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MADRAS RECORD OFFICE

GOVERNMENT OF MADRAS

Revenue DEPARTMENT

G.O. No. / B.P. No.	1271.	Press / Mis.	

Dated 6 . 10 - 1874 ~~196~~ . .

Not to be folded or roughly handled

No. 49. Read the following letter from Surgeon-General E. G. BALFOUR, Surgeon-General, Indian Medical Department, to the Secretary to Government, Revenue Department, dated Fort St. George, 15th September 1874, No. 428 :—

In my letter, No. 363, dated 11th August 1874, and the attached reports, I had the honor to submit to the Right Honorable the Governor in Council all the information which had been obtained regarding the disease attended with great thirst from which the people were suffering in the Tinnevelly and adjoining districts.

2. I have now to submit a further report from Surgeon Rickard and one from Hospital Assistant V. Ramasawmy, No. 256, and a report from Hospital Assistant P. Nalliah Naidu, No. 476, descriptive of the causes of sickness which occurred in the Ettiapuram and Ottapidaram Taluqs of Tinnevelly. Hospital Assistant V. Ramasawmy says he had, under his medical care, seventy-six cases of the water-drinking disease, mostly mild, and some requiring little or no treatment; but he does not give the dates at which he saw these ailments. The symptoms which he describes as attending the disease are those of fever with a very hot skin. I gather from his remarks that the people attributed the disease to the use of unripe Cumboo (*Pencillaria spicata*), which had been cut before fully ripened, and scant rain-fall; and the Hospital Assistant also indicates as causes scarcity of water with severe heat, as he found a peculiar taste in almost every tank and well sunk in the bed of the river adjacent to each village, impregnated with saline matters, bitter and unfit for drinking purposes. The treatment he adopted was such as is usual in fever attended with severe heat of skin. He reports the occurrence of thirteen deaths from diarrhœa and dysentery brought on from living on water and not taking any nourishing food.

3. Surgeon Rickard made a house-to-house visitation of Ettiapuram along with Mr. Bird. He describes it as a poor, dependent village; its sanitary condition as, indeed, at a low ebb; and the wells something dreadful to behold, with thick, black fetid mud round their walls, constantly stirred up and rendered more liquid by the crowds of persons, the water percolating into the wells; the well-water brackish; and the whole country for miles around with a parched up and withered appearance. He found to be due to other ailments many cases which the people believe to be of this new disease; but that there has been very severe sickness in that locality is proved by the fact that of fifty-two cases thirteen had died,—25 per cent.,—between 9th July and 8th August of the current year. Surgeon Rickard recognises that there has been a large amount of sickness and increased mortality in a poor, ill-fed, and badly-housed community, but is of opinion that the diseases have been various, and that there has not been any epidemic prevailing. He is inclined to attribute the sickness of the people to the use of the unripe Cumboo grain, used while too recently gathered. He looks to better food and to an abundant rain-fall as a remedy for the existing condition, and, whilst the people are being supplied with rice, milk, *etc.*, from the Chuttrum fund, recommends that all suspected cases of Tunnir-kudi-novoo should be fed from that fund; he recommends that a medical subordinate should perambulate the district, and induce the villagers to remedy the defective sanitation.

4. In my former letter I mentioned that the examination which had been made of the sample of the grain received from Tinnevelly failed to detect any difference in it from that found in the Madras market; the reports now sent point to new Cumboo

as one probable cause of the unusual sickness. But the state of the drinking water and the condition of the wells are almost sufficient to produce severe diseases; and I have, in anticipation of approval, directed the Deputy-Surgeon-General of the Southern Districts to detail a warrant medical officer to report on the sanitary condition of the villages in that tract of country and to carry with him medicines suitable for the kind of ailments with which he will meet.

5. I recommend that, while so employed, the Apothecary be allowed the marching batta of his rank and be compensated for the Rs. 30 per mensem which he would lose by leaving his fixed appointment, or, if more acceptable, an allowance of 50 per cent. of his salary which would be Rs. 75 per month.

ENCLOSURE No. 1.

From Surgeon F. M. RICKARD, Zillah Surgeon, Tinnevelly, to R. K. PUCKLE, Esq., Collector of Tinnevelly, dated Palamcottah, 31st August 1874, No. 169.

IN compliance with your letter, No. 684, dated 11th August 1874, I have the honor to inform you that I have visited and carefully inspected Ettiapuram, and give below the results of my inquiry there.

Ettiapuram is essentially a poor village, the inhabitants for many reasons being in a poor and dependent position; the houses are bad and ill-ventilated; the streets are dirty and ill-made; sanitation in this village is, indeed, at a low ebb; and the wells are something dreadful to behold,—the thick, black, fetid mud round the wells is constantly being stirred up and rendered more liquid by the crowds of persons frequenting them, thus rendering it more easily absorbed again into the wells, round which there are no precautions taken against the soiled water percolating back. The water of this village is impure and brackish in taste and cannot be wholesome. At present, there is no sign of rain there, and the whole place and for some miles round has a withered and parched appearance. There has been no rain there now for nearly a year. During the time I was at Ettiapuram I made house-to-house visitation accompanied by Mr. Bird, who obtained for me much useful information, and assisted me very much in my inquiries. I have appended tabular statements, to which I shall make reference in the course of my report.

