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QALYUB COMMUNICABLE EYE DISEASES CONTROL PILOT PROJECT (1958)

The attached paper prepared by the Qalyub Demonstration and Training Centre staff on the activities of the project for the year 1958, has been submitted to WHO and is reproduced as such for the benefit of the participants of the Trachoma Conference.

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QALYUB COMMUNICABLE EYE DISEASES CONTROL PILOT PROJECT 1958

INTRODUCTION

The Qalyub Communicable Eye Diseases Pilot Project, a joint Ministry of Health (Ophthalmic Department), Qalyub Demonstration and Training Centre, World Health Organization and United Nations International Children Emergency Fund, is an extension of the pilot study created by a joint agreement between the Egyptian Government, WHO and UNICEF signed in 1955 and amended in 1957 and 1958.

OBJECTIVES

The objectives of the extension phase, 1958-1960, are the following:

1. To study and evaluate a reduced treatment schedule for the prophylactic control of communicable eye diseases including trachoma.
2. To determine the incidence of seasonal conjunctivitis in a control group of villages.
3. To assess the prevalence rates of corneal and conjunctival complications ascribed to conjunctivitis and trachoma.
4. To study the attitude of the rural population, and particularly of mothers, towards communicable eye diseases in respect of recognition, knowledge, attitude and behaviour.

The present report deals with the study and evaluation of a reduced treatment schedule. The other items will be covered in future reports.

PLANNING

The planning envisaged the study of the relative merits of a four cycle schedule of treatment, vs. the six cycle scheme employed with marked success during 1957. The four cycles are scheduled to forestall the occurrence of the two epidemic waves in spring and autumn: two cycles during April and May, and two others during August and September.

The population to be covered by both treatment and evaluation, comprises the pre-school and school-age children, 0 - 12 years of age inclusive. Meantime, while the treatment applies to the entire population in the above mentioned ages, the evaluation operations cover only one third of the children, selected by simple systemic random sampling procedures.

The site of the study conforms with the 1957 operations, plus one village picked at random from the Tanan Public Service Unit's Area.

In an attempt to assess the possible late effects of 1957 operations and to obviate a bias that might be therefore incurred, the following pattern of field organization has been followed:

1. Two villages to receive four cycles of treatment: one village belonging to the 1957 "treatment" group, the other to the control.
2. One village selected randomly from among the 1957 "treatment" group, to receive six cycles of treatment.
3. Three villages: two belonging to 1957 operation, one from the "treatment" and another from the "control" groups as well as a village from the Tanan Area, to be kept as control.

The individual cycle covers four weeks and is repeated during the entire project period, July 1958 - June 1960 inclusive.

In case of institution of treatment the "Cycle" includes pre and post-treatment evaluations, and the local eye ointment application in the interim intervals; otherwise, corresponding evaluations are conducted without an interim treatment.

"Treatment" entails the application of 1% aureomycin eye-ointment twice daily, for six days. The application of the ointment is the responsibility of the mother. One nurse is, however, responsible for the training of the yearly crop of mothers as well as the mothers in the village belonging to 1957 control and included in the 1958 treatment group. She is also responsible for the distribution of the eye ointment to the mothers every cycle.

The evaluation comprises two components, namely (1) clinical examination, and (2) direct-smear-microscopy. The evaluations are conducted by three field evaluation teams each comprising, one physician, one laboratory assistant, one assistant nurse and ten tamourgies. The microscopical examination of the smears is conducted in the Memorial Ophthalmic Institute, Giza.

OPERATIONS

The three groups of villages (Table 1.a): four cycles, six cycles and control groups were formed as follows:

1. Allocation of the 1957 "Treatment" villages to the 1958 study groups:

One village of three in question was assigned randomly to each of the three 1958 study groups:

Locality	Population	Children 0 - 12 years	1958 group
Akhmieen	1622	524	1
Halaba	1371	587	2
Sindibis	4678	1819	3

2. Allocation of the 1957 "Control" villages to the 1958 study groups:
One village was randomly selected to be included in the 1958 four cycle group, the other falling under the "Control":

Locality	Population	Children 0 - 12 group	1958 group
Bahadah	3159	1232	1
El Sabbah	1964	813	3

In view of the need* for a larger child population in the control group to draw the evaluation sample from, especially in face of an expected high loss through absenteeism, another village in the Northern Section of the Qalyub Area, namely, within Tanan Public Service Unit jurisdiction, was included in the Control Group.

El Sad, population, 2481, with 879 children 0-12 years of age was randomly selected.

The field operations commenced late July 1958. The treatment cycles were scheduled as follows (Table 1.b):

1. Four cycles group of villages (group 1): Two consecutive "Treatments" during the second and third cycles, i.e. late August (and first few days of September) and late September.

2. Six cycles group of villages (group 2): Six consecutive "Treatments" at four weekly intervals, July to December 1958 inclusive.

In conformance with the plan of operations the mothers were trained before the institution of the treatment regimen, namely during the last week of March and the first few days of April.

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* The control group will provide the incidence curve of seasonal conjunctivitis

The field organization entailed the listing of mothers in Bahadah, the 1957 control village, as well as the additional crop of mothers in the other "treatment" villages. The mothers were then grouped into patches of thirty-five each and requested to attend at a village clinic bringing their children with them. A maximum of three patches, i.e. one hundred mothers approximately were covered per day. Use was made of their own children in the training process.

