Annual report on the ophthalmic section.

FOURTH ANNUAL REPORT

ON THE

OPHTHALMIC SECTION, 1915 AND 1916.

MINISTRY OF THE INTERIOR, EGYPT.

DEPARTMENT OF PUBLIC HEALTH.

FOURTH ANNUAL REPORT

ON THE

OPHTHALMIC SECTION,

1915 AND 1916,

BY THE DIRECTOR OF OPHTHALMIC HOSPITALS.

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Cairo, August 13, 1917.

SIR,

I have the honour to enclose my Report on the Ophthalmic Hospitals and on Ophthalmic Progress in Egypt during the years 1915 and 1916.

I have the honour to be,

Sir,

Your obedient servant,

A. F. MACCALLAN,

Director of Ophthalmic Hospitals.

The Director-General,

Department of Public Health,

Cairo.

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REPORT ON THE OPHTHALMIC SECTION, 1915 AND 1916.

I.—INTRODUCTION.

During the military operations at the Suez Canal, at Gallipoli and at Salonica, assistance was given to the military authorities by the provision of completely equipped and staffed tent hospitals for the treatment of sick and wounded, the additional instruments required for general surgery being supplied by the Stores Section of the Department.

Two such hospitals were despatched at twenty-four hours' notice from various parts of Egypt in January 1915 to act as clearing hospitals for wounded Turkish prisoners. At the end of April 1915, the French military authorities requiring accommodation for 150 Senegalese, a tent annexe to the permanent ophthalmic hospital at Zagazig was provided, where admirable facilities for the performance of operations existed.

In May 1915, a general hospital of 550 beds under canvas was provided at Alexandria. It was complete with three operation tents, three dressing tents, *x*-ray apparatus, telephones and electric light. In a letter * dated February 28, 1916, the hospital was referred to officially by Surgeon-General Sir R. W. Ford, K.C.M.G., late Director of Medical Services, Egypt, as "a model of what a war hospital under canvas should be." The hospital was moved to Cairo in October and the number of beds increased to 650; it contained all the available travelling units, including the hospitals for Turkish prisoners and for Senegalese troops. At the end of January 1916, the military hospitals being fully able to accommodate the reduced number of sick and wounded, the hospital was brought to an end by the evacuation of the remaining patients. The total number of cases treated was 5,965.

In consideration of the surgical work of the hospital it must be noted that as far as possible the more lightly wounded cases were sent by the military authorities to these hospitals. The greatest credit attaches to the Egyptian surgical staff, consisting of twenty-four qualified medical officers, for their careful and sympathetic treatment of British sick and wounded. At the same time it should be remarked that the reversion for a period to general surgical work combined with the care of British patients has been of great value to the Egyptian medical officers in developing their appreciation of aseptic surgery and their powers of administration. The clerical work of the hospital, including the filling up of all army forms, was carried out very efficiently by the Egyptian clerks.

In addition to the treatment of sick and wounded at these hospitals, the permanent ophthalmic hospitals at five of the Delta towns were utilized for the same purpose.

New Ophthalmic Hospitals.—During 1915, hospitals at Minya and Santa were completed and opened; and during 1916, the Faîyûm hospital was opened.

The number of permanent ophthalmic hospitals which have been built during the last ten years is thirteen, these are now at work and are aided by four travelling hospitals. The provinces of Gîza, Qalyûbîya, Qena, and Aswân are still unprovided with any form of ophthalmic relief.

Clinical Work.—The number of new patients treated in 1915, 52,752, was an increase of 5 per cent on those treated in 1914, and in 1916 this figure was raised to 68,304. The number of attendances of out-patients was 735,919 in 1915 and 943,813 in 1916. The number of operations performed was 42,146 in 1915 and 54,205 in 1916.

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* *See* Appendix I.

Finances.—The budgetary credit in 1916 was L.E. 21,177,* not including a sum of L.E. 4,001, granted at various times for equipment and drugs. Besides this, various Provincial Councils provided L.E. 3,421 for the maintenance of five hospitals. A total sum of L.E. 28,599 was therefore available for ophthalmic purposes.

Age of Patients.—The importance of obtaining treatment for babies and children attacked by ophthalmia is beginning to be recognized by the people. More than 5 per cent of all the patients treated were under the age of one year, and 37 per cent were under the age of fifteen years.

Blindness.—Twelve per cent of all the patients seen were blind in one or both eyes in 1915 and 11 per cent in 1916. There has been a steady fall in the incidence of blindness since 1911, when it amounted to 19 per cent (*see* Section V. of this report). It cannot be definitely stated, however, that this diminished incidence among hospital patients is applicable to the general population of Egypt.

School Clinics.—School ophthalmic clinics are carried on at nine of the provincial primary schools at which there is a permanent hospital. At these clinics, acute diseases of the eye and trachoma are treated and spectacles are ordered for pupils who require them.

Future Policy.—Negotiations are now in progress to provide Qena and Qalyûbîya Mudirîyas with permanent hospitals and Gîza Mudirîya with a travelling hospital. The Government will be asked to provide in the budget of 1918–1919 a sum to build a hospital at Aswân, as this province is quite unable to contribute to the cost.

II.—WORK AND PROGRESS DURING 1915 AND 1916.

A.—Travelling Hospitals.

The travelling hospitals which were working at Delta Barrage, Minyet el Qamh, Abu Tîg, Mît Ghamr, were converted into a general hospital for wounded at Alexandria, as has been previously described. The usual ophthalmic work was therefore postponed at these hospitals from May 1915 until the end of April 1916.

Since reopening, the Cassel Fund hospitals have worked at Gîza and Kafr el Dawâr.

The Daqahlîya Provincial Council travelling hospital has worked at Mît Ghamr and Fâriskûr.

The Asyût Provincial Council travelling hospital, a smaller and, therefore, a less efficient unit than the Daqahlîya hospital, has worked at Abnûb and Mallâwi.

One of the Gharbîya Provincial Council travelling hospitals has been sold to the Frontier Districts Administration ; the second is stored for financial reasons.

B.—Permanent Hospitals.

Permanent hospitals were opened in 1915 at Minya and Santa and in 1916 at Faîyûm. Other permanent hospitals are working at Tanta, Asyût, Mansûra, Beni Suef, Zagazig, Damanhûr, Shibîn el Kôm, Sohâg, Mahalla el Kubra, Kafr el Zaîyât. (*See* Table I.)

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* This includes L.E. 2,560 derived from Sir Ernest Cassel's gift.

III.—CLINICAL.

Number of Cases.—A résumé of the number of patients seen and the number of operations performed has been given in the introduction to this report. It has been found necessary to limit the number of patients treated as out-patients in the interest, firstly, of the quality of the clinical work, and secondly, to avoid wearing out the hospital attendants and creating staleness among the medical officers. For these reasons, 18,591 of the less urgent cases were postponed on various occasions. From this it may be concluded that the ophthalmic organization has not as yet been able to cope with the demands made upon it.

Operations.—The operations performed for the relief of trichiasis and entropion were, in 1915, 19,149 and in 1916, 26,094 ; these figures do not include the removal of individual lashes by electrolysis or epilation. The operations performed were those devised by Snellen, Anagnostakis and Van Millingen. Practically speaking, all cases of trichiasis and entropion resulting from trachomatous cicatrization can be dealt with successfully by one of these methods.

Iridectomy for adherent leucoma was performed 1,613 times in 1915, and 2,154 times in 1916.

The numbers of cases of extraction of senile cataract were, in 1915, 306, and in 1916, 448. The numbers of soft cataract removed by needling and curette evacuation were, in 1915, 77, and in 1916, 168.

Glaucoma.—The total numbers of cases of primary glaucoma examined were 1,626 in 1915 and 1,583 in 1916. The operation of trephining with iridectomy continues to be operation of election.

During the last five years 347,676 patients have been examined at the ophthalmic hospitals of Egypt, and of these, 7,242 patients or 2 per cent were found to have signs of glaucoma. Full clinical notes of all these cases are in existence and can be referred to if required.

Cases of acute glaucoma are rarely seen, only 59 having applied for treatment during the last five years. Cases of subacute glaucoma are rather more frequent, 93 cases having been seen during the same period. The high percentage is made up almost entirely of chronic glaucoma, about half of whom do not apply for treatment until blindness has supervened, more than 1 per cent of all the patients who seek treatment at the ophthalmic hospitals being already blind in one or both eyes from this disease.

INCIDENCE OF PRIMARY GLAUCOMA.