The first point I would notice is, that the number of cases of Tunnir-kudi-novoo reported seems to me to be a mistake, as many cases were attributed to this disease; whereas, in truth, they had no connection whatever with it. This I was able to prove and verify by my personal observation. To give an example of the manner in which every case of sickness is at once attributed to Tunnir-kudi-novoo: a child aged ten months was shown to me and symptoms described, and its parents were perfectly under the impression that it had the disease, whereas the little child was simply suffering from teething.

Another example is almost as far-fetched, in which an old woman, aged 80 years, suffering from a large malignant tumour on the back of the head, was shown to me as a victim of Tunnir-kudi-novoo.

There is not the slightest doubt that numbers of cases have been reported as suffering from the above-named disease and wrongly attributed to it.

Secondly.—I found that fifty-two cases of Tunnir-kudi-novoo had been reported, and that of that number thirteen had died and twenty-eight had got without any treatment whatever. In Table A the whole of the fifty-two cases are given as reported.

Thirdly.—I would here remark on the thirteen deaths as reported. Table B gives the deaths with age and caste. With reference to the ages of the deceased, I find that they are rather under than over-stated. In the thirteen deaths it will be noticed that ten are 40 years

and above. Of the three remaining cases, *viz.*, Nos 8 10, and 13, I gleaned the following informations from the relatives of the deceased persons:—

In the case of No. 10 the husband stated that his wife had always been very sickly. They had been married four years but had no children. She was always subject to diarrhœa, and latterly suffered much from dysentery, which eventually proved fatal. In the case of No. 13, the mother states that her daughter's age was nearly 50 when she died, and that she had been sick for six months and had suffered from dysentery up to the day of her death.

In the case of No. 8 (an orphan boy) the friends state he was ill about a month-and-a-half and had fever, which eventually carried him off.

Thus, of the thirteen deaths, we have eleven cases of 40 and above, and two of 22 and 12, respectively; but this is not sufficient evidence to prove the existence of an epidemic, nor is it unreasonable to suppose that the whole number (thirteen) died from general causes.

Fourthly.—We now come to the cases actually seen tabulated in Form C. Of these it will be noticed that six are above 65 years of age, suffering from various complaints, and the rest, with the exception of No. 1, just such cases as exist in every village, only requiring some little treatment. The first case in this table,—a young female aged 25,—was suffering from severe diarrhœa, but which I treated and relieved. In this case there were symptoms which might be attributed to Tunnir-kudi-novoo, and the diarrhœa was possibly the result of the continued use of Cumboo grain. There was thirst in this case, but not excessive,—not more so than met with in ordinary practice. This case, however, was better when I left the village.

Of the remainder of the cases in this statement it will be unnecessary to report further, as the cases speak for themselves.

Fifthly.—The next point is, what caste or castes have been particularly attacked with the disease? In Form D the castes are given and the number attacked in each caste. In the statement it will be noticed that forty-five persons of the Weaver caste were attacked, only two Maravens, two Betelmonger, and three Pandarams. The Weaver caste is notoriously an unhealthy one and, I regret to say, tainted with hereditary syphilitic poison to an alarming extent. It will be noticed that not a single Brahman has been attacked, and in the same manner nearly all the higher castes have escaped any ill-effects of the disease. Further, among those who have been attacked with the disease the greatest number were old and enfeebled persons, averaging from 50 to 70 years of age.

That there has been a large amount of sickness in this village and an increased mortality I believe; but when we come to consider that the population is about 6,500 and that the people are poor, ill-fed, and badly-housed, I do not admit that there has been anything of the character of an epidemic, which, if present, would respect little, either age or caste. It appears that the staple-food of the people of this part is Cumboo, and that the harvest of this grain has been very unsatisfactory owing to the great want of rain. In consequence of this great drought, the grain has not matured in the ear before it has been reaped, and it has, therefore, not developed the properties belonging to it. Moreover, the new Cumboo is cheaper than the old, and therefore it is manifest why it is eaten by the poorer classes. That this new Cumboo has caused sickness I have not the slightest doubt, and all the information I obtained tended to the same opinion. Until we can have the blessing of good rain, I am afraid that this state of things must continue to a greater or lesser degree; but I cannot advise any line of treatment, unless, of course, it was possible to provide the afflicted villages with grain of a better sort. Those who are now sick are being supplied with rice, milk, *etc.*, from the Chuttrum fund, and all cases of suspected Tunnir-kudi-novoo should be at once fed from the same fund. I do not consider much good is to be gained from medical treatment; but I would suggest that a subordinate be ordered to travel from village to village to render what assistance he can, and also to induce the villagers to take some steps to remedy their defective sanitation.

I have the honor to enclose the reports from the two medical subordinates who were detailed to render what assistance they could in some of the villages where Tunnir-kudi-novoo was supposed to exist.

STATEMENT A, showing the Number of Persons affected by Water-drinking Disease.