The eye ointment tubes were distributed on a family basis, the number of tubes calculated according to the number of children per family as follows:

1 - 2 children per family	1 tube
3 - 5 " " "	2 tubes
6 - 8 " " "	3 "
over 8 " " "	4 "

The evaluations were conducted immediately prior to the eye ointment application and within three or four days after completion of the treatment (Table 1.b).

The evaluations were conducted at village clinics. The sample population were collected (by the tamourgies) in patches of 125 children per clinic per day. The number of clinics per village was determined by the number of evaluation teams and the sample size.

FINDINGS

1. Attendance at the Evaluation Clinics (Table 2)

As would be expected the attendance rate shows a sustained gradual decline over the six months period, starting with a high rate of 65 - 75% and decreasing in the last evaluation to rates of 25, 34 and 41% approximately for the groups 3, 2 and 1 respectively. It is of interest to note the following:

a) Among study groups:

No marked difference is noted among the three groups. However, the control group maintains a lower figure all through. This is presumably attributed to a lower degree of cooperation of the population incurred by the lack of direct service.

b) Within Groups 1 and 3

Group 1: Though the fluctuations in the rates for group 1.a and 1.b are hardly related, yet there is a tendency for Bahadah to give a lower rate. This might be due to the conditioning by the previous year.

Group 3: Except for the last three evaluations there is hardly a difference in the attendance rate for the two sub-groups. There has been no attempt, however, to analyse the data pertaining to El Sabban and El Sad separately.

2. Conjunctivitis prevalence rates (Table 3)

The clinical diagnosis of conjunctivitis fell into the following groups:

Co. 0: No clinical signs of bacterial conjunctivitis

Co. 1: Mild or doubtful conjunctivitis - hyperaemia and no more than a small bead of secretion in conjunctional sac.

Co. 2: Subacute conjunctivitis - purulent or mucopurulent secretion without marked oedema of the tissues.

Co. 3: Acute conjunctivitis - purulent or mucopurulent secretion with marked oedema of tissues.

In the present report only subacute and acute cases are considered as "Conjunctivitis" while the mild cases are included under "Free".

Considering the control group - group 3, the conjunctivitis rate (per cent) per cycle shows the following features:

a) A marked low rate during late July, August and early September - starting with a rate of 2.5% in the initial examination and reaching as low as 0.6 per cent in early September.

b) A manifest, though mild, autumnal epidemic wave starting late in September, reaching a peak in mid-October - 6.1 per cent - and declining during November to reach 0.0 per cent in mid-December.

The other two groups, the "treatment" groups 1 and 2, give the following picture:

a) An initial rate, late in July, conforming with the control rate - 3.0 and 1.4 per cent respectively.

b) A fluctuating pattern that hardly gives a discernible trend, thereafter.

The fluctuations in either group range from 0.0 to less than 3.0 per cent.

Within Groups 1 and 3

The fluctuations in the components of either group hardly show any conformity. In fact except for a few evaluations no appreciable difference is seen between the components of either group.

3. Bacteriology (Table 4)

The prevalence rate of any one micro-organism is calculated as the per cent positive smears for that organism to the total number of smears examined.

In the meantime, an attempt is made to analyse data pertaining to the "negatives" namely the per cent smears with no demonstrable micro-organisms.

Likewise, a selected group of organisms, namely, K. Weeks, M. Axenfeld, Pneumococcus and Gononoccus are considered separately.

Smears positive for any one or more of organisms other than the selected group of organisms are dealt with separately.

a) Per cent Negative Smears (Table 4.a)

i) Among Groups

The three groups give the same pattern. However group 2 gives the highest percentage, namely 64.2, late in September.

Group 2, except for one evaluation maintains the highest rate all through while group 3 sustains the lowest nearly throughout the whole period.

ii) Within Groups 1 and 3

Hardly any difference is discernible between the individual components of either group 1 and group 3.

b) Koch Weeks (Table 4.b)

i) Among Groups

Both groups 1 and 3 show the same trends; in fact there is hardly a difference in magnitude in the corresponding evaluations. The lowest figures for both are grouped in the time interval: late August, September and early October. Group 2 on the other hand gives a definite pattern of a rather high rate late in July, declining rapidly to reach the lowest figure - less than 10% - late in September, followed by an equally steep rise reaching a figure approaching that of July - 54.4 % - early in November. Henceforth a gradual decline is maintained.

ii) Within Groups

No sustained differentiating pattern is apparent between the individual components of either group.

c) Morax Axenfeld (Table 4.c)

i) Among Groups

The three groups give the same trend and nearly the same magnitude. The characteristic feature is a relatively high percentage at both ends, July and December, and a shallow trough in-between.

ii) Within Groups 1 and 3

a) Group 1

Except for a marked discrepancy in the first few cycles - Bahadah giving a higher rate than Akhmieen - rates for both communities fall in line with only minor fluctuations.

b) Group 3

Group 3.a maintains a lower rate than 3.b during the first three evaluations, keeps nearly the same rate in the following four evaluations and henceforth shows a higher percentage.

d) Pneumococcus (Table 4.d)

i) Among Groups

The three groups give the following pattern: A very gradual decline from July through September, a rapid rise reaching a peak early in November, a sharp decline during the second half of November and a maintenance of late November values, during December and early January. It is of interest to note that group 2 gives the lowest figure in late September (17.2%) and the highest (68.9%) early in November.

