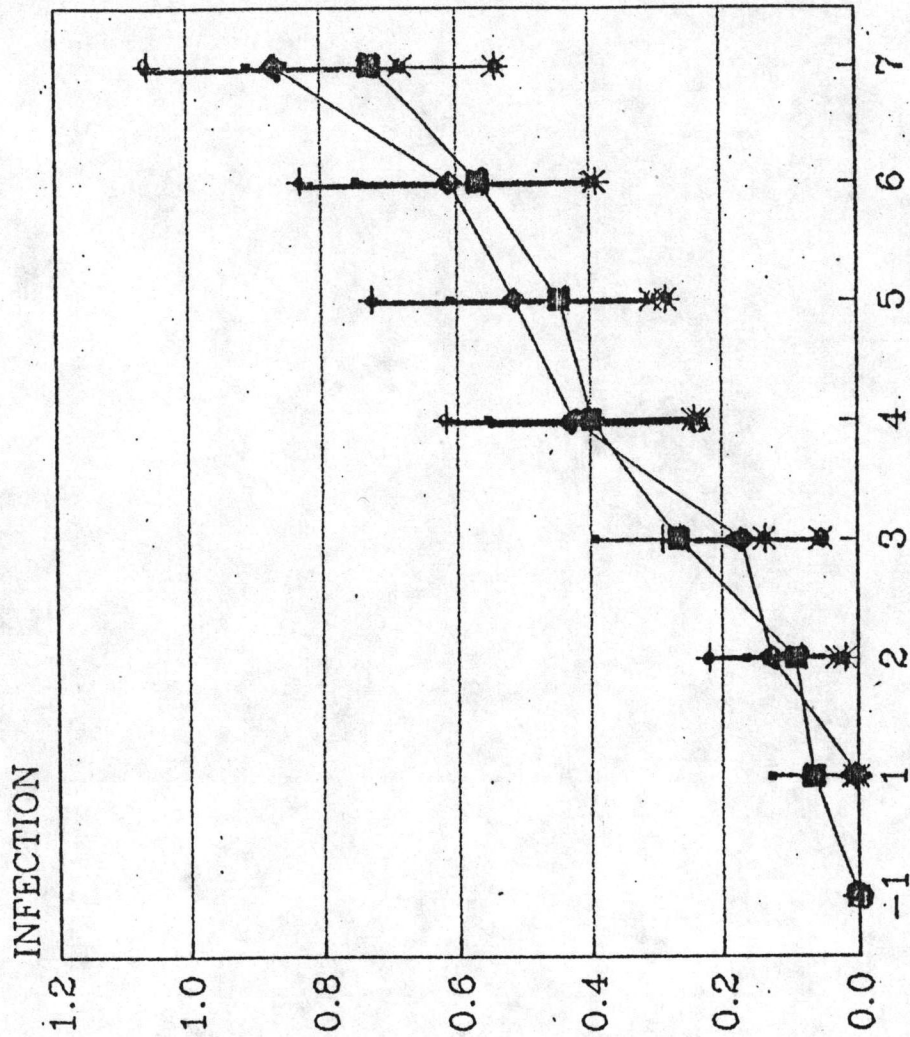
CHI - Square = 0.34

CHI -Square Diff. = - 0.0367093

= NS

There were fifty-five male cases included in group I and twenty-eight in group II. Female cases were thirty-three in group I and sixty-two in group II. Statistical test for the difference between the two groups showed no significance.