VARIETIES.	1912	1913	1914	1915	1916	TOTAL.
Acute	3	12	17	8	19	59
Subacute	10	17	23	28	15	93
Chronic	829	902	574	396	436	3,137
Absolute	282	217	1,147	1,194	1,113	3,953
TOTAL... ...	1,124	1,148	1,761	1,626	1,583	7,242
Total number of patients examined	43,668	62,233	75,398	71,930	94,447	347,676
Per cent of glaucoma cases	2·57	1·84	2·33	2·26	1·67	2·08
Per cent of absolute glaucoma cases	·65	·34	1·52	1·66	1·17	1·13
Operations :—						
Iridectomy	60	28	25	30	78	221
Trephining with iridectomy	152	317	428	464	534	1,895

Electro-magnet.—Haab's magnet was used nine times in 1915, in only one case positively, and three times in 1916 with one positive result.

Acute Ophthalmias.—Owing to war work in 1915, no record of bacteriological diagnosis of acute conjunctivitis cases were made. During 1916, 7,804 examinations were made in the ordinary clinical routine as follows :—

ORGANISMS FOUND DURING 1916.

ORGANISMS.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	TOTAL.
Gonococcus...	59	28	27	74	128	288	469	517	777	526	476	279	3,648
Koch-Weeks	29	39	75	217	271	196	172	183	236	119	141	164	1,842
Morax-Axenfeld or Diplo-Bacillus	33	53	107	107	79	64	36	62	67	66	48	79	801
Pneumococcus	9	7	19	29	22	29	21	24	36	33	21	28	278
Xerosis...	—	1	8	16	10	12	13	11	14	7	19	11	122
Staphylococcus	4	3	1	1	—	2	2	1	4	8	15	15	56
Micrococci	—	—	1	4	—	—	—	1	—	1	—	4	11
Streptococcus	—	—	—	1	1	—	2	1	—	—	—	—	5
Other organisms...	2	6	3	13	—	4	1	11	10	6	12	13	81
Negative	29	33	62	78	65	73	90	63	139	97	131	100	960
TOTAL... ...	165	170	303	540	576	668	806	874	1,283	863	863	693	7,804

The majority of the cases (46 per cent) were due to the gonococcus, 23 per cent being due to the Koch-Weeks bacillus.

Relation of the Gonococcus to Temperature Variations.—It is seen from Table XI that the gonococcus was rarely met with in the winter months : January, February, March, April ; its activity became awakened in May and this increased in June, July, August, until a maximum was reached in September; afterwards a fall occurred, which persisted until the end of the year.

A comparison of the curves of temperature and of gonococcal incidence shows that the changes of temperature preceded by two months the changes of gonococcal activity. In my last report for 1914 it was shown that the changes of temperature preceded the changes of gonococcal activity by one month for the year in question.

Relation of the Gonococcus to Relative Humidity and Nile Level.—I showed in my last Report, 1914, that no relation could be made out between gonococcal activity and the relative humidity or the level of the Nile. Similarly in 1916 no relation can be made out.

Relation of the Bacillus of Koch-Weeks and of the Diplo-bacillus of Morax-Axenfeld to Temperature Variations.—A curve showing variations of the temperature and the incidence of the Koch-Weeks and of the Diplo-bacillus is given in Table XII. No striking conclusion, however, is obvious from it.

Optic Atrophy.—The number of cases seen of optic atrophy, excluding those due to glaucoma, was 146. Their causes are classified as follows :—

Primary :—		
Tabes	11	
Diabetes	1	
Acute fevers	39	
Arteriosclerosis	3	
Congenital	1	
		55
Secondary to compression		1
Post-neuritic		40
Consecutive to disease of choroid and retina		23
Unknown (of these 10 were accompanied by severe anæmia)...		27
TOTAL		146

Treatment of British Soldiers.—During the year 1916, 17 British soldiers were treated at various ophthalmic hospitals for trachoma. There were in addition 18 cases in which the diagnosis of early trachoma was uncertain.

Spectacles were ordered during 1916 for 254 of all ranks. A clinical report on the occurrence of optic neuritis in slight head injuries was published in the " Ophthalmoscope " for December 1916.

Ophthalmological Society.—A meeting of the Ophthalmological Society of Egypt was held at the beginning of 1917. The bulletin of the society is in the hands of the publisher.

Post-graduate Course of Ophthalmology.—A complete course of post-graduate lectures, including pathological and bacteriological demonstrations and laboratory work, was given at the beginning of 1917. The course was attended by eighteen surgeons.

IV.—OPHTHALMIC INSPECTION AND TREATMENT OF PRIMARY SCHOOLS, 1916-1917.

The ophthalmic inspection and treatment of nine of the provincial primary schools, which were omitted in 1915–1916 owing to drafting of the skilled personnel to war work, was recommenced in 1916–1917.

Trachoma or Granular Ophthalmia (Table XIV, *a*, *b*, *c*).—The number of pupils with this contagious disease varies from 80 per cent at Asyût to 100 per cent at Shibîn el Kôm; 61 per cent received treatment. The results of treatment were satisfactory, the more serious stages of the disease being reduced from 21·4 per cent to 3 per cent. In my last report I stated that this reduction was from 22 per cent to 4 per cent. It is easily to be understood that the admission of new pupils to the school and the omission of treatment during 1915–1916 together determined the rise of percentage of the more serious stages of the disease from 4 per cent at the end of 1915 to 21·4 per cent at the beginning of 1917, which was again reduced to 3 per cent by treatment.

In this connection it must be remembered that in 1907, previous to the commencement of treatment at Tanta school, the percentage of the more serious cases of trachoma was 62·3, so that a vast amelioration has taken place since then.

More Serious Stages of the Disease. Trachoma I and II.

Years.	Before Treatment.	Percentage.	After Treatment.	Percentage.
1907–1908	289	62·3	—	—
1914–1915	342	22	61	4
1916–1917	327	21·4	48	3

The period required for the treatment of trachoma is reckoned to be three months on the average.

During November, inspections of all pupils are made by the ophthalmic inspectors and preliminary statistics are prepared; special cases are treated daily at 3 p.m. at the school.

During December, January and February, the regular treatment is carried out of all pupils who require it and have been designated by the inspectors at the preliminary inspection.

During March, the general inspections by the ophthalmic inspectors are carried out

and final statistics are compiled. During this month special cases are treated at 3 p.m. daily at the school. At the end of March the ophthalmic treatment is brought to an end to allow of the holding of a post-graduate course of ophthalmology, which is attended by all * school ophthalmic medical officers during April; a similar but shorter course is held in October.

During the other months of the school year (October, April, May and June) pupils requiring treatment for acute disease are given special facilities for treatment at the morning clinic of the ophthalmic hospitals, no treatment should be required for pupils with trachoma, as the three months' course of treatment is ample for them.

Trachoma in its Relation to School Years (Table XIV, *d*).—As was to be expected, the more serious stages of trachoma are more marked in the earlier scholastic years. This is shown below :—

Year.	Total Number of Cases of Trachoma in Year.	Stages T I, T II.	Per Cent.
1	312	142	45·5
2	377	106	28·1
3	421	51	12·1
4	415	28	6·7

Vision (Table XIV, *e*).—57·7 per cent of the pupils having good or fair vision attain sufficient visual acuity to pass, if required, the visual standard of the Egyptian Medical Commission without spectacles. This percentage in 1914–1915 was 51.

Spectacles (Table XIV, *f*).—The total number of pupils attending the schools who had been ordered spectacles is 78; on the day of the general inspection only 61 pupils were wearing them however. Arrangements have now been made for the pupils who should wear spectacles to be inspected every month by the medical officer, and for a list of those not wearing them to be made and handed to the head master, who will use his influence to see that they are worn.

Arrangements have been made for all pupils who have vision below $\frac{6}{12}$ in one eye and $\frac{6}{12}$ in the other or equivalent vision to be examined with a view to the provision of spectacles, provided that the cornea is sufficiently clear to make an accurate result probable, and provided that the stage of trachoma allows of the use of spectacles.

This examination will be carried out in December of each year; in November the headmaster will be invited to provide a list of all pupils intending to proceed to secondary schools in order that especial efforts may be made to provide spectacles, when these are required to enable them to pass the visual standard.

In this connection it is important to note an anomaly which is existent in the schools where there is ophthalmic treatment. The vision of new pupils previous to admission to the school is tested by the general medical officer of the school instead of by the ophthalmic medical officer. Also the vision testing of pupils desirous of proceeding to secondary schools is similarly carried out. Confusion is caused by having two authorities at the same school responsible for vision testing. All vision testing should be carried out by the ophthalmic medical officer.

The provision of spectacles for adolescents is by no means a simple matter. The stages of the procedure are usually as follows : first, a preliminary subjective examination ; second, the daily instillation of atropin drops for five days into the eyes to secure paralysis

* School ophthalmic medical officers are the second medical officers of ophthalmic hospitals who carry out school work during the time that their services are not urgently required at the ophthalmic hospitals.

of accommodation ; third, objective examination in the dark room with the ophthalmoscopic mirror under the supervision of the ophthalmic inspector; fourth, the subjective testing of the result arrived at by the objective examination, under the supervision of the inspector ; fifth, the further subjective examination after the effect of the atropin has passed off ; sixth, the measuring for spectacle frames and their preparation ; seventh, the subjective examination while wearing the new spectacles to see that the lenses are correct and that the frames fit the patient, and verification by the inspector.