ii) Within Groups 1 and 3

a) Group 1

Except for a few irregularly scattered discrepancies the two groups 1.a and 1.b give the same trend and nearly the same magnitude.

b) Group 3

An irregular pattern of intersecting fluctuations is apparent, between the two sub-groups.

e) Gonococcus (Table 4.e)

i) Among Groups

a) Group 1: A mild size at the ends, July and August and November and December, with a trough in-between. The highest level reached at either ends is as high as 10 per cent approximating while it comes down to approximately 1 per cent at the deepest point in the trough in late September.

b) Group 2: The same pattern as in Group 1 is observed. However, the trough is deeper attaining zero level in three evaluations, October and early November.

c) Group 3: The percentage of positive smears per cycle shows a gradual ascent reaching a maximum in late November, followed by a gradual decline.

Except for the first few evaluations group 3 shows a markedly higher percentage than groups 1 and 2. The greatest difference is observed during October.

ii) Within Groups 1 and 3

a) Group 1: The same trend is observed in the two sub-groups. Up to the fourth cycle (exclusive) Akhmieen gives a lower rate, reaching a zero figure during the third cycle. The condition is, however, reversed in the following cycles.

b) Group 3: There is an apparent conformity between the two sub-groups concerning trend and magnitude.

f) Organisms other than K.W., M.A., Pn. and G. (Table 4.f)

i) Among Groups

The three groups conform to the following pattern:
An ebb at both ends with a marked trough in-between.
Group 3, however, gives a higher trough but approximately the same magnitude at both ends.

ii) Within Groups 1 and 3

a) Group 1: Except for the first few evaluations where sub-group 1.a shows a higher percentage, both components show the same trend and magnitude.

b) Group 3: Except for a few irregular discrepancies both sub-groups conform to the same trend and magnitude.

4. Trachoma (Table 5)

The figures concerning trachoma are related to the pre-treatment evaluations only.

The analysis of the trachoma figures will cover two aspects:

1. Per cent free of clinical trachoma ($'_o$) to the total examined and diagnosed i.e. doubtful cases are excluded.

2. Per cent active trachoma to the examined and diagnosed. The active trachoma includes T_1 and T_2

Per cent trachoma - free

Groups 1 and 3 give the same pattern and nearly the same magnitude. Starting with a four to six per cent, a sustained gradual decline follows reaching 1 per cent approximately in December.

Group 2 on the other hand except for an apparently chance occurence of a high figure in late August gives a trend of sustained level of 6 per cent approximately..

Within Groups: In Group 1 there is a tendency for Bahada to give lower figures than Akhmieen while in Groups 3, Sindibis gives a higher percentage all through (except the last evaluation) than El Sabbah and El Sad (collectively).

Per cent active trachoma

Among Groups: The three groups give a sustained decline July through November is, however, maintained during December. Though the three groups start with nearly the same percentage and likewise attain the same levels in November yet the following characteristic is observed:

The rate of decline is approximately the same but group 1 starting with a lower rate maintains the lower level July through November.

Within Groups: Group 1: Sub-group 1.a tends to give higher figures than 1.b.

Group 3: Sindibis gives lower figures than El Sabbah and El Sad collectively.

DISCUSSION

The project work during 1958, covered only one epidemic wave namely the utumnal epidemic wave.

Moreover the conjunctivitis rate is markedly low even in the Control Group reaching a peak of 6.1 per cent in late October.

However, the treatment groups show a lack of a defined autumnal flare-up. The six cycles village shows the highest figure early in October, i.e. during the autumnal flare-up but the per cent soon comes down late in October. The low percentage is henceforth maintained with minor fluctuations.

The four cycles group of villages shows a tendency to a rise coinciding with the ascent of the epidemic wave which, however, soon comes down during October and early November, followed by a mild rise which, however, comes down again. It might be of interest to note that the figures henceforth follow those of the control group.

Apparently the chemoprophylaxis in both treatment groups 1 and 2 did affect the incidence of conjunctivitis during the autumnal flare-up.

However, no appreciable difference within the individual groups can be attributed to the past experience in 1957, i.e. no late effects due to the use of chemoprophylaxis in 1957 can be demonstrated during 1958.

The bacteriological findings except in case of Ghonococcus, fail to give a reduction in the "treatment" groups corresponding to the reduction in conjunctivitis.

It might be of interest to note that 1957 chemoprophylaxis had no effect on 1958 findings.

The per cent negative smears, however, give a peculiar picture.

In the three groups the highest figures are observed during the epidemic wave. There is, however, a marked difference between the "treatment" and control groups.

In case of trachoma, no appreciable difference in the rate of healing can be attributed to the chemoprophylaxis.

However, the percentage of the trachoma-free is maintained in the six cycles village while it steadily declines in the other two groups.

The extent to which this manifestation could be ascribed to the effect of a continued treatment at monthly intervals for six consecutive months, could be hardly assessed from the 1958 experience. The repetition of the work during 1959 would, however, provide the answer.

Again the 1957 chemoprophylaxis had no apparent effect on the trachoma picture during 1958 work.

SUMMARY AND CONCLUSIONS

The pilot project, aiming at evaluating a four cycles course of "treatment" vs. the standard six was executed in the Qalyub Area during the later half of 1958.