Name of Village	Names of Persons.	Age.	Sex.	Caste.	Date on which Sickness was reported.	Recovered.	Died.	Date of Death.	
Ettiapuram.	S. Sankaralinga Mudaly ..	40	Male.	Weaver.	9th July 1874.	....	1	30th July 1874.	
	Soobramania Mudaly	50	Do.	Do.	Do.	1	..		
	Omeya Mudaly	40	Do.	Do.	Do.	....	1	2nd Aug. 1874.	
	R. Sankara Mudaly	60	Do.	Do.	Do.	....	1	7th " "	
	Patchee	22	Female.	Do.	Do.	1	....		
	Ammamuthu	50	Do.	Do.	Do.	1	....		
	Akkammal	50	Do.	Do.	Do.	1	....		
	Cannamai	50	Do.	Do.	Do.	1	....		
	Annamalai Mudaly	60	Male.	Do.	Do.	....	1	4th Aug. 1874.	
	Sankaralinga Mudaly	60	Do.	Do.	Do.	1	....		
	Arikonda Mudaly	22	Do.	Do.	Do.	1	....		
	Muthoo Valy	22	Female.	Do.	Do.	1	....		
	Avaday	25	Do.	Do.	Do.	1	....		
	Valli	22	Do.	Do.	Do.	1	....		
	Ponnaiyavoo	60	Do.	Do.	Do.	1	....		
	Mankamy Mudaly	45	Male.	Do.	Do.	1	....		
	Anandy	40	Female.	Do.	Do.	1	....		
	Madathy	22	Do.	Do.	Do.	1	....		
	Mootoo Mudaly	60	Male.	Do.	Do.	1	....		
	Camatchee	25	Female.	Do.	Do.	1	....		
	Viraven Autchee	40	Do.	Do.	Do.	....	1	6th Aug. 1874.	
	Ponnoo	55	Do.	Do.	Do.	....	1	8th " "	
	Sodalaimootoo	15	Male.	Betelmonger.	Do.	1	....		
	Veerabuthern Mudaly	60	Do.	Weaver.	4th Aug. 1874.	1	....		
	Sevavetty	60	Do.	Do.	Do.	1	....		
	Annanchee	21	Female.	Do.	Do.	....	....	.....	Under treatment.
	Sonachellum Mudaly	40	Male.	Do.	Do.	....	1	6th Aug. 1874.	
	Annamalai Mudaly	30	Do.	Do.	Do.	1	....		
	Muthuvalu	35	Female.	Do.	Do.	1	....		
	Maden Mudaly	12	Male.	Do.	Do.	....	1	10th Aug. 1874.	
	Ramalingam	65	Do.	Washerman.	Do.	1	....		

Proceedings of the Madras Government, Revenue Department, 6th October 1874.

STATEMENT A, showing the Number of Persons affected by Water-drinking Disease.—(*Continued*).

Name of Village	Names of Persons.	Age.	Sex.	Caste.	Date on which Sickness was reported.	Recovered.	Died.	Date of Death.
Ettiapuram.—(*Continued.*)	Sevanoo	58	Male.	Washerman.	4th Aug. 1874.	1	....	
	Madasamy	15	Do.	Weaver.	6th Aug. 1874.	1	....	
	Ramalinga Mudaly	60	Do.	Do.	Do.	1	....	
	Autchee	65	Female.	Do.	Do.	....	1	14th A[illegible]87
	Avoodai	22	Do.	Do.	Do.	....	1	6th do.
	Kunnayee	72	Do.	Do.	Do.	1	....	
	Ackasa Mudaly	65	Male.	Do.	Do.	....	1	6th do.
	Alankarai Mudaly	60	Do.	Betelmonger.	Do.	1	....	
	Santhamarutha Pulaven ..	72	Do.	Sungamandy.	Do.	1	....	
	Naiyagam	30	Female.	Do.	Do.	....	....	
	Ramasamy	45	Male.	Maraven.	Do.	1	....	
	Muthoo Rakoo	15	Female.	Do.	Do.	1	....	
	Coolanthavelu Pulaven ..	67	Male.	Sungamandy.	Do.	1	....	
	Vallian Mudaly	30	Do.	Weaver.	8th Aug. 1874.	1	....	
	Madathy	48	Female.	Do.	Do.	1	....	
	Sivanauchari	50	Do.	Do.	Do.	....	1	8th Aug. 1874.
	Kaly	60	Do.	Do.	Do.	1	....	
	Avooday	50	Do.	Do.	Do.	1	....	
	Mankamy	30	Do.	Do.	Do.	....	1	8th do.
	Sanmoogum	12	Do.	Do.	Do.	1	....	
	Vallaiammal	40	Do.	Do.	Do.	1	....	

(Signed) F. M. RICKARD, Surgeon,
Zillah Surgeon, Tinnevelly.

PALAMCOTTAH,
31*st August* 1874.

STATEMENT B, showing the Number of Deaths.

No.	Names.	Age.	Sex.	Caste.	Date on which Disease was reported.	Date of Death.	Remarks.
1	S. Sangaralinga Mudaly.. ..	40	Male.	Weaver.	9th July 1874.	30th July 1874.	
2	Onaya Mudaly	40	Do.	Do.	Do.	2nd August 1874.	
3	R. Sungara Mudaly.. ..	60	Do.	Do.	Do.	7th do.	
4	Annumalai Mudaly.. ..	60	Do.	Do.	Do.	4th do.	
5	Vyravanatchee	40	Female.	Do.	Do.	6th do.	
6	Ponnoo	55	Do.	Do.	Do.	8th do.	
7	Sonachellum Mudaly ..	40	Male.	Do.	Do.	6th do.	
8	Madon Mudaly	12	Do.	Do.	Do.	10th do.	Probably died from some severe fever.
9	Autchee..	65	Female.	Do.	Do.	14th do.	
10	Avoodai	22	Do.	Do.	Do.	6th do.	Woman always delicate; Suffered much from diarrhœa and dysentery.
11	Akasa Mudaly..	65	Male.	Do.	Do.	6th do.	
12	Sevanatchee	50	Female.	Do.	Do.	8th do.	
13	Mankamy..	30	Do.	Do.	Do.	8th do.	This woman's age was nearly 50.