It is only by carrying out this routine that spectacles can be ordered successfully on a large scale, and the period of the year during which it is done is December. Occasional examinations may also be carried out during January and February, after which date and until the following December the advice of private practitioners must be obtained if further spectacle ordering is required.

Transparency of the Cornea (Table XIV, *h*).—Both corneæ were transparent in 62·5 per cent ; one cornea was transparent and the other partly opaque as the result of trachoma or acute conjuctivitis in 13 per cent ; both corneæ were partly opaque in 24 per cent. In preparing these statistics a slight degree of pannus or trachomatous vascularization at the periphery of the cornea was not counted as opacity.

Myopia (Table XIV, *j*).—The total number of cases of myopia seen was 77. The number of cases of more than six dioptres of myopia was 20, that is to say 1 per cent of the pupils had a considerable degree of myopia.

Operations (Table XIV, *k*).—210 operations were recommended, of which 152 were actually carried out.

Extension of Ophthalmic Inspection and Treatment.—The extension of ophthalmic inspection and treatment to the primary school at Faîyûm will be undertaken at the beginning of the next scholastic year ; the ophthalmic hospital from which the system depends having been only recently opened. Work at the primary schools of Benha, Qena and Aswân cannot be undertaken until ophthalmic hospitals have been provided in these towns; but it is to be hoped that these will be completed within the next five years. All primary schools in mudîrîya towns, except Gîza, will then be in receipt of treatment.

The primary schools of the governorate towns, Cairo, Alexandria, Port Said, Damietta, and Suez are equally in need of treatment, but without ophthalmic hospitals at these towns there is no staff available to carry on this work. It would be under strong pressure from the Ministry of Education that budgetary provision for treatment could be obtained.

At secondary schools and colleges the students, being older, have to a considerable extent outgrown the need of treatment of trachoma, and are less liable to acute ophthalmias ; there is, therefore, less urgency for the extension of the system to these establishments. The *kuttabs*, hot-beds of acute ophthalmias and of the more serious stages of trachoma, are so numerous that for treatment the pupils must rely on the nearest ophthalmic hospital, the provision of medical personnel to carry out treatment being out of the question from the point of view of expense.

Inspection of schools or *kuttabs* without the provision of facilities for treatment on the spot I believe to be of little value, and may even be dangerous by the transfer of contagion from diseased to healthy pupils, if performed by an unskilled surgeon.

Conclusion.—The scheme of inspection and treatment has been simplified and has probably reached a permanent and final shape. It depends on good and willing medical officers who have not necessarily had a long experience of ophthalmic surgery but who are directed by three or four capable and skilled ophthalmic inspectors; the latter, during two

months of the year, November and March, have their time almost entirely engaged by the school work.

The work is now carried on with very little friction and the results, as shown above, are satisfactory.

V.—CAUSES OF BLINDNESS.

From the examination of 166,377 patients in 1915 and 1916, 19,175 eyes were found to be blind.

The causes were as follows :—

	1915	1916
Congenital	7	3
Acquired :—		
Conjunctivitis resulting in :—		
(*a*) Total corneal opacity	2,759	2,861
(*b*) Shrunken globe	2,317	3,109
(*c*) Secondary glaucoma	1,815	2,032
(*d*) Other conditions	745	859
Fundus :—		
Optic Atrophy	90	145
Retinitis pigmentosa	12	23
Various	182	152
Glaucoma absolutum :—		
Monocular	657	696
Binocular	650	673
Cataract	797	1,053
Injury	70	56
Operation	17	32
Infectious disease	19	2
Iritis endogenous	94	160
Various	230	241
TOTAL	10,461	12,097

Out of the total number of blind eyes, 19,175, it was found that 16,497 eyes or 86 per cent had been destroyed by acute conjunctivitis.

The percentage of eyes blind from glaucoma, 13·9, is remarkably high.

INCIDENCE OF BLINDNESS IN EGYPT.

The definition of blindness adopted in these statistics is that proposed by Trousseau, namely inability to count fingers at a distance of one metre.

From an examination of half a million patients between the beginning of the year 1906 and the end of 1916, it has been found that 40,265 patients or about 8 per cent were blind in one eye ; 25,207 patients or about 5 per cent were blind in both eyes ; and that 65,472 or about 13 per cent were blind in one or both eyes.

These statistics have been carefully made and full notes prepared in the case of each patient ; these notes are still available and can be referred to.

The interest of these statistics, however, lies not in the large numbers of patients

examined and cases of blindness detected but in the rising percentage of cases of blindness from the year 1906 to 1911, and the diminishing percentage from 1911 to 1916.

Blindness.

Year.	Total Number of Patients Examined.	One Eye.		Both Eyes.		One Eye and both Eyes.	
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
1906	40,103	1,297	3·2	663	1·6	1,960	4·9
1907	24,416	1,450	5·9	697	2·8	2,147	8·7
1908	19,614	1,189	6·0	852	4·3	2,041	10·4
1909	22,373	2,116	9·4	1,385	6·1	3,501	15·6
1910	25,506	2,438	9·5	2,010	7·8	4,448	17·4
1911	31,274	3,196	10·2	2,811	8·9	6,007	19·2
1912	43,668	4,115	9·4	2,824	6·4	6,939	15·8
1913	62,233	5,360	8·6	3,878	6·2	9,238	14·8
1914	75,398	6,425	8·5	3,591	4·7	10,016	13·2
1915	71,930	5,637	7·8	2,992	4·2	8,629	12·0
1916	94,447	7,042	7·4	3,504	3·7	10,546	11·2
Total ...	510,962	40,265	7·9	25,207	4·9	65,472	12·8

If the case of patients who were blind in one or both eyes is separately considered, clearness is obtained :—

Year.	Per Cent Blind in one or both Eyes.	Year.	Per Cent Blind in one or both Eyes.
1906	4·9	1912	15·8
1907	8·7	1913	14·8
1908	10·4	1914	13·2
1909	15·6	1915	12
1910	17·4	1916	11·2
1911	19·2		

The increasing percentage from 1906 to 1911 is significant of the increasing care taken by myself and the surgeons to make full clinical records of all cases of blindness seen among the hospital out-patients.

The gradual reduction of blindness among the ordinary out-patients of a hospital from 19 per cent to 11 per cent is noteworthy.

VI.—OPHTHALMIC POLICY.

Of the fourteen provinces of Egypt, ten have already been provided with permanent ophthalmic hospitals. Three of the remaining provinces have projects for the provision of hospitals, while Aswân, poor and powerless, has no hope of obtaining any means of permanent ophthalmic relief, unless the Government comes to its aid with a grant of money to build and equip a hospital.

Besides these hospitals in the chief town of each province, built and equipped by local effort and maintained by the Government, there are five smaller hospitals, provided and maintained by the provincial councils in Gharbîya, Daqahlîya, and Asyût.

The amount of money which has been raised from local sources for the building and equipment of hospitals now amounts to L.E. 52,967.

VII.—STATISTICS.

TABLE I.—Source of Provision and Maintenance of Hospitals.

	Provided by	Maintained by	Date Opened.
Permanent :—			
Tanta	Government grant	Government grant ...	1908
Asyût	Public subscription and Government grant	„ „ ...	1911
Mansûra	Gift by Badrawi Pasha ...	„ „ ...	1912
Beni Suef	Public subscription	„ „ ...	1912
Zagazig	Provincial Council	„ „ ...	1913
Mahalla el Kubra	„ „	Provincial Council ...	1913
Kafr el Zaiyât	„ „	„ „ ...	1913
Damanhûr	„ „	Government grant ...	1914
Shibîn el Kôm	Public subscription	„ „ ...	1914
Sohâg	„ „	„ „ ...	1914
Minya	Provincial Council	„ „ ...	1915
Santa	„ „	Provincial Council ...	1915
Faiyûm	„ „	Government grant ...	1916
Travelling :—			
No. 1 Camp	Sir Ernest Cassel	Sir Ernest Cassel ...	1904
No. 2 Camp	„ „	„ „ ...	1905
Asyût Provincial Council... ...	Provincial Council	Provincial Council ...	1912
Daqahliya Provincial Council...	„ „	„ „ ...	1913

TABLE II.—Permanent and Travelling Ophthalmic Hospitals.