However, due to the late commencement of the project, in July 1958, the first two cycles in case of the four cycles group were missed. The six cycles schedule, in the meantime, was carried out from July to December inclusive, (the same schedule as 1957).

The findings can be summarized as follows:

1. The spring epidemic wave was completely missed
2. Though the conjunctivitis rate in the control group was rather low even during the autumnal flare-up, yet a more or less absence of the autumnal epidemic wave is manifest in both "treatment" groups.
3. The bacterial picture conforms with past experience, namely a lack of a reduction in the "treatment" groups corresponding to the reduction in conjunctivitis, with the exception of Ghonococcus.
4. There is hardly any appreciable difference in the healing rate of trachoma among the three groups.

   Nevertheless, the six cycles village sustains a more or less constant level of trachoma-free. However, the significance of this manifestation is hard to assess.

In conclusion the assumption of the efficacy of the four cycles treatment is validated within the limitation set by field operations and conditions.

TABLEAU 1.a

ASSIGNATION DE REGIMES DE TRAITEMENT
AUX VILLAGES COMPRIS DANS LE PROJET

1. Groupe de villages soumis au traitement à quatre cycles

1.a Akhmieen (traitement 1957)

1.b Bahadah (contrôle 1957)

2. Groupe de villages soumis au traitement à six cycles

2.a Halaba (traitement 1957)

3. Groupe de villages-témoins

3.a Santavis (traitement 1957)

3.b El Saobah et El Sad (contrôle 1957)

TABLEAU 1.b

PROGRAMME D'EVALUATION (examen sur le terrain)

Cycle	Avant traitement			Après traitement		
	Groupe 1	Groupe 2	Groupe 3	Groupe 1	Groupe 2	Groupe 3
1er	30, 31/7	2/8	26-29/7	9, 10/8	11/8	12-16/8
2ème	27, 28/8	30/8	23-26/8	6, 7/9	8/8	9-13/9
3ème	24, 25/9	28/9	20-23/9	4, 5/10	6/10	7-11/10
4ème	22, 23/10	25/10	18-21/10	1, 2/11	3/11	4- 8/11
5ème	19, 20/11	22/11	15-18/11	29, 30/11	1/12	3- 7/12
6ème	17, 18/12	20/12	13-16/12	27, 28/12	29/12	30/12 au 3 janv.59

TABLEAU 2

TAUX D'ASSIDUITE, PAR REGIME DE TRAITEMENT ET CYCLE

Groupe soumis au régime de traitement		Groupe échantillon	CYCLE											
			1er		2e		3e		4e		5e		6e	
			No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1.a	Avant	174	132	75,9	76	43,7	96	55,2	101	58	91	52,3	94	54
	Après		112	64,4	103	59,2	90	51,7	89	51,1	96	55,2	94	54
1.b	Avant	410	263	64,2	149	36,3	202	49,3	152	37,1	112	27,3	165	40,2
	Après		270	65,8	210	51,2	131	31,9	127	30,9	145	35,4	147	35,8
Total 1	Avant	584	395	67,6	225	38,5	298	51	253	43,3	203	34,8	259	44,3
	Après		382	65,4	313	53,6	221	37,8	216	37	241	41,3	241	41,3
2	Avant	196	147	75	98	50	81	41,3	102	52	71	36,2	82	41,8
	Après		120	61,2	88	44,9	80	40,8	103	52,6	66	33,8	66	33,7
3.a	Avant	606	380	62,7	231	38,1	184	30,4	184	30,4	151	24,9	218	36
	Après		376	62,1	185	30,5	201	33,2	231	38,1	230	38	180	29,7
3.b	Avant	564	391	69,3	212	37,6	222	39,4	174	30,8	137	24,3	136	24,1
	Après		357	63,3	170	30,1	157	27,8	155	27,5	145	25,7	111	19,7
Total 3	Avant	1170	771	65,9	443	37,9	406	34,7	358	30,6	288	24,6	354	30,2
	Après		733	62,4	355	30,3	358	30,6	386	33	375	32	291	24,9

TABLEAU 3

TAUX DE FREQUENCE DE LA CONJONCTIVITE
PAR REGIME DE TRAITEMENT ET CYCLE

Groupe soumis au régime du traitement		CYCLE											
		1er		2ème		3ème		4ème		5ème		6ème	
		avant	après	avant	après	avant	après	avant	après	avant	après	avant	après
1.a	Ex.	132	112	76	103	96	90	101	89	91	96	94	94
	Con	2	1	1	0	0	0	1	0	3	1	0	1
	%	1,5	0,9	1,3	0	0	0	1	0	3,3	1	0	1,1
1.b	Ex.	263	270	149	210	202	131	152	127	112	145	165	147
	Con	10	8	0	0	4	1	0	1	1	1	0	0
	%	3,8	2,9	0	0	2	0,8	0	0,7	2,9	0,9	0	0
T1.1	Ex.	395	382	225	313	298	221	253	216	203	241	259	241
	Con	12	9	1	0	4	1	1	1	4	2	0	1
	%	3	2,4	0,4	0	1,3	0,4	0,4	0,5	2	0,8	0	0,4
T1.2	Ex.	147	120	98	88	81	80	102	103	71	66	82	66
	Con	2	2	2	1	1	2	0	1	0	0	0	0
	%	1,4	1,7	2,1	1,1	1,2	2,5	0	1	0	0	0	0
3.a	Ex.	380	376	231	185	184	201	184	231	151	230	218	180
	Con	10	9	6	0	6	8	12	12	2	5	0	2
	%	2,6	2,4	2,6	0	3,3	3	6,5	5,2	1,3	2,2	0	1,1
3.b	Ex.	391	357	212	170	222	157	174	155	137	145	136	111
	Con	9	9	5	2	6	8	10	4	5	3	0	3
	%	2,3	1,7	2,4	1,2	2,7	5,1	5,8	2,6	3,6	2,1	0	2,7
T1.3	Ex.	771	733	443	355	406	358	358	386	288	375	354	291
	Con	19	18	11	2	12	16	22	16	7	8	0	5
	%	2,5	2,4	2,5	0,6	3	4,5	6,1	4,1	2,4	2,1	0	1,7