PALAMCOTTAH,
31st August 1874.

(Signed) F. M. RICKARD, Surgeon,
Zillah Surgeon, Tinnevelly.

STATEMENT C, showing the Number of Cases actually seen on 20th and 21st August 1874.

No.	Names.	Age.	Sex.	Caste.	Date on which Sickness was reported.	Disease.	Result.	Remarks.
1	Ananjee	25	Female.	Weaver.	9th July 1874.	Diarrhœa.	Better.	Treated.
2	Alangaram	70	Male.	Betel-monger.	do.	Tunnir-kudi-novoo.	Recovered.	Supposed to have suffered from the disease.
3	Avoodai	65	Female.	Weaver.	Do.	Diseases of heart.	Sick.	Do.
4	Kunnayee..	80	Do.	Do.	Do.	Cancer.	Do.	Do.
5	A. Avoodai	25	Do.	Do.	Do.	Dyspepsia.	Better.	Do.
6	Ammaimootoo	65	Do.	Do.	Do.	Diarrhœa.	Do.	Do.
7	Shunmoogum	8 or 9	Male.	Do.	Do.	Worms.	Do.	Do.
8	Vallammah	35	Female.	Do.	Do.	Tunnir-kudi-novoo.	Recovered.	Do.
9	Colanthavalco	65	Male.	Pandarem.	Do.	Do.	Do.	Treated for (do.) constipation.
10	Nayagum	25	Female.	Do.	Do.	Do.	Do.	Do.
11	Sundamaratha Pulaves Pandarem	72	Male.	Do.	Do.	Do.	Do.	Do.

PALAMCOTTAH,
31st August 1874.

(Signed) F. M. RICKARD, Surgeon,
Zillah Surgeon, Tinnevelly.

STATEMENT D, showing the Number of Persons of different Castes residing at Ettiapuram and also the Number of Persons affected by water-drinking Sickness.

No.	Description of Caste.	No of Persons in Ettiapuram.	No. of Persons affected by the Sickness.
1	Brahmins	411	..
2	Vellalars	615	..
3	Sungam[illegible]dy Pandarams	82	3
4	Chettiers	225	..
5	Caveri Naidoos	87	..
6	Smiths	318	..
7	Maravers	322	2
8	Shepherds	20	..
9	Oil-mongers	22	..
10	Curavers	56	..
11	Dyers	20	..
12	Barbers	80	..
13	Fishermen or Paravars	10	..
14	Washermen	27	..
15	Tailors	45	..
16	Betel-mongers	241	2
17	Mussulmans	230	..
18	Weavers or Kykalers	938	45
19	Arrack-sellers	125	..
20	Bricklayers	45	..
21	Puttans or Saibs	262	..
22	Paravarathars	1,406	..
23	Pullars	199	..
24	Pariahs	416	..
25	Chucklers	119	..
26	Shanars	141	..

PALAMCOTTAH,
31st *August* 1874.

(Signed) F. M. RICKARD, Surgeon,
Zillah Surgeon, Tinnevelly.

ENCLOSURE No. 1.

From V. RAMASAWMY, No. 256, Hospital Assistant, Sub-Collector's Department, Tinnevelly, to the Zillah Surgeon, dated Courtallam, 16th August 1874.

WITH reference to your docket, dated 12th instant, I beg to report that seventy-six cases of Tunnir-kudi-novoo were admitted by me during my stay at Ettiapuram and Ottapidaram Taluqs. Most of these cases were mild and some of them required little or no treatment. I adopted was to give 5-grain doses of "Chlorate of Potassa" once in every four hours. Every case that took the medicine in the manner alluded to reported favorably and proved well. Meantime, I paid attention to the state of the bowels, and I found nothing remarkable therein.

2. One case of diarrhœa was brought to me and fully succeeded by the usual treatment. No deaths occurred in any of the cases that were brought to my treatment.

Report on Tunnir-kudi-novoo.

DURING the time I was in the Vellattikulam Division to treat the persons suffering from the disease called Tunnir-kudi-novoo, I observed the following symptoms:—Intolerable thirst, particularly at night, dry skin, lassitude, loss of appetite, bowels irregular, pulse quick and feeble, tongue furred and in some clean, general burning sensation in the evening, restlessness at night, urine said to be in all cases free and in a large quantity.

2. The persons who came under my treatment were almost all of the working class entirely living on Cumboo.

3. When questioned the people of that part of the district about the cause of this complaint, they say that it is owing to the untimely harvest of Cumboo, fearing that it might be robbed by the poorer classes for the scarcity of grains occurred in this year and for not having the usual and sufficient rain prior to the harvest; but, in my humble opinion, that scarcity of water and severity of the sun also may be the cause, as I experienced peculiarity in taste that almost every tank and well sunk in the bed adjacent to each village are composed of some saline matters and found to be deficient and unfit for drinking purposes and in some slight bitterness. In some villages the well-to-do class run a cart to the neighboring village where they could get water.