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916
Hospitals in existence :—													
Travelling	1	2	2	2	2	2	2	3	4	5	4	—	4
Permanent	—	—	—	—	1	1	1	2	4	7	10	11	13
New patients treated	2,954	4,210	7,327	7,446	7,794	12,092	14,342	20,488	28,029	40,670	50,126	52,752	68,304
Total attendances of out-patients	15,039	50,680	94,204	146,830	132,278	177,761	190,247	236,411	341,211	544,267	686,012	735,919	849,366
Operations performed	1,282	2,480	5,846	6,794	6,426	9,930	11,486	14,322	21,315	30,648	40,710	42,146	54,205
In-patients	49	140	202	184	208	390	443	678	909	1,807	2,071	2,274	2,454
Details :—													
Patients examined					19,614	22,373	25,514	31,274	43,668	62,233	75,398	71,930	94,447
Patients regularly treated					7,794	12,092	14,342	20,488	28,029	40,670	50,126	52,752	68,304
Incurable cases					4,550	2,302	1,776	2,620	7,200	9,544	10,554	7,765	9,871
Blind in one eye					1,189	2,116	2,438	3,196	4,115	5,360	6,425	5,637	7,042
Blind in both eyes					852	1,385	3,010	2,811	2,824	3,878	3,591	2,992	3,504
Trichiasis cases examined					8,159	10,060	7,507	7,871	13,176	17,329	21,624	19,220	22,214
„ eyes operated on and cured					2,262	3,128	2,022	3,933	6,942	11,700	16,542	19,149	26,094
New patients treated per age :—													
Under 1 year					247	516	457	761	1,495	2,700	2,472	3,023	4,031
From 1 to 5 years					585	1,645	1,497	1,903	3,317	4,631	6,394	5,762	7,865
„ 6 to 10 „					902	1,442	4,469	2,101	3,210	4,786	5,634	5,229	6,985
„ 11 to 15 „					849	1,294	1,475	2,051	3,056	3,799	4,570	5,651	6,275
„ 16 to 20 „					829	1,156	1,499	2,067	2,588	3,253	3,949	4,491	5,752
„ 21 to 40 „					2,584	3,775	4,845	6,116	8,167	12,679	17,257	18,492	23,017
„ 41 and over					1,798	2,206	3,100	5,589	6,196	8,822	9,850	10,104	14,379

TABLE III.—**Work done at all Ophthalmic Hospitals during 1915 and 1916.**

	1915	1916
I.—In-patients ... ... Total number	2,274	2,454
Number of available beds	194	208
Number of diets issued	48,034	57,282
II.—Operations ... ... Total number	42,146	54,205
(1) Major	25,351	33,297
(*a*) Senile cataract	409	439
(*b*) Soft cataract	116	168
(*c*) Trichiasis...	19,149	26,094
(*d*) Other operations	5,677	6,596
(2) Minor	16,795	20,908
(*a*) Scraping lids of trachoma patients ... ... (patients)	7,061	5,706
(*b*) Other operations	9,734	15,202
III.—Out-patients :—		
(1) Incurable	5,420	7,552
(2) Postponed	13,758	18,591
(3) Tickets issued, *i.e.* new cases	52,752	68,304
(4) Old cases...	663,989	849,366
(5) Visits made by patients to hospital for treatment	735,919	943,813
(6) Average number of visits made to hospital by each patient under regular treatment	13·58	13·43
(7) Discharges :—		
(*a*) Cured	6,494	7,087
(*b*) Relieved	6,668	2,540
(*c*) Incurable...	2,345	2,319
(*d*) Spontaneously ceased to attend after having attended only once	6,412	7,827
(*e*) Spontaneously ceased to attend after having attended more than once	28,883	37,112
(8) Trichiasis cases seen among new out-patients :—		
(*a*) No previous operation having been performed... (patients)	15,003	17,155
(*b*) Previous operation performed :—		
i. Successfully... ... ... (patients)	1,232	1,539
ii. Unsuccessfully (not at an Ophthalmic Hospital, but probably by some charlatan) ... ... (patients)	2,985	3,520
(9) Ophthalmoscope and refraction cases	11,107	13,944
(10) General anæsthetics	4,806	5,217
(11) Ages of patients examined :—		
(*a*) Under 1 year	3,023	4,031
(*b*) From 1 to 5 years	5,762	7,865
(*c*) „ 6 „ 10 „	5,229	6,985
(*d*) „ 11 „ 15 „	5,651	6,275
(*e*) „ 16 „ 20 „	4,491	5,752
(*f*) „ 21 „ 40 „	18,492	23,017
(*g*) Over 40 years...	10,104	14,379
(12) Origin of patients :—		
Town in which hospital is situated	19,809	26,709
Markaz in which hospital is situated	21,443	26,037
Other markazes...	11,500	15,558

TABLE IV.—List of Diseases.

	1915	1916
AMETROPIA :—		
Hypermetropia	197	437
Myopia	232	371
Astigmatism	151	269
Presbyopia	19	46
CONJUNCTIVA :—		
Conjunctivitis, simple	1,891	2,505
„ muco-purulent or purulent	3,898	6,274
„ gonorrheal	2,232	3,243
Other varieties	662	802
Trachoma I	2,004	2,647
„ II	8,387	9,130
„ III	34,926	48,512
„ IV	2,621	2,762
Spring cattarh	1	50
Post-trachomatous degeneration	10,235	13,443
Phlyctenule	1,498	2,128
Pterygium	973	1,173
Pinguecula	128	126
Xerosis	153	131
Symblepharon	71	73
Dermoid	10	21
Other conditions :—		
Argyrosis	32	34
Colloid degeneration	7	17
Hypertrophied caruncle	54	50
Injuries (foreign bodies, burn, etc.)	41	42
Cyst	16	11
EYELIDS :—		
Pediculus ciliaris	105	120
Trichiasis and entropion	17,855	22,163
Distichiasis	58	67
Ectropion	188	321
Lagophthalmos	832	1,140
Blepharitis	4,076	6,513
Hordeolum	127	360
Wart	59	69
Meibomian cyst	311	339
Eczema	88	129
Rodent ulcer	3	8
Dermoid	26	25
Ptosis	93	99
Erysipelas	—	2
Herpes	3	3
Chancre	1	—
Epithelioma	2	2
Other tumours	15	22
Fly larvæ	—	1
LACRIMAL APPARATUS :—		
Lacrimal fistula	38	25
Stenosis of the duct	33	26
Dacryocystitis, acute	7	6
„ chronic	238	373

TABLE IV.—List of Diseases (*continued*).

	1915	1916
CORNEA :—		
Ulceration, simple	2,465	3,699
„ hyopyon	159	303
„ perforation	982	1,330
„ special forms	216	134
Pannus	29,087	43,267
Keratitis, interstitial	96	13
„ trachomatous	89	99
Nebula or leucoma	25,587	28,568
Adherent leucoma	4,177	4,982
Totally opaque cornea	2,124	2,462
Staphyloma	1,017	1,257
Xerosis of cornea	203	260
Abscess of cornea	22	41
Conical cornea	211	320
Injuries (burn, foreign bodies, etc.)	205	232
Fistula	—	3
IRIS :—		
Anterior synechia	836	777
Posterior „	161	265
Inflammation	170	235
Iris bombé	5	11
Tumour	—	1
Irido-dialysis	17	21
Congenital coloboma	6	5
Aniridia	1	1
Persistent pupillary membrane	13	5
SCLEROTIC :—		
Ciliary staphyloma	210	279
Episcleritis	6	19
Injuries	6	13
Angioma	—	1
CHOROID :		
Coloboma	1	2
Rupture	—	1
Disseminated choroiditis	11	14
Choroido-retinitis	19	24
Atrophy of choroid	13	13
Tumours	—	3
Albinismus	1	4
RETINA :—		
Retinitis, albuminuric and diabetic	5	4
„ syphilitic	3	1
„ pigmentosa	23	32
Detachment of retina	24	44
Embolism and thrombosis of retinal vessels	—	2
Glioma	2	—
Other conditions	12	6
OPTIC NERVE :—		
Neuritis	21	16
Atrophy	87	150
Other conditions	—	—

TABLE IV.—List of Diseases (*continued*).

	1915	1916
LENS :—		
Cataract, senile	981	1,354
„ soft	127	180
„ traumatic	19	27
„ lamellar	4	8
„ anterior polar	297	277
„ posterior „	10	19
„ dislocated, traumatic	21	43
„ „ operative	5	4
„ „ congenital	—	2
Aphakia	174	206
Secondary cataract	127	108
VITREOUS :—		
Opacities	28	54
Foreign bodies	3	2
Synchysis	—	2
MUSCLES :—		
Strabismus, alternating	51	93
„ convergent	852	1,307
„ divergent	930	1,231
Nystagmus	315	357
Paralyses	6	11
GLAUCOMA :—		
Primary, acute	8	19
„ sub-acute	28	15
„ chronic	396	436
Secondary	1,965	1,883
Absolute	1,194	1,113
GLOBE :—		
Shrunken globe	2,307	3,028
Buphthalmos	15	21
Exophthalmic goitre	1	3
Panophthalmitis	69	129
Microphthalmos	15	15
ORBIT :—		
Tumours	116	18
Cellulitis	1	7
Periostitis	—	—
Injuries	12	—
Cyst, frontal	1	1
„ ethmoidal	—	—
Contracted socket	1	5
Fly blown orbit	—	5
BLIND :—		
In one eye	5,570	7,042
In both eyes (1)	3,112	3,504

(1) Patients are accounted blind who cannot count fingers at one metre.