TABLEAU 4.a

FROTTIS NEGATIFS PAR REGIME DE TRAITEMENT ET CYCLE

Groupe soumis au régime du traitement		CYCLE											
		1er		2ème		3ème		4ème		5ème		6ème	
		avant	après	avant	après	avant	après	avant	après	avant	après	avant	après
1.a	Ex.	132	112	76	103	96	90	101	89	91	96	94	94
	Neg	11	9	12	34	34	29	30	12	9	14	14	10
	%	8,3	8	15,8	33	35,4	32,2	29,7	13,5	9,9	14,6	14,9	10,6
1.b	Ex.	263	270	149	210	202	131	152	127	112	145	165	147
	Neg	7	18	38	47	47	56	34	13	16	20	16	16
	%	2,7	6,7	25,5	22,4	23,3	42,8	24,4	10,2	14,3	13,8	9,7	10,9
T1.1	Ex.	395	382	225	313	298	221	253	216	203	241	259	241
	Neg	18	27	50	81	81	85	64	25	25	34	30	26
	%	4,6	7,1	22,2	25,9	27,2	38,5	25,3	11,6	12,3	14,1	11,6	10,8
2	Ex.	147	120	98	88	81	80	102	103	71	66	82	66
	Neg	6	31	15	34	52	34	23	12	10	15	13	14
	%	4,1	25,8	15,3	38,6	64,2	42,5	22,5	11,6	14,1	22,7	15,8	21,2
3.a	Ex.	380	376	231	185	184	201	184	231	151	230	218	180
	Neg.	41	38	54	26	34	47	26	35	5	45	32	26
	%	10,8	10,1	23,4	14	18,5	23,4	14,1	15,2	3,3	19,6	14,7	14,4
3.b	Ex.	391	357	212	170	222	157	174	153	137	145	136	111
	Neg	26	31	30	47	39	34	26	12	6	20	6	11
	%	6,6	8,7	14,2	27,6	17,6	21,6	14,9	7,8	4,4	13,8	4,4	1
T1.3	Ex.	771	733	443	355	406	358	358	386	288	375	354	291
	Neg	67	69	84	73	73	81	52	47	11	65	38	37
	%	8,7	9,4	19	20,6	18	22,6	14,5	12,2	3,8	17,3	10,7	12,7

TABLEAU 4.b

FREQUENCE DES ORGANISMES DE KOCH WEEKS DANS LES FROTTIS PAR REGIME DE TRAITEMENT ET CYCLE

Groupe soumis au régime du traitement		CYCLE											
		1er		2ème		3ème		4ème		5ème		6ème	
		avant	après	avant	après	avant	après	avant	après	avant	après	avant	après
1.a	Ex.	132	112	76	103	96	90	101	89	91	96	94	94
	Pos	74	54	30	31	36	29	45	41	52	47	46	48
	%	56,1	48,2	39,5	30	37,5	32,2	44,6	46,1	57,1	49	48,9	51,1
1.b	Ex.	263	270	149	210	202	131	152	127	112	145	165	147
	Pos	163	172	49	83	85	45	69	63	57	51	91	71
	%	62	63,7	32,9	39,5	42,1	34,4	45,4	49,6	50,9	35,2	55,2	48,3
T1. 1	Ex.	395	382	225	313	298	221	253	216	203	241	259	241
	Pos	237	226	79	114	121	74	114	104	109	98	137	119
	%	61,3	59	35,1	36,4	40,6	33,9	45,1	48,1	53,7	40,7	52,9	49,4
2	Ex.	147	120	98	88	81	80	102	103	71	66	82	66
	Pos	89	35	29	22	7	20	35	56	35	19	36	15
	%	60,5	29,2	29,6	25	8,6	25	34,3	54,4	49,3	28,8	43,9	22,7
3.a	Ex.	380	376	231	185	184	201	184	231	151	230	218	180
	Pos	189	203	100	105	88	78	91	104	81	79	107	64
	%	49,7	54	43,3	56,8	47,8	38,8	55,4	45	53,6	34,3	49,1	35,6
3.b	Ex.	391	357	212	270	222	157	174	155	137	145	136	111
	Pos	200	153	93	62	98	53	81	75	81	76	75	44
	%	51,2	42,9	43,9	36,5	44,1	33,8	46,6	48,4	59,1	52,4	47,8	39,6
T1. 3	Ex.	771	733	443	355	406	358	358	386	288	375	354	291
	Pos	389	356	193	167	186	131	172	179	162	155	182	108
	%	50,5	48,6	43,6	47	45,8	36,6	48	46,4	56,3	41,3	51,4	37,1