4. The treatment consisted sudorifics, purgatives, refrigerants, and Cinchonine of 5-grain doses, twice a-day; and I advised the people conjee-water, milk-conjee or butter-milk, with some rice instead of bare water drinking.

5. The cause of several deaths occurred, without treatment, from diarrhœa and dysentery, produced from living themselves on water without any nourishment.

COURTALLAM,
15th August 1874.

(Signed) P. NALLIAH NAIDOO,
Hospital Assistant, Collector's Establishment.

No. 50. ORDER THEREON, 6th October 1874, No. 1,271.

Miscellaneous.

COMMUNICATED to the Board of Revenue and to the Sanitary Commissioner.

2. The Surgeon-General's action in directing a warrant medical officer being sent to itinerate in those parts of the country where this novel disease has appeared is approved, and further orders on the subject will be passed in the Public Department.

(True Extracts)

(Signed) C. G. MASTER,
Acting Secretary to Government.

To the Board of Revenue.
„ the Sanitary Commissioner.
„ the Surgeon-General, Indian Medical Department.
„ the Public Department.

Exd. F. R. Bantleman.

S/1271

Govt. of India Madras.

REVENUE.

To

THE BOARD OF REVENUE,

&c, &c, &c.

Dated 6th October 6th.

Read.

Encl.

G. O., 6th October 1874, No. 1,271.

OCTOBER.

Nos. 49-50.

"*Water-drinking*" *Disease, lately prevalent in Tinnevelly.*—Communicating to Revenue Board and Sanitary Commissioner letter from the Surgeon-General, Indian Medical Department, submitting further reports on the —; approving the Surgeon-General's action in ordering a warrant medical officer to be sent to itinerate in those parts of the country where it has appeared; and directing the issue of further orders on the subject in the Public Department.

No 169

3
6/1271

Palamcottah
31st August 1874

From

Surgeon F. R. Pickard
Zillah Surgeon Tinnevelly

To F. R. Pinkle Esquire
Collector of Tinnevelly

Sir,

In compliance with your letter No 684, dated 11th August 1874, I have the honor to inform you, that I have visited & carefully inspected Ettiapuram and give below the results of my enquiry there.

Ettiapuram is essentially a poor village, the inhabitants for many reasons, being in a poor and dependent position. The houses are bad and ill-ventilated, the streets are dirty and ill made. Sanitation in this village is instead at a low ebb, and the wells are something dreadful to behold. The thick black pasty mud round the wells, is constantly being stirred up and rendered more liquid, by the crowds of persons frequenting them, thus rendering

t more easily absorbed again into the
wells, round which there are no precautions
taken against the soiled water percolating
back- The water of the village is impure
and brackish in taste and cannot be
wholesome. At present there is no sign
of rain there, and the whole place & for some
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pearance. There has been no rain there now for
nearly a year. During the time I was
at Ettiapuram, I made house to house
visitation, accompanied by Mr Bird, who
obtained for me much useful information,
and assisted me very much in my enquires.
I have appended tabular Statements to
which I shall make reference in the course
of my report.

The first point I would notice,
is, that the numbers of cases of Sunnir-Kudi
reported
Novoo, seems to me to be a mistake, as
many cases were attributed to this disease,
wrongly as in truth they had no connection
whatever with it. This I was able to
prove and verify, by my personal observation
To give an example of the manner in which
every case of Sickness is at once attributed
to Sunnir Kudi novoo: a child aged
18 months was shown to me, and Symptoms
described, and its parents were perfectly
under the impression that it had the
disease, whereas the little child was simply
suffering from teething.

One case is almost as
far-fetched, in which an old woman aged
80 years, suffering from a large malignant
Tumour, on the back of the head, was
shown to me as a victim of Sunnir-Kudi
Novoo.

There is not the slightest doubt that
numbers of cases have been reported as
suffering from the above named disease,
and wrongly attributed to it.

Secondly). I found that 52 cases of

Thirdly. Such cases had been reported and that of that number 13 had died and 28 had got without any treatment whatever.

In Table A, the whole of the 52 cases are given as reported.

Thirdly. I would here remark on the 13 deaths as reported. Table B gives the deaths with age and caste. With reference to the ages of the deceased, I find that they are rather under than overstated. In the 13 deaths it will be noticed that 10 are 40 years and above. Of the 3 remaining cases, viz, Nos 8, 12, & 13, I obtained the following informations from the relatives of the deceased persons.

In the case of No 10 the husband states that his wife had always been very sickly. They had been married 4 years but had no children. She was always subject to diarrhoa, and latterly suffered much from dysentery, which eventually proved fatal.

In the case of 13, the mother states that her daughter's age was nearly 50, when she died, and that she had been sick for 6 months, and had suffered from dysentery up to the day of her death.

In the case of No 8 an orphan boy, the friends state he was ill about a month and a half and had fever, which eventually carried him off.

Thus of the 13 deaths, we have 11, cases of 40 and above, and two of 22 and 12 respectively, but this is not sufficient evidence to prove the existence of an epidemic, nor is it unreasonable to suppose that the whole number (13) died from general causes.