TABLE V.—List of Operations.

	1915	1916
EYELIDS :—		
For Trichiasis and Entropion :—		
Snellen's	15,493	19,657
Anagnostaki's	41	152
Snellen-Anagnostaki's	449	883
Canthoplasty	176	243
Grafting mucous membrane	3,328	4,929
Electrolysis	438	752
Excision of lash	67	200
Other operations	115	250
For Ectropion :—		
Plastic	8	7
MacCallan's	29	34
Kenneth Scott's	—	—
Kuhnt's	1	49
Other operations	9	25
For Symblepharon	51	63
For Hordeolum and Chalazion	555	629
Cyst removed	69	91
Wart excised	59	65
Restitching wounds	54	101
„ abcesses	184	301
CONJUNCTIVA :—		
For Trachoma :—		
Expression	1,093	2,236
Scraping	5,312	5,706
Combined excision of Heisrath	915	736
Post-trachomatous degeneration	8,924	10,711
Other operations	160	96
Pterygium	622	692
IRIS :—		
Iridectomy for adherent leucoma	1,613	2,154
„ visual	146	305
„ for glaucoma	30	78
„ preliminary for cataract	3	3
Cystoid cicatrix	—	2
Division of anterior synechia	5	34
Excision of prolapse	—	10
LACRIMAL SAC :—		
Excision	40	77
Various	81	202
Growth sclera	7	—
LENS :—		
For senile Cataract :—		
Extraction with iridectomy	301	439
„ after previous iridectomy	5	9
For membrane after extraction : Discission	178	281
For soft Cataract :—		
Extraction	—	—
Discission	20	65
Curette evacuation	77	168
Needling with curette evacuation	—	1
For membrane after extraction :—		
Discission	20	65
Paracentesis	9	21
Capsulotomy	2	10
Capsule extraction	1	3
GLOBE :—		
Trephining of cornea-sclera with iridectomy	464	534
Excision	335	397
Evisceration	67	136
Trephining without iridectomy	—	2
ORBIT :—		
Exenteration	1	3
For Tumour	17	7
„ Dermoid	24	21
„ Cellulitis	1	4
„ Cyst, frontal	1	1
„ ethmoidal	—	—
Cornea :—		
Scraping and shaving cornea	—	1
Foreign body removed	175	230
Saemisch's section	18	51
Cautery	25	55
Tenotomy and advancement	80	43
Other major operations	188	182
Trial with magnet	—	3

TABLE III.—Blindness per Age during 1915 and 1916.

AGE.	No. 1 Camp.	No. 2 Camp.	Tanta.	Asyût.	Mansûra.	Beni Suef.	Zagazig.	Damanhûr.	Shibîn el Kôm.	Sohâg.	Minya.	Fayrûm.	Mahalla el Kubra.	Kafr el Zaiyât.	Santa.	Asyût Provincial Council.	Daqahliya Provincial Council.	TOTAL.
Year 1915.																		
Under one year	9	5	11	9	1	17	18	3	8	3	3	—	25	9	—	—	—	121
From 1 to 5...	19	8	53	19	74	20	40	15	56	22	37	—	44	32	—	1	8	448
„ 6 to 10..	27	14	47	18	40	46	36	13	79	28	54	—	27	22	—	4	14	469
„ 11 to 15...	26	23	43	35	50	54	43	22	60	193	59	—	41	25	—	6	6	686
„ 16 to 20...	17	18	56	42	48	69	48	23	48	180	63	—	42	21	—	12	14	701
„ 21 to 40...	175	60	246	280	274	267	220	194	198	182	421	—	241	160	—	10	34	2,962
Over 40 years...	123	65	202	312	371	193	196	161	284	343	441	—	210	66	—	9	34	3,010
Clinical notes lost	—	—	—	—	—	—	—	167	—	—	—	—	—	—	—	—	—	167
TOTAL... ...	396	193	658	715	858	666	601	598	733	951	1,078	—	630	335	—	42	110	8,564
Year 1916.																		
Under one year	2	4	16	12	13	30	28	—	7	1	4	17	20	4	—	—	3	161
From 1 to 5...	1	26	28	25	62	43	65	14	54	16	31	21	49	11	12	2	27	487
„ 6 to 10...	3	32	32	22	69	29	51	9	65	15	57	27	30	25	24	4	10	504
„ 11 to 15...	23	33	29	47	63	43	40	44	64	160	64	35	45	12	27	17	13	759
„ 16 to 20...	9	36	59	51	58	49	24	15	50	154	73	33	30	21	19	50	16	747
„ 21 to 40...	59	235	234	360	379	261	203	202	188	140	454	205	221	128	110	142	54	3,575
Over 40 years...	71	308	209	412	348	227	186	183	278	254	445	283	206	60	229	85	230	4,014
Clinical notes lost	153	—	—	—	—	—	—	146	—	—	—	—	—	—	—	—	—	299
TOTAL... ...	321	674	607	929	992	682	597	613	706	740	1,128	621	601	261	421	300	353	10,546

TABLE VII.—**Number of Patients treated and Operations performed at the Ophthalmic Hospitals during 1915.**

Patients treated.		Operations performed.	
Tanta	5,406	Asyût	3,954
Zagazig	5,228	Sohâg	3,787
Mansûra	5,153	Mansûra	3,727
Asyût	4,728	Shibîn el Kôm	3,656
Damanhûr	4,602	Tanta	3,510
Minya	4,480	Zagazig	3,465
Shibîn el Kôm	3,995	Mahalla el Kubra	3,461
Sohâg	3,628	Minya	2,964
Mahalla el Kubra	3,534	Kafr el Zaiyât	2,951
Beni Suef	3,345	Beni Suef	2,870
Kafr el Zaiyât	3,157	Damanhûr	2,545
No. 1 Camp	1,696	No. 2 Camp	1,607
No. 2 Camp	1,480	No. 1 Camp	1,518
Daqahliya Provincial Council	1,053	Asyût Provincial Council	1,004
Asyût Provincial Council	976	Daqahliya Provincial Council	911
Santa	291	Santa	216
Total	52,752	Total	42,146

TABLE VIII.—**Number of Patients treated and Operations performed at the Ophthalmic Hospitals during 1916.**

Patients treated.		Operations performed.	
Tanta	5,830	Mansûra	4,222
Mansûra	5,799	Tanta	3,986
Zagazig	5,567	Shibîn el Kôm	3,959
Minya	5,283	Sohâg	3,744
Damanhûr	4,839	Minya	3,715
No. 2 Camp	4,808	Asyût	3,692
Asyût	4,699	Santa	3,525
Shibîn el Kôm	4,367	No. 2 Camp	3,395
Beni Suef	3,917	Zagazig	3,375
Sohâg	3,550	Mahalla el Kubra	3,210
Santa	3,431	Damanhûr	3,156
Mahalla el Kubra	3,389	Beni Suef	3,124
Faiyûm	3,181	Kafr el Zaiyât	2,625
Daqahliya Provincial Council	3,105	Asyût Provincial Council	2,440
Kafr el Zaiyât	3,052	Daqahliya Provincial Council	2,398
Asyût Provincial Council	2,098	Faiyûm	2,276
No. 1 Camp	1,389	No. 1 Camp	1 363
Total	68,304	Total	54,205

TABLE IX.—Average Number of Operations per Month at the Ophthalmic Hospitals during 1915 and 1916.