TABLEAU 4.c

FREQUENCE DES ORGANISMES MORAX AX NFELD DANS LES FROTTIS PAR REGIME DE TRAITEMENT ET CYCLE

Groupe soumis au régime de traitement		CYCLE											
		1er		2ème		3ème		4ème		5ème		6ème	
		avant	après	avant	après	avant	après	avant	après	avant	après	avant	après
1.a	Ex.	132	112	76	103	96	90	101	89	91	96	94	94
	Pos	30	45	20	14	28	23	22	34	26	34	29	41
	%	22,7	40,1	26,3	13,5	29,1	25,5	21,8	38,2	28,6	35,4	30,8	43,6
1.b	Ex.	263	270	149	210	292	131	152	127	112	145	165	147
	Pos	171	130	48	60	57	30	28	19	40	55	63	68
	%	65	48,1	32,2	28,5	28,2	22,9	18,4	15	35,7	37,9	38,2	46,2
Tl. 1	Ex.	395	382	225	313	298	221	253	216	203	241	259	241
	Pos	201	175	68	74	85	53	50	53	66	89	92	109
	%	50,9	45,8	30,2	23,6	28,5	24	19,8	24,5	32,5	36,9	35,5	45,2
2	Ex.	147	120	98	88	81	80	102	103	71	66	82	66
	Pos	65	38	43	25	10	20	27	24	23	21	37	25
	%	44,2	31,6	43,8	35,2	12,3	25	26,5	23,3	32,4	31,8	45,1	37,9
3.a	Ex.	380	376	231	185	184	201	184	231	151	230	218	180
	Pos	110	124	83	68	48	55	54	61	48	61	83	61
	%	28,9	32,9	35,9	36,7	26	27,3	29,3	26,4	31,8	26,5	38,1	33,9
3.b	Ex.	391	357	212	170	222	157	174	155	137	145	136	111
	Pos	175	141	86	48	73	41	40	61	47	49	54	53
	%	44,7	39,5	40,5	28,2	32,8	26,1	23	39,4	34,3	33,8	39,7	47,7
Tl. 3	Ex.	771	733	443	355	406	358	358	386	288	375	354	291
	Pos	285	265	169	116	121	96	94	122	95	110	137	114
	%	37	36,2	38,1	32,7	29,8	26,8	26,2	31,6	33	29,3	38,7	39,2

TABLE 4.d

FREQUENCE DES ORGANISMES DU PNEUMOCOQUE DANS LES FROTTIS PAR REGIME DE TRAITEMENT ET CYCLE

Groupe soumis au régime de traitement		CYCLE											
		1er		2ème		3ème		4ème		5ème		6ème	
		Avant	après	avant	après	avant	après	avant	après	avant	après	avant	après
1.a	Ex.	132	112	76	103	96	90	101	89	91	96	94	94
	Pos	70	53	25	30	32	37	45	47	30	40	29	29
	%	53	47,3	32,8	29,1	33,3	41,1	44,6	52,8	33,	41,7	30,8	30,8
1.b	Ex.	263	270	149	210	202	131	152	127	112	145	165	147
	Pos	120	127	34	71	76	34	54	72	32	49	75	49
	%	45,6	47	22,8	33,8	37,6	25,9	35,5	56,7	28,6	33,8	45,4	33,3
T1 1	Ex.	395	382	225	313	298	221	253	216	203	241	259	241
	Pos	190	180	59	101	108	71	99	119	62	89	104	78
	%	48,1	47,1	26,2	32,3	36,2	32,1	39,1	55,1	30,5	36,9	40,2	32,4
2	Ex.	147	120	98	88	81	80	102	103	71	66	82	66
	Pos	63	37	38	22	14	28	61	71	17	24	22	21
	%	42,8	30,8	38,7	25	17,2	35	59,8	68,9	23,9	36,4	26,8	31,8
3.a	Ex.	380	376	231	185	184	201	184	231	151	230	218	180
	Pos	172	185	58	84	58	76	74	119	67	70	96	42
	%	45,2	49,2	25,1	45,4	31,5	37,8	40,2	51,5	44,4	30,4	44	23,3
3.b	Ex.	391	357	212	170	222	157	174	153	137	145	136	111
	Pos	143	170	94	42	83	62	94	67	57	54	62	37
	%	36,5	47,6	44,3	24,7	37,3	39,4	54	43,8	41,6	37,2	45,6	24,3
T1 3	Ex.	771	733	443	355	406	358	358	386	288	375	354	291
	Pos	315	355	152	126	141	138	168	186	124	124	158	69
	%	40,8	48,4	34,3	35,5	34,7	38,5	46,9	48,2	43	33,1	44,6	23,7