Fourthly. We now come to the cases actually seen tabulated in form C. Of these it will be noticed that 6 are above 65 years of age, suffering from various Complaints, and the rest with the exception of No 1 just such cases as exist in every

village, only requiring some little treatment.
The first case in this table, a young female
aged 25, was suffering from severe diarrhœa,
both which I treated, & relieved. In this
case, there were symptoms, which might be
attributed to Summer-South-house, and the
diarrhœa was possibly the result of the continued
use of Cumboo grain. There was thirst, in this
case, but not excessive, not more so than
met with in ordinary practice. This case
however was better when I left the village.

Of the remainder of the cases in this
Statement it will be unnecessary to report
further, as the cases speak for themselves.

Fifthly. The next point is, what caste
or castes have been particularly attacked
with disease? In form II, the castes
are given and the number attacked in
each caste. In the Statement it will
be noticed that 15 persons of the Weaver
Caste were attacked, only 2 Maravans, 2 Belel
mongers, and 3 Condarams. The weaver caste

is notoriously an unhealthy one, and I
regret to say tainted with hereditary Syphilitic
poison to an alarming extent. It will be
noticed that not a single Brahman has
been attacked, and in the same manner
nearly all the higher castes have escaped
any ill-effects of the disease. Further, among
those who have been attacked with the disease,
the greatest number were old & enfeebled
persons, averaging from 50 to 70 years of age.

That there has been a large amount
of sickness in this village, and an increased
mortality I believe, but when we come to
consider that the population is about 6,500,
and that the people are poor, ill-fed
& badly-housed, I do not admit that there
has been anything of the character of an epi-
demic, which if present, would respect
little, either age or caste. It appears that
the staple food of the people of this part
is Cumboo, and that the harvest of the grain
has been very unsatisfactory, owing to the

great want of rain. In Consequence of this great draught, the grain has not matured in the ear, before it has been reaped, and it has therefore not developed the properties belonging to it. Moreover the new Cumboo is cheaper than the old, and therefore it is manifest why it is eaten by the poorer classes. That this new cumboo has caused Sickness, I have not the slightest doubt, and all the information I obtained, tended to the same opinion - until we can have the blessing of good rain, I am afraid that this Sort of things must continue to a greater or lesser degree but I cannot advise any line of treatment unless of course it was possible to provide the afflicted villages with grain of a better Sort. Those who are now Sick are being supplied with rice, milk &c from the Chattrum funds, and all cases of Suspected Fever-Fever-Bowel should be at once

fed from the same funds. I do not consider much good is to be gained from Medical treatment, but I would suggest that a Subordinate be ordered to travel from village to village, to render what assistance he can and also to induce the villagers to take some Steps to remedy their defective Sanitation.

I have the honor to enclose the reports from the two Medical Subordinates who were detailed to render what assistance they could in some of the villages where Fever-Fever-Bowel was supposed to exist.

I have the honor to be
Sir
Your most obt Servant
(Signed) H. M. Richard Surgn
Zillah Surgeon Tinnevelly

(True copy)
H. M. Richard Surgeon
Zillah Surgeon Tinnevelly

1	2	3	4	5	6	7	8	9	10
	Madathy	48	Female	Weaver	8th August	1	"	"	
	Sivanandhari	50	do	do	do	"	1	8th August	
	Kaly	60	do	do	do	1	"	"	
	Poodaiy	50	do	do	do	"	1	8th August	
	Mankamy	80	do	do	do	1	"	"	
	Sanmoogum	12	do	do	do	1	"	"	
	Vallaiammal	40	do	do	do	1	"	"	

11/1271

Palamcottah
31st August 1874

/Signed/ F. W. Pickard
Zillah Surgeon Tinn

/True copy/

Surgeon.
Zillah Surgeon Tinnevelly

Statement A showing the number of persons &c. &c. by Water during the disease

Name of persons	Age	Sex	Caste	Date on which disease first appeared	Date of Death	Remarks
1 Sankaralinga Bandaly	40	Male	Vannia	30th July 1874	2nd August	
2 Ramanadan Bandaly	22	Male	Vannia	1st August	3rd do	
3 Ramalingam Bandaly	60	Male	Vannia	2nd do	4th do	
4 Ramalingam Bandaly	60	Male	Vannia	2nd do	4th do	
5 Ramalingam Bandaly	60	Male	Vannia	2nd do	4th do	
6 Ramalingam Bandaly	60	Male	Vannia	2nd do	4th do	
7 Ramalingam Bandaly	60	Male	Vannia	2nd do	4th do	
8 Ramalingam Bandaly	60	Male	Vannia	2nd do	4th do	
9 Ramalingam Bandaly	60	Male	Vannia	2nd do	4th do	
10 Ramalingam Bandaly	60	Male	Vannia	2nd do	4th do	
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16 Ramalingam Bandaly	60	Male	Vannia	2nd do	4th do	
17 Ramalingam Bandaly	60	Male	Vannia	2nd do	4th do	
18 Ramalingam Bandaly	60	Male	Vannia	2nd do	4th do	
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96 Ramalingam Bandaly	60	Male	Vannia	2nd do	4th do	
97 Ramalingam Bandaly	60	Male	Vannia	2nd do	4th do	
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99 Ramalingam Bandaly	60	Male	Vannia	2nd do	4th do	
100 Ramalingam Bandaly	60	Male	Vannia	2nd do	4th do	

Statement B showing the number of deaths &c. &c.