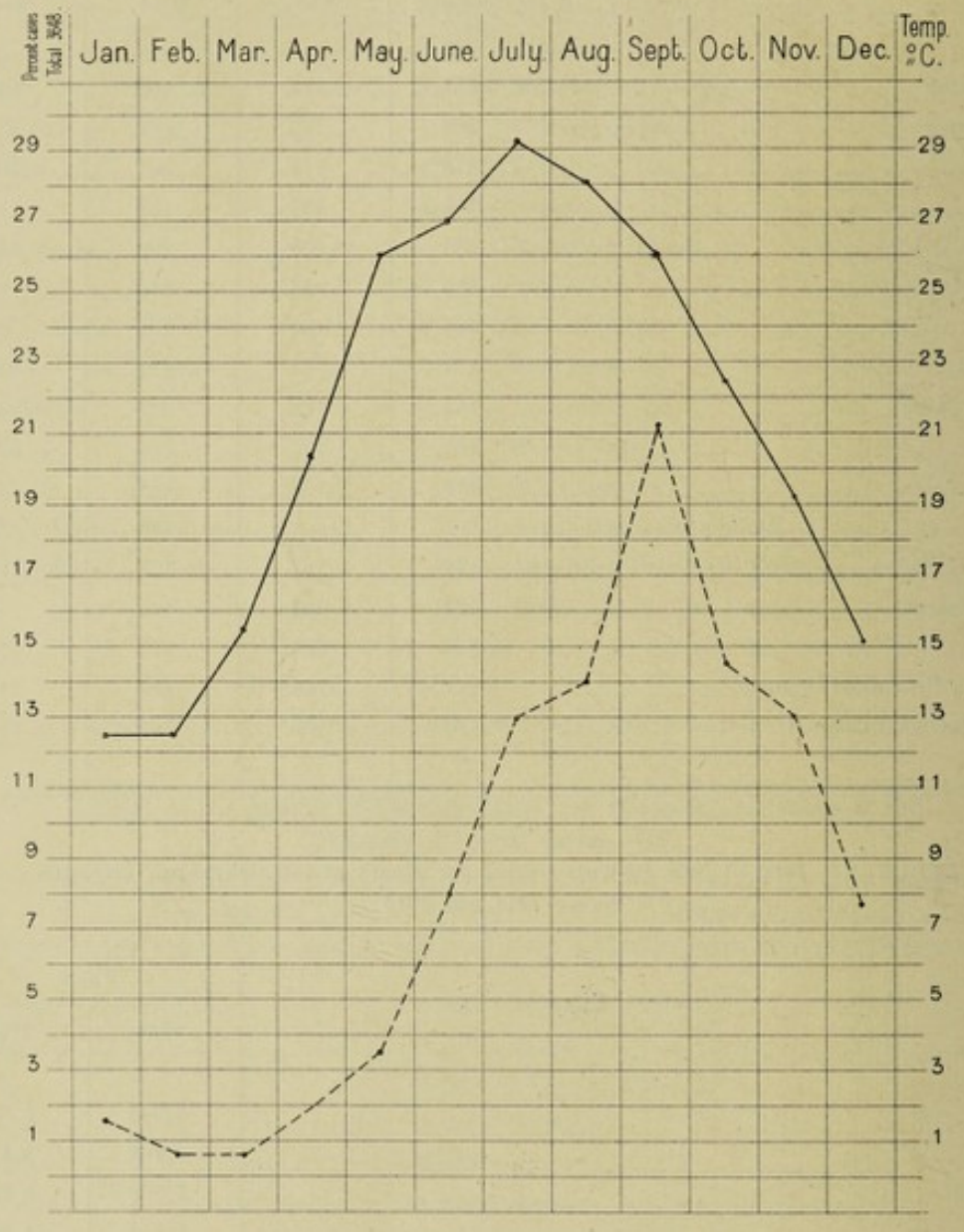
Hospitals.	1915		1916	
	Major.	Minor.	Major.	Minor.
No. 1 Camp	186	174	162	110
No. 2 Camp	208	173	187	238
Tanta	178	115	201	131
Asyût	197	132	196	112
Mansûra	183	128	209	143
Beni Suef	155	84	176	85
Zagazig	185	104	195	86
Damanhûr	151	61	192	71
Shibin el Kôm	183	122	227	103
Sohâg	185	131	193	119
Minya	178	92	178	132
Faiyûm	—	—	188	137
Mahalla el Kubra	161	127	157	110
Kafr el Zaiyât	144	102	145	74
Santa	126	215	179	114
Daqahliya Provincial Council	177	148	198	144
Asyût Provincial Council	170	197	164	141

TABLE X.—Total of New Patients treated per Month at the Ophthalmic Hospitals during 1915 and 1916.

Month.	Year.	
	1915	1916
January	4,943	2,896
February	4,764	3,121
March	5,959	4,240
April	5,748	4,983
May	4,676	6,750
June	4,242	6,896
July	3,836	5,792
August	3,913	8,361
September	3,900	7,463
October	3,774	5,981
November	3,662	6,251
December	3,335	5,570
Total	52,752	68,304

TABLE XI.—**Curves showing Variations of Temperature and Gonococcal Conjunctivitis, 1916.**

(*See statistics Table XV.*)

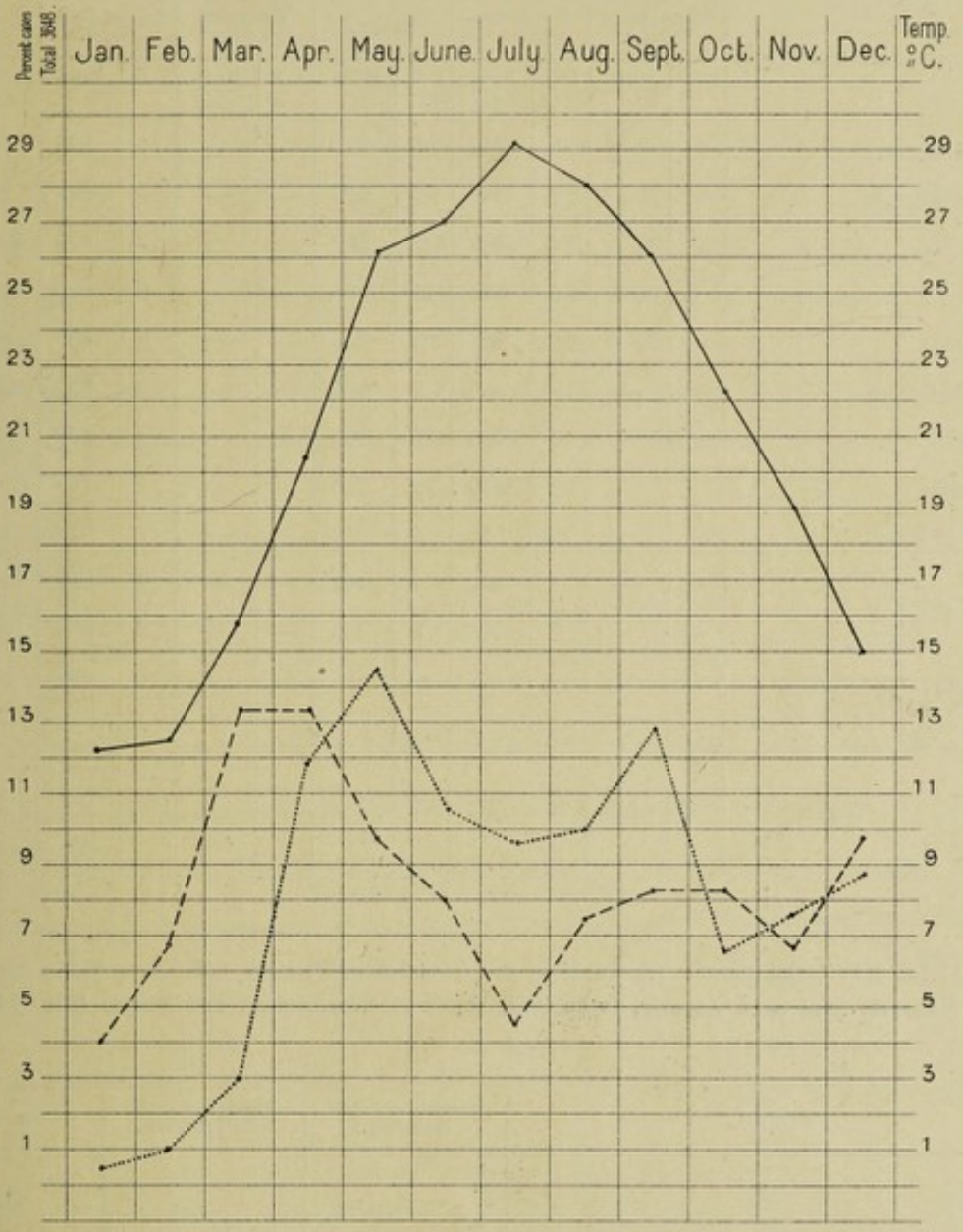


——— *Temperature in degrees Centigrade, 1916.*

– – – – – *Percent of cases in each month of total 3648, 1916.*

Curves of 1915 could not be made because no regular microscopical examinations were carried out for special reasons.

TABLE XII.—**Curves showing Variations in Temperature and Conjunctivitis due to Koch-Weeks and Morax-Axenfeld Bacillus.**



——— *Temperature in degrees Centigrade, 1916.*
——— *Koch Weeks total cases 1842, 1916.*
- - - - - - *Morax Axenfeld total cases 801, 1916.*

Curves of 1915 could not be made because no regular microscopical examinations were carried out for special reasons.