TABLEAU 4.e

FREQUENCE DES ORGANISMES DU GONOCOQUE DANS LES FROTTIS - PAR REGIME DE TRAITEMENT ET CYCLE

Groupe soumis au régime du traitement		CYCLE											
		1er		2ème		3ème		4ème		5ème		6ème	
		avant	après	avant	après	avant	après	avant	après	avant	après	avant	après
1.a	Ex.	132	112	76	103	96	90	101	89	91	96	94	94
	Pos	5	12	11	1	0	0	4	4	12	7	11	4
	%	3,8	10,7	1,3	.1	0	0	4	5	13,2	7,3	11,7	4,2
1.b	Ex.	263	270	149	210	202	131	152	127	112	145	165	147
	Pos	17	27	12	2	3	3	2	2	8	6	10	4
	%	6,5	10	8	1	1,5	2,3	1,3	1,6	7,1	4,1	6,1	2,7
T1. 1	Ex.	395	382	225	313	298	221	253	216	203	241	259	241
	Pos	22	39	13	3	3	3	6	6	20	13	11	8
	%	5,6	10,2	5,8	9	1	1,4	2,4	2,8	9,8	5,4	4,2	3,3
2	Ex.	147	120	98	88	81	80	102	103	71	66	82	66
	Pos	6	8	1	1	1	0	0	0	3	2	4	2
	%	4,1	6,7	1	1,1	1,2	0	0	0	4,2	3	4,9	3
3.a	Ex.	380	376	231	185	184	201	184	231	151	230	218	180
	Pos	13	12	4	8	11	12	25	20	22	12	20	12
	%	3,4	3,2	1,7	4,3	6	6	13,6	8,6	14,6	5,2	9,2	6,7
3.b	Ex.	391	357	212	170	222	157	174	155	137	145	136	111
	Pos	36	7	4	2	14	14	19	18	20	11	17	9
	%	9,2	.2	1,9	1,2	6,3	8,9	10,9	11,6	14,6	7,6	1,2	8,1
T1. 3	Ex.	771	733	443	355	406	358	358	386	288	375	354	291
	Pos	49	19	8	10	25	26	44	38	42	23	37	21
	%	6,4	2,6	1,8	2,8	6,2	7,3	12,3	9,8	14,6	6,1	10,4	7,2

TABLEAU 4.f

ORGANISMES AUTRES QUE LE K.W., LE M.A., LE PNEUMOC. ET LE GONOC., TROUVES DANS LES FROTTIS - PAR REGIME DE TRAITEMENT ET CYCLE

Groupe soumis au régime du traitement		CYCLE											
		1er		2ème		3ème		4ème		5ème		6ème	
		avant	après	avant	après	avant	après	avant	après	avant	après	avant	après
1.a	Ex.	132	112	76	103	96	90	101	89	91	96	94	94
	Pos	66	61	47	47	16	14	23	23	34	36	28	33
	%	50	54,5	61,8	45,6	16,7	15,6	22,8	25,8	37,4	37,5	29,8	35,1
1.b	Ex.	263	270	149	210	202	131	152	127	112	145	165	147
	Pos	117	133	47	87	53	14	28	38	31	73	59	52
	%	44,5	49,3	31,5	41,4	26,2	10,7	18,4	29,9	27,7	50,3	35,8	35,4
Tl. 1	Ex.	395	382	225	313	298	221	253	216	203	241	259	241
	Pos	183	194	94	134	69	28	51	61	65	109	87	85
	%	46,3	50,8	41,8	42,8	23,2	12,7	20,2	28,2	32	45,2	33,6	35,3
2	Ex.	147	120	98	88	81	80	102	103	71	66	82	66
	Pos	102	51	42	15	15	10	30	34	27	25	27	29
	%	69,4	42,5	42,9	17	18,5	12,5	29,4	33	38	37,9	32,9	43,9
3.a	Ex.	380	376	231	185	184	201	184	131	151	230	218	180
	Pos	194	241	104	63	67	57	56	77	60	88	93	104
	%	51	64,1	45	34	36,4	28,4	30,4	33,3	39,7	38,3	42,7	57,8
3.b	Ex.	391	357	212	170	222	157	174	153	137	145	136	111
	Pos	193	225	94	36	92	54	52	76	45	58	68	69
	%	49,4	63	44,3	21,2	41,4	34,4	29,2	49,7	32,8	29,7	50	62,2
Tl. 3	Ex.	771	733	443	355	406	358	358	386	288	375	354	291
	Pos	387	466	198	99	159	111	108	153	105	146	161	173
	%	50,2	63,6	44,7	27,9	39,2	31	30,2	39,6	36,4	38,9	45,5	59,4