INFECTION AND DURATION

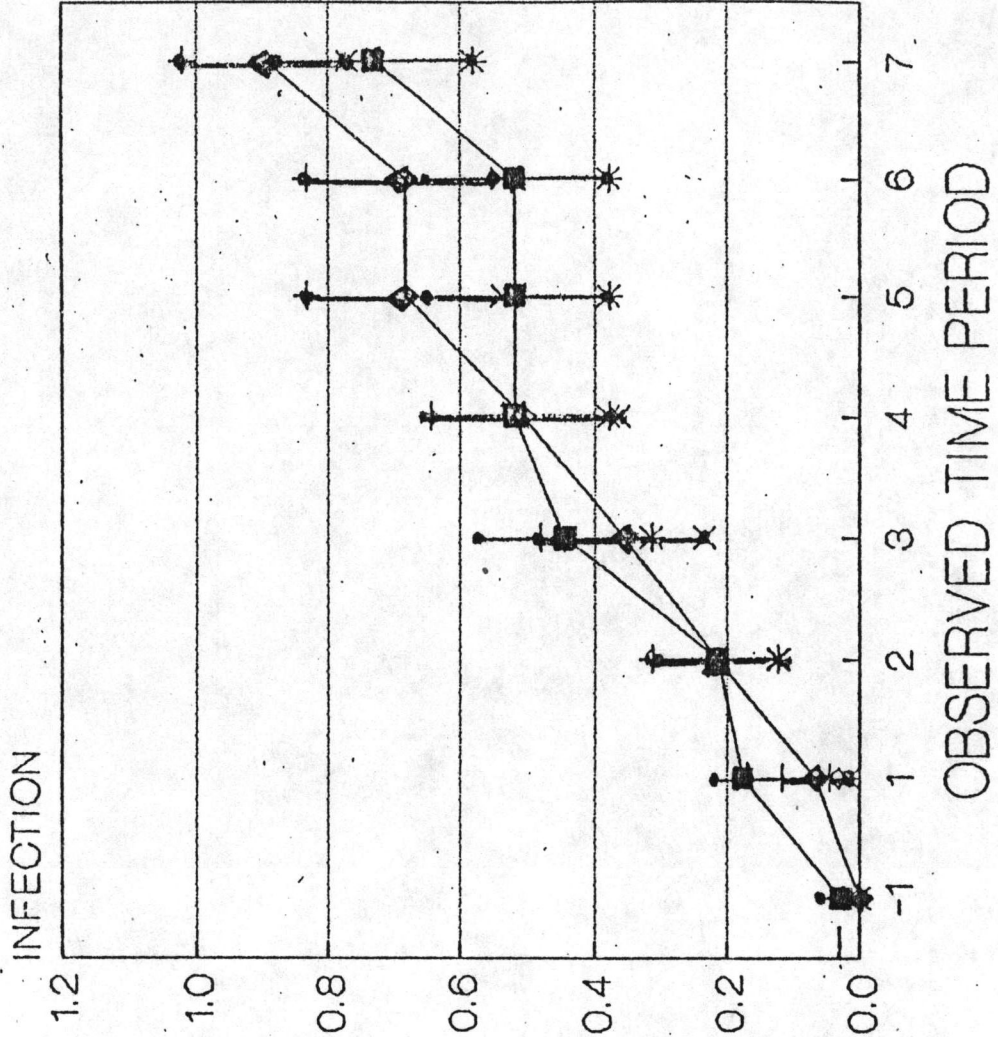


- ◇ — Mean Exp.
- × — Lower Exp.
- — Mean Con.
- * — Lower Con.
- + — Upp. Exp.
- — Upp. Con.



+ = Exp.
 = Contr.

BASELINE INFECTION

INFECTION AND DURATION

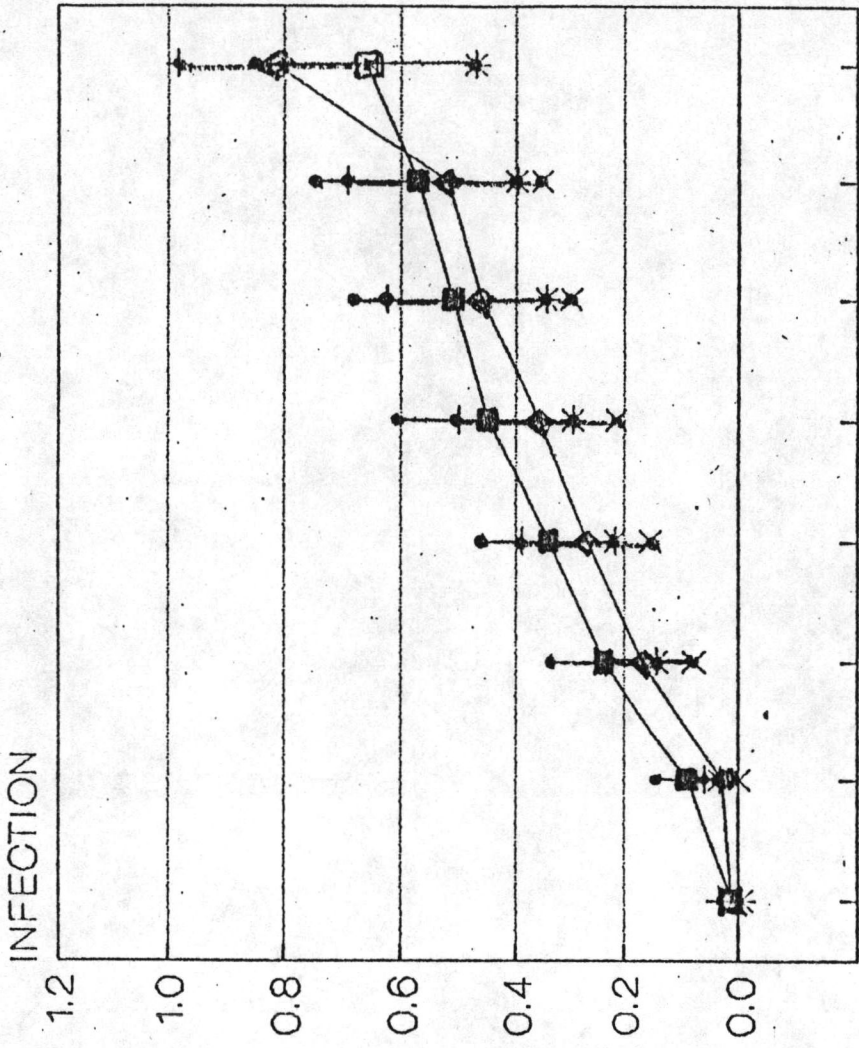


- ◇ — Mean Exp.
- × — Lower Exp.
- — Mean Contr.
- * — Lower Contr.
- + — Upp. Exp.
- — Upp. Contr.

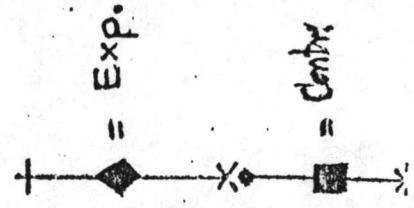
 = Exp.
 = Contr.

FIRST PERIOD OF INTERVENTION

INFECTION AND DURATION



- ◇— Mean Exp.
- × Lower Exp.
- Mean Con.
- * Lower Con.
- + Upp. Exp.
- Upp. Con.



OBSERVED TIME PERIOD

SECOND PERIOD OF INTERVENTION