TABLE XIII.—**Receipts realized from Treatment Fees and Sale of Eye-Drops in the Government Ophthalmic Hospitals during 1915 and 1916.**

HOSPITAL.	1915						1916					
	Treatment Fees.		Sale of Eye-Drops.		Total.		Treatment Fees.		Sale of Eye-Drops.		Total.	
	L.E.	Mills.	L.E.	Mills.	L.E.	Mills.	L.E.	Mills.	L.E.	Mills.	L.E.	Mills.
No. 1 Camp...	—	—	6	140	6	140	—	—	5	390	5	390
No. 2 Camp...	—	—	2	420	2	420	—	—	2	225	2	225
Tanta	—	—	4	200	4	200	—	—	13	610	13	610
Asyût	6	200	8	595	14	795	3	—	9	620	12	620
Mansûra	—	—	5	256	5	256	—	—	2	435	2	435
Beni Suef	—	—	9	905	9	905	—	—	20	350	20	359
Zagazig	—	—	5	905	5	905	—	—	8	570	8	570
Damanhûr	—	—	9	740	9	740	—	—	9	765	9	765
Shibîn el Kôm	—	—	12	53	12	53	—	—	9	470	9	470
Sohâg	—	—	7	402	7	402	—	—	4	565	4	565
Minya	—	—	9	965	9	965	—	—	9	600	9	600
Faiyûm...	—	—	—	—	—	—	—	—	6	698	6	698
Total... ...	6	200	81	581	87	781	3	—	102	298	105	298

TABLE XIV.—**Ophthalmic Treatment at the Government Primary Schools of Tanta, Asyût, Mansûra, Beni Suef, Zagazig, Damanhûr, Shibîn el Kôm, Sohâg, and Minya, 1916-1917.**

Table (*a*)

SCHOOL.	Number of Pupils attending.	Number infected with Trachoma.	Per Cent.
Tanta...	260	222	85·4
Asyût...	218	176	80·7
Mansûra	218	204	93·5
Beni Suef...	311	294	94·5
Zagazig	211	207	98·1
Damanhûr...	90	78	86·6
Shibîn el Kôm...	119	119	100
Sohâg	96	90	93·7
Minya	146	138	94·5
Total... ...	1,669	1,528	91·5

TABLE (*b*) CONDITION OF CONJUNCTIVA.

	Before Treatment.						After Treatment.					
	Healthy.	Conjunctivitis.	Trachoma				Healthy.	Conjunctivitis.	Trachoma.			
			I.	II.	III.	IV.			I.	II.	III.	IV.
Tanta	38	—	5	17	89	111	38	—	2	2	82	127
Asyût	42	—	37	29	71	39	39	—	7	—	96	68
Mansûra	14	—	24	17	143	20	11	—	20	2	141	38
Beni Suef	17	3	33	24	204	30	15	2	3	—	193	96
Zagazig	4	—	4	29	138	36	14	1	—	—	105	92
Damanhûr	12	—	7	13	46	12	20	—	1	—	36	31
Shibîn el Kôm	—	—	6	7	83	23	5	—	—	3	71	42
Sohâg	6	—	16	9	46	19	5	—	3	—	59	29
Minya	8	—	19	31	59	29	7	1	5	—	75	55
TOTAL... ...	141	3	151	176	879	319	154	4	41	7	858	578
%	8·4	0·2	9·1	10·5	52·6	19·1	9·4	0·2	2·5	0·4	52·2	35·2

TABLE (*c*) NUMBER TREATED.

	Underwent.	Untreated.
Tanta	104	156
Asyût	110	108
Mansûra	128	90
Beni Suef	184	127
Zagazig	153	58
Damanhûr	48	42
Shibîn el Kôm	86	33
Sohâg	90	6
Minya	119	27
TOTAL...	1,022	647

TABLE (*d*) TRACHOMA AND ITS RELATION TO SCHOOL YEARS.

Before Treatment.

	1st Year.						2nd Year.						3rd Year.						4th Year.					
	Healthy.	Trachoma.				Conjunctivitis.	Healthy.	Trachoma.				Conjunctivitis.	Healthy.	Trachoma.				Conjunctivitis.	Healthy.	Trachoma.				Conjunctivitis.
		I.	II.	III.	IV.			I.	II.	III.	IV.			I.	II.	III.	IV.			I.	II.	III.	IV.	
Tanta	9	3	9	19	—	—	13	—	3	33	20	—	9	1	4	19	40	—	7	1	1	18	51	—
Asyût	12	14	7	13	3	—	7	13	12	23	9	—	17	7	7	24	18	—	6	3	3	11	9	—
Mansûra	7	12	9	28	—	—	3	10	3	21	6	—	1	1	2	43	4	—	3	1	3	51	10	—
Beni Suef	3	25	9	40	3	1	7	5	8	51	4	1	3	1	7	58	11	1	4	2	—	55	12	—
Zagazig	2	—	16	24	4	—	1	3	10	30	6	—	1	1	1	35	15	—	—	—	2	49	11	—
Damanhûr	3	4	1	5	2	—	3	2	4	13	2	—	3	1	6	16	3	—	3	—	2	12	5	—
Shibîn el Kôm	—	2	4	8	2	—	—	3	1	16	5	—	—	—	1	25	5	—	—	1	1	34	11	—
Sohâg	1	5	4	9	2	—	1	8	4	10	4	—	1	3	1	11	4	—	3	—	—	16	9	—
Minya	2	6	12	7	1	—	5	6	11	14	4	—	1	3	4	25	14	—	—	4	4	13	10	—
Total	39	71	71	153	17	1	40	50	56	211	60	1	36	18	33	256	114	1	26	12	16	259	128	—
Per cent ...	11·1	20·1	20·1	43·4	4·8	0·3	9·5	11·9	13·4	50·5	14·3	0·2	7·9	3·9	7·2	55·9	24·8	0·2	5·8	2·7	3·6	58·7	29·2	—

TABLE (*e*) VISION WITHOUT SPECTACLES.

	Tanta.	Asyût.	Mansûra.	Beni Suef.	Zagazig.	Damanhûr.	Shibîn el Kôm.	Sohâg.	Minya.	Total.	Grand Total.	Per Cent.
1. Good Vision :—												
(*a*) Normal vision in each eye 6/6 and 6/6...	10	116	5	77	67	23	5	6	20	329		
(*b*) Vision 6/6 and 6/9, or 6/9 and 6/9	40	57	34	93	58	23	16	12	25	358	687	41·1
2. Fair Vision :—												
(*a*) Vision 6/6 and 6/12, or 6/9 and 6/12, or 6/12 and 6/12.	52	18	31	42	33	9	19	25	37	266		
(*b*) Vision 6/6 and 6/18	—	4	1	4	1	1	1	—	—	12	278	16·6
3. Bad Vision :—												
Fails to attain any of the above standards	158	23	147	95	52	34	78	53	64	704	704	42·2
Total	260	218	218	311	211	90	119	98	146	1,669	1,669	99·9

TABLE (*f*) SPECTACLES.

	Tanta.	Asyût.	Mansûra.	Beni Suef.	Zagazig.	Damanhûr.	Shibîn el Kôm.	Sohâg.	Minya.	Total.
1. Number of pupils obtained spectacles this year...	4	2	24	2	3	1	2	7	11	56
2. Number of pupils now attending school who have ever obtained spectacles	15	4	27	2	4	3	2	8	13	78
3. Number of pupils wearing spectacles ordered since the ophthalmic inspection began, on date of inspection	6	4	27	2	4	3	2	—	13	61

TABLE (*g*) STATISTICS AS SUPPLIED TO THE MINISTRY OF EDUCATION.

	Complications.			Trachoma or Granular Ophthalmia		Free from Trachoma or Granular Ophthalmia.	Approximate Age.	No. of pupils attending School.
	Both Corneæ.	Right Eye.	Left Eye.	Cicatricial.	Follicular or Granulations.			
Tanta	35	27	30	200	22	38	10	260
Asyût	3	8	8	68	108	42	10	218
Mansûra	23	20	11	163	41	14	10·5	218
Beni Suef	32	33	15	234	57	17	10	311
Zagazig	18	13	13	174	33	4	11	211
Damanhûr	15	5	4	53	25	12	10	90
Shibîn el Kôm	11	2	2	106	13	—	10·5	119
Sohâg	16	12	9	35	58	6	10·6	96
Minya	17	11	11	42	96	8	10	146
Total... ...	170	131	103	1,075	453	141	10·3	1,669

TABLE (*h*) CONDITION OF CORNEA.

	Before Treatment.		
	Both Corneæ Clear.	One Cornea Clear the other showing Opacity.	Opacity of both Corneæ.
Tanta	173	54	33
Asyût	200	15	3
Mansûra	14	31	173
Beni Suef	231	48	32
Zagazig	169	25	17
Damanhûr	66	9	15
Shibin El Kôm	21	1	97
Sohâg	63	17	16
Minya	107	22	17
TOTAL	1,044	222	403
Per cent	62·5	13·3	24·1

TABLE (*i*) BLIND IN ONE EYE.

Tanta	1
Asyût	1
Mansûra	2
Beni Suef	1
Zagazig	1
Damanhûr	1
Shibin El Kôm	2
Sohâg	2
Minya	—
TOTAL	11
Per cent	0·7

TABLE (*j*) MYOPIA CASES ACCORDING TO DEGREES OF MYOPIA AS DETERMINED BY SUBJECTIVE TESTING.