TABLEAU 5.a

TYPES DE TRACHOME, Ier GROUPE DE TRAITEMENT PAR CYCLE

Groupe soumis au régime du traitement		CYCLE											
		1er		2ème		3ème		4ème		5ème		6ème	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1.a	T_1	12	9,2	4	5,3	3	3,1	1	1	5	5,5	3	3,1
	T_2	19	14,5	6	7,9	7	7,3	4	3,9	4	4,4	5	5,3
	T_3	49	37,4	34	44,7	46	47,9	43	42,6	35	38,5	39	41,5
	T_4	40	30,5	30	39,5	35	36,5	46	45,5	45	49,4	46	48,9
	Total	120	91,6	74	97,4	91	94,8	94	93,1	89	97,8	93	98,8
	Libre	11	8,4	2	2,6	5	5,2	7	6,9	2	2,2	1	1,1
	G.T.	131	100	76	100	96	100	101	100	91	100	94	99,9
1.b	T_1	20	7,7	12	8,1	12	5,9	1	,7	4	3,6	2	1,2
	T_2	49	18,8	17	11,4	22	10,9	8	5,3	3	2,7	11	6,7
	T_3	115	44,1	63	42,3	94	46,5	71	46,7	45	40,2	67	40,6
	T_4	64	24,5	55	36,9	70	34,6	70	46,1	59	52,7	83	50,3
	Total	248	95,1	147	98,7	198	96,9	150	98,8	111	99,1	163	98,8
	Libre	13	4,9	2	1,3	4	4	2	1,3	1	,9	2	1,2
	G.T.	261	100	149	100	202	99,9	152	100,1	112	100	165	100
Total 1	T_1	32	8,2	16	7,1	15	5	2	,8	9	4,4	5	1,9
	T_2	68	17,3	23	10,2	29	9,7	12	4,7	7	3,4	16	6,2
	T_3	164	41,8	97	43,1	140	47	114	45,1	80	39,4	106	40,9
	T_4	104	26,5	85	37,8	105	35,2	116	45,8	104	51,2	129	49,8
	Total	368	93,9	221	98,2	289	96,9	244	96,4	200	98,4	256	98,8
	Libre	24	6,1	4	1,8	9	3	9	3,6	3	1,5	3	1,2
	G.T.	392	100	225	100	298	99,9	253	100	203	99,9	259	100

Nota : Les cas douteux sont exclus.

TABLEAU 5.b

TYPES DE TRACHOME, 2e GROUPE DE TRAITEMENT PAR CYCLE

Types de trachome	CYCLE											
	1er		2ème		3ème		4ème		5ème		6ème	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
T_1	27	19,2	15	15,3	11	13,6	5	4,9	0	0	1	1,2
T_2	22	15,6	12	12,2	11	13,6	7	6,9	4	5,6	6	7,3
T_3	60	42,5	36	36,7	39	48,2	45	44,1	31	43,7	43	52,4
T_4	24	17	20	20,4	16	19,7	39	38,2	32	45,1	27	32,9
Total	133	94,3	83	84,7	77	95,1	96	94,1	67	94,4	77	93,8
Libre	8	5,7	15	15,3	4	4,9	6	5,9	4	5,6	5	6,1
G.T.	141	100	98	100	81	100	102	100	71	100	82	99,9

Nota : Les cas douteux sont exclus.

TABLEAU 5.c

TYPES DE TRACHOME, 3e GROUPE DE TRAITEMENT PAR CYCLE

Groupe soumis au régime du traitement		CYCLE 1er		2ème		3ème		4ème		5ème		6ème	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
3.a	T_1	46	12,1	24	10,5	10	5,5	3	1,7	4	2,6	2	0,9
	T_2	88	23,2	43	18,8	22	12	22	12	10	6,6	18	8,3
	T_3	162	42,7	96	41,9	81	44,3	82	44,8	64	42,4	87	39,9
	T_4	55	14,5	54	23,6	63	34,4	70	38,2	70	46,4	109	50
	Total	351	92,6	217	94,8	176	96,2	177	96,7	148	98,	216	99,1
	Libre	28	7,4	12	5,2	7	3,8	6	3,3	3	2,	2	0,9
	G.T	379	100	229	100	183	100	183	100	151	100	218	100
3.b	T_1	43	11,2	29	13,8	8	3,6	3	1,7	2	1,5	0	0
	T_2	70	18,2	34	16,2	22	9,9	10	5,8	6	4,4	5	3,7
	T_3	183	47,5	113	53,8	138	62,2	109	62,6	78	56,9	77	56,6
	T_4	82	21,3	31	14,8	52	23,4	51	29,3	49	35,8	52	38,2
	Total	378	98,2	207	98,6	220	99,1	173	99,4	135	98,5	134	98,5
	Libre	7	1,8	3	1,4	2	,9	1	,6	2	1,5	2	1,5
	G.T.	385	100	210	100	222	100	174	100	137	100	136	100
Total 3	T_1	89	11,6	53	12,1	18	4,4	6	1,7	6	2,1	2	0,6
	T_2	158	20,7	77	17,5	44	10,9	32	8,9	16	5,6	23	6,5
	T_3	345	45,2	209	47,6	219	54,1	191	53,5	142	49,3	164	46,3
	T_4	137	17,9	85	19,4	115	28,4	121	33,9	119	41,3	161	45,5
	Total	729	95,4	424	96,6	396	97,8	350	98	283	98,3	350	98,9
	Libre	35	4,6	15	3,4	9	2,2	7	2	5	1,7	4	1,1
	G.T.	764	100	439	100	405	100	357	100	288	100	354	100

Nota : Les cas douteux sont exclus.

TABLEAU 5.d

POURCENTAGE DE TRACHOME ACTIF,
PAR REGIME DE TRAITEMENT ET CYCLE

Groupe soumis au régime de traitement	CYCLE					
	1er	2ème	3ème	4ème	5ème	6ème
1.a	23,7	13,2	10,4	4,9	9,9	8,4
1.b	26,5	19,5	16,8	6	6,3	7,9
Total 1	25,5	17,3	14,7	5,5	7,8	8,1
2	34,8	27,5	27,2	11,8	5,6	8,5
3.a	35,3	29,3	17,5	13,7	9,2	9,2
3.b	29,4	30	13,5	7,5	5,9	3,7
Total 3	32,3	29,6	15,3	10,6	7,7	7

Nota : Les cas douteux sont exclus.