Name of persons	Age	Sex	Caste	Date on which disease first appeared	Date of Death	Remarks
1 Ramalingam Bandaly	40	Male	Vannia	30th July 1874	2nd August	
2 Ramalingam Bandaly	60	do	do	1st do	3rd do	
3 Ramalingam Bandaly	60	do	do	2nd do	4th do	
4 Ramalingam Bandaly	60	do	do	2nd do	4th do	
5 Ramalingam Bandaly	60	do	do	2nd do	4th do	
6 Ramalingam Bandaly	60	do	do	2nd do	4th do	
7 Ramalingam Bandaly	60	do	do	2nd do	4th do	
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26 Ramalingam Bandaly	60	do	do	2nd do	4th do	
27 Ramalingam Bandaly	60	do	do	2nd do	4th do	
28 Ramalingam Bandaly	60	do	do	2nd do	4th do	
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74 Ramalingam Bandaly	60	do	do	2nd do	4th do	
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84 Ramalingam Bandaly	60	do	do	2nd do	4th do	
85 Ramalingam Bandaly	60	do	do	2nd do	4th do	
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98 Ramalingam Bandaly	60	do	do	2nd do	4th do	
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100 Ramalingam Bandaly	60	do	do	2nd do	4th do	

Regd. by G. B. Mackenzie

Statement C. Showing the number of Cases actually seen on 20th & 21st August 1874.

No.	Names	Age	Sex	Caste	Date on which Sick was reported	Disease	Result	Remarks
1	Ananjee	25	Female	Weaver	9.7.74	Diarrhoea	Better	Treated
2	Rangaram	70	Male	Betel Monger	do	Summer Indisposition	Recovered	Supposed to have suffered from the disease
3	Pucclay	65	Female	Weaver	do	Diseases of Heart	Sick	do
4	Kannayee	50	do	do	do	Cancer	do	do
5	Pucclay	20	do	do	do	Dyspepsia	Better	do
6	Arumugam	65	do	do	do	Diarrhoea	do	do
7	Shunmoogum	8 or 9	Male	do	do	Worms	do	do
8	Vellammah	35	Female	do	do	Summer Indisposition	Recovered	do
9	Colanthavaloo	65	Male	Pandaram	do	do	do	Treated for (do) Constipation
10	Nayagum	25	Female	do	do	do	do	do
11	Sundaramurtha Pulay Pandaram	72	Male	do	do	do	do	do

Palamcottah
31st August 1874

[True copy]
Asst Surgeon
Hill Dispensary

[Signed] F. Dr. Oldham Surgeon
Civil Surgeon Tinnevelly

Statement D Showing the number of persons of different c
residing at Ettiapuram & also the number of persons a
fected by water drinking Sickness.

No.	Description of caste	No of persons in Ettiapuram	No of persons affected by the Sickness.
1	Brahmins	411	"
2	Vellalers	615	"
3	Lungamandy Pandarams	82	3
4	Chetties	225	"
5	Canerie Paideer	87	"
6	Smiths	318	"
7	Maraceers	322	2
8	Shepherds	20	"
9	Oil mongers	22	"
10	Carriers	56	"
11	Dyers	20	"
12	Barbars	80	"
13	Fishermen or Paraers	10	"
14	Washermen	21	
15	Tailors	45	"
16	Betel mongers	241	2
17	Mussulmans	230	"
18	Weavers or Sykalers	938	45
19	Arrack Sellers	125	"
20	Bricklayers	45	"
21	Puttans or Sailes	262	"
22	Parvarathars	1406	"
23	Pullars	183	"

4 Pareiahs ——— 416

5 Chucklers ——— 119 "

6 Shanars ——— 141 "

Palamcottah
1st August 1874

/Signed/ H. Dr. Rickard Surgn
Zillah Surgeon Tinnevelly

/True copy/

Ulric Ryan Surgeon
Zillah Surgeon Tinnevelly

Sickness, applies to be defendants or deficient
Painful. And its consequent cause
Water supply — bad food — bad Sanitation
Diarrhoea caused by the disease called "Intestinal

Courtallam
16th August 1874

From:
The Hospital Assistant
Sub Collectors Department
Tinnevelly

To
The Zillah Surgeon
Tinnevelly

Sir,

With reference to your docket dated 12th Instant, I beg to report that 76 cases of Summer Fever were admitted by me during my stay at Ettiapuram and Ettapidaram Palays. Most of these cases were mild & Some of them required little or no treatment I adopted was 3 grain doses of Chlorate of Potassa once in every 4 hours. Every case that took the medicine in the manner alluded to, reported favorably & proved well. Meantime I paid attention to the State of the bowels and I found nothing remarkable thereon.

One case of Diarrhoea was brought to me & fully succeeded by the usual treatment. No deaths occurred in any of the cases that were brought to my treatment.

I beg to remain Sir
Your Most Obedient Servant
/Signed/ V. Ramasamy
Hospital Asst

/True copy/
Ulric Ryan Surgeon
Zillah Surgeon Tinnevelly

Report on Sanni Kudi &c.

17/1271.

During the time I was in the Villatti Kulam Division to treat the persons Suffering from the disease called Sanni Kudi Noyee I observed the following Symptoms — intolerable thirst particularly at night, dry Skin, lassitude, loss of appetite, bowels irregular, pulse quick and feeble, tongue furred and in some clean, general burning Sensation in the evening, restlessness at night [illegible] a large quantity.