Degree of Myopia.	Tanta.	Asyût.	Mansûra.	Beni Suef.	Zagazig.	Damanhûr.	Shibin el Kôm.	Sohâg.	Minya.	TOTAL.
— 0·50	—	—	2	—	—	—	—	—	—	2
— 0·75	—	—	3	—	—	—	—	—	—	3
— 1	—	—	1	—	—	—	—	—	2	3
— 1·25	—	—	1	—	—	—	—	—	—	1
— 1·50	—	—	—	1	—	—	—	1	—	2
— 2	—	—	1	2	1	—	2	—	2	8
— 2·25	—	—	1	—	—	—	—	—	—	1
— 2·50	—	—	—	—	—	—	—	1	—	1
— 2·75	—	—	1	—	—	—	—	—	—	1
— 3	1	1	—	7	—	—	—	2	1	12
— 3·25	—	—	1	—	—	—	—	—	—	1
— 3·50	—	1	—	—	1	—	—	—	—	2
— 3·75	—	—	1	—	—	—	—	—	—	1
— 4	1	—	—	—	—	—	1	—	1	3
— 4·25	—	—	1	—	—	—	—	—	—	1
— 4·75	—	—	1	—	—	—	—	—	—	1
— 5	2	—	1	3	1	—	—	1	1	9
— 6	—	—	—	3	1	—	—	—	1	5
— 7	1	—	2	2	—	—	1	—	—	6
— 8	—	1	1	2	1	1	—	—	—	6
— 9	—	—	—	1	—	—	—	—	—	1
—10	1	—	—	1	—	—	—	—	—	2
—12	1	1	—	1	—	1	—	—	1	5
TOTAL	7	4	18	23	5	2	4	5	9	77

TABLE (*k*) RECOMMENDATIONS APPROVED BY INSPECTOR WERE MADE TO GUARDIANS AS REGARDS THE PERFORMANCE OF THE FOLLOWING OPERATIONS ON THEIR WARDS.

	Trachoma.		Trichiasis.	Lacrimal Obstruction.	Adherent Leucoma.	Cataract.	Strabismus.	Blind Eye.	Total.	Number carried out.		Not carried out.
	Scraping.	Combined Excision.								At Ophthalmic Hospitals.	Privately.	
Tanta	18	—	4	—	—	—	—	—	22	4	1	17
Asyût	14	—	—	—	—	—	—	—	14	14	—	—
Mansûra	6	—	6	—	1	—	—	—	13	10	1	2
Beni Suef	32	—	1	—	1	1	—	—	35	23	1	11
Zagazig...	28	—	1	—	—	—	—	—	29	24	3	2
Damanûhr	17	—	—	—	2	—	—	—	19	11	—	8
Shibîn el Kôm	36	—	—	—	2	—	—	—	38	35	1	2
Sohâg	11	—	1	—	1	—	—	—	13	8	—	5
Minya	27	—	—	—	—	—	—	—	27	16	—	11
Total... ...	189	—	13	—	7	1	—	—	210	145	7	58

TABLE XV.—Average Temperature.

The average temperature was arrived at by taking two places in Lower Egypt (Qurashiya and Zagazig) and two places in Upper Egypt and obtaining an average figure from the mean temperature at each place on the 1st and 16th of each month. This is shown in appended table, the readings being in degrees centigrade.

Year.	Town.		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1915	Qurashiya †	1st	10·4	14·2	10·2	15·0	17·8	25·7	25·6	26·8	25·6	22·8	20·7	11·4
		16th	9·6	11·1	15·4	16·4	20·0	33·7	28·2	27·8	22·4	20·6	17·3	15·8
	Zagazig †	1st	11·7	16·5	11·5	15·8	18·0	25·2	25·0	26·7	24·8	21·2	20·9	11·3
		16th	10·0	10·1	15 0	15·9	20·1	33·2	26·8	26·4	21·9	19·4	17·6	14·4
	Beni Suef ‡	1st	10·8	18·5	14·4	18·2	20·2	27·5	27·5	29·8	25·2	24·2	20·5	13·0
		16th	10·4	13·0	18·0	20·1	22·0	36·2	30·0	27·8	25·2	21·5	19·5	13·8
	Asyût	1st	12·5	19·2	12·0	18·8	25·0	31·4	30·2	30·8	27·6	24·3	23·4	11·7
		16th	10·9	12·9	22·3	22·0	24·9	36·6	34·1	30·9	26·4	22·4	17·4	12·9
	Total		86·3	115·5	118·8	142·2	168·0	249·5	227·4	227·0	199·1	176·4	157·3	104·3
	Average		10·79	14·44	14·85	17·78	21·0	31·19	28·42	28·38	24·89	22·05	19·66	13·04
1916	Qurashiya †	1st	15·1	10·9	13·0	18·0	19·2	22·3	26·6	27·4	25·9	21·3	19·0	15·0
		16th	9·6	12·0	15·9	21·1	32·3	28·6	27·2	25·5	26·4	22·2	19·1	16·4
	Zagazig †	1st	9·4	14·8	13·2	17·1	18·8	22·6	27·2	26·9	25·0	20·4	19·0	14·2
		16th	9·7	10·0	15·8	20·6	31·9	27·8	27·6	25·4	25·4	21·1	18·6	14·3
	Beni Suef ‡	1st	16·0	12·2	14·8	23·5	20·4	27·8	28·7	—	26·3	24·9	18·6	16·4
		16th	14·2	15·2	17·5	20·4	29·8	29·9	32·8	27·8	22·4	23·4	18·2	12·0
	Asyût †	1st	13·1	10·7	16·5	19·4	23·5	26·8	31·4	32·8	27·8	22·2	18·3	16·0
		16th	10·9	13·3	19·5	22·0	33·2	30·9	32·0	29·5	29·1	23·2	21·8	15·8
	Total		98·0	99·1	126·2	162·1	209·1	216·7	233·5	195·3	208·3	178·7	152·6	120·1
	Average		12·25	12·39	15·78	20·26	26·14	27·09	29·19	27·90	26·04	22·34	19·08	15·01

† = Mean of day $\frac{8h+14h+20h+Min.}{4}$ ‡ = Mean of day $\frac{Max. + Min.}{2}$

APPENDIX I.

Cairo, February 28, 1916.

From

SURGEON-GENERAL R. W. FORD, C.B., D.S.O.,
Director of Medical Services,
The Force in Egypt.

To

SIR DAVID SEMPLE,
Director-General,
Department of Public Health.

SIR,

I have the honour to inform you that owing to the large number of beds now available in military hospitals, Egypt, it has been decided that it will no longer be necessary to continue the use of the Public Health Department Hospital at Giza, and I have therefore asked Major MacCallan to close it for military purposes.

This hospital has now been in existence for many months, formerly at Alexandria and latterly at Cairo, and has been of the greatest assistance to the military services. I desire to place on record my appreciation of the excellent and helpful professional work that has been carried out by Major MacCallan and his staff, and request you will kindly convey to them my sense of indebtedness for their untiring exertions in the interests of the sick and wounded, especially during the period of military operations at the Dardanelles.

Major MacCallan's hospital has been, in my opinion, a model of what a war hospital under canvas should be.

I hope you will be so good as to record the military services of Major MacCallan and those of his staff in the annals of your Department.

I have the honour to be,
Sir,
Your obedient servant,
(Signed) : R. W. FORD,
Surgeon-General,
Director of Medical Services,
The Force in Egypt.

(True copy.)
Signed : WAHBI SHEHATA,
Director, Administrative Service,
Department of Public Health.

APPENDIX II.

PUBLICATIONS.

A. Annual.

(1) Annual Reports on Ophthalmic Hospitals, 1912, 1913, 1914, 1915, 1916.

(2) Bulletins of the Ophthalmological Society of Egypt, 1911, 1912, 1913, 1914, 1915.

B. Occasional.

(1) "Four Years' Work with the Ophthalmic Hospitals of Egyht." Annual Meeting, British Medical Association, 1907.

(2) "The Relief of Eye Disease in Egypt, with some Consideration of the Incidence of Blindness and Trachoma." Sixteenth International Medical Congress, Budapest, 1909. Reprints available.

(3) "The Egyptian Ophthalmic Hospitals." Annual Meeting, British Medical Association, 1910. Reprints available.

(4) "Ophthalmic Hospitals in Egypt." "Ophthalmic Record," U.S.A., 1910. Reprints available.

(5) Communication read at the Fourth International Blind Congress in Cairo, February, 1911. Published in "Ophthalmoscope," 1911. Reprints available.

(6) *Les Divisions du Trachome, le Traitement de cette Affection et de ses Complications.* By the Director. "Archives d'Ophtalmologie," September, 1911.

(7) "Trachoma and its Complications in Egypt." By the Director, Ophthalmic Hospitals in Egypt. Cambridge University Press, London, 1913.

Govt. Press 4092-1917-380 ex.