The persons who came under my treatment were almost all of the working Class entirely living on Cumboo.

When questioned the people of that part of the District about the cause of this Complaint, they Say that it is owing to the untimely harvest of Cumboo, fearing that it might be robbed by the poorer Classes for the Scarcity of grains occurred

in this Year and for not having the usual
& Suffecient rain prior to the harvest, but
in my humble opinion that Scarcity of
water and Severity of the Sun also may
be the Cause, as I experienced peculiarity
in taste that almost every tank & well
Sunk in the bed adjacent to each Village
are composed of Some Saline matters
and found to be deficient and unfit
for drinking purposes & in Some Slight
bitterness. For Some Villages the well to
to Cass run a Cart to the neighbouring
Village where they Could get water

The treatment Consisted Sudorifect
purgatives, refrigerants and Cinchonine
of 5 grain doses, twice a day, and I
advised the people Conjee water, milk
Conjee or butter milk with Some rice
instead of Clear water drinking

The Causes of Several deaths
occurred without treatment from Diarrhea
& Dysentery, produced from living
themselves on water without any nourish:
: ment.

Courtallam
15th August 1874

/Signed/ P. Nallia Chetty
Hospl Assistant
Collectors Establishment
Tinnevelly

/True Copy/

Chettiyar Surgeon
Zillah Surgeon Tinnevelly

No. 428

19/1271

OFFICE OF ~~INSPECTOR~~-GENERAL, I. M. D.,
Fort Saint George, 15th September 187~~4~~

From

INSPECTOR-GENERAL EDWARD BALFOUR,
Inspector General of Hospitals,
Indian Medical Department,
Fort Saint George,

To

The Secretary to Government
Revenue Department
Fort Saint George.

SIR,

In my letter No. 363 dated 11th August 1874 and the attached reports, I had the honor to submit to the Right Honorable the Governor in Council all the information which had been obtained regarding the disease attended with great thirst, from which the people were suffering in the Tinnevelly and adjoining districts.

2. I have now to submit a further report from Surgeon Richard, and one from Hospital Assistant V. Ramasawmy, No. 256, and a report from Hospital Assistant C. Nalliah Pandy No. 476, descriptive of the causes of sickness which occurred in the Ettapporam and Ettapidaram Talugs of Tinnevelly. Hospital Assistant V. Ramasawmy says, he had under his medical care 76 cases of the Water-drinking disease mostly mild and some requiring little or no treatment, but he does not give the dates at which he saw these ailments. The symptoms [illegible] he describes

Rev. 3183/74.

Ad. 519 - 874 - 4

Read the Report

Ad. 1421-6-Oct. 874

Ln. 13 No. 49.

as attending the disease are those of fever with a very hot skin. I gather from his remarks that the people attributed the disease to the use of muripe Cumboo (pencillaria spicata) which had been cut before fully ripened, and a scant rainfall, and the Hospital Assistant also indicates as causes scarcity of water with severe heat, as he found a peculiar taste in almost every tank and well except in the bed (of the river) adjacent to each village, impregnated with saline matters, bitter and unfit for drinking purposes. The treatment he adopted was such as is usual in fever attended with severe heat of skin. He reports the occurrence of 13 deaths from diarrhœa and dysentery, brought on from living on water, and not taking any nourishing food.

3. Surgeon Pickard made a house to house visitation of Ettapuram along with Mr Bird. He describes it as a poor dependent village, its sanitary condition as indeed at a low ebb, and the wells something dreadful to behold with thick black fetid mud round their walls constantly stirred up and rendered more liquid by the crowds of persons, the water percolating into the wells, the well-water brackish and the whole country for miles around with a parched up and withered appearance. He found to be due to other ailments, many cases which the people believe to be of this new disease but that there has been very severe sickness in that locality is proved by the fact that of 52 cases, 13 had died - 25 per cent - between 9th July and 8th August of the current year. Surgeon Pickard recognizes that there has been a large amount of sickness and increased mortality in a poor, ill-fed and badly-housed community, but is of opinion that the diseases have been various, and that there has not been any epidemic prevailing. He is inclined to attribute the sickness of the people to the use of the muripe Cumboo grain, used while too recently gathered. He looks to better food and to an abundant rainfall as a remedy for the existing condition and, whilst the people are being supplied with rice, milk, &c., from the Chuttrum fund, recommends that all suspected cases of Junnir Kudi novoo, should be fed from that fund, he recommends that a medical subordinate should perambulate the district and induce the villagers to remedy the defective sanitation.

4. In my former letter, I mentioned that the examination which had been made of the sample of the grain received from Tinnevelly, failed to detect any difference in it from that found in the Madras Market, the reports now sent, point

to new cumbos as one possible cause of the unusual sickness. But the state of the drinking water and the condition of the wells are almost sufficient to produce severe diseases, and I have, in anticipation of approval, directed the Deputy Surgeon General of the Southern Districts, to detail a warrant Medical Officer to report on the sanitary condition of the villages in that tract of country, and to carry with him medicines suitable for the kind of ailments with which he will meet.

5. I recommend that while so employed, the Apothecary be allowed the marching batta of his rank, and be compensated for the Rs. 30 per mensem which he would lose by leaving his fixed appointment, or, if more acceptable, an allowance of 50 per cent. of his salary, which would be Rs. 75 per month.

I have the honor to be
Sir,
Your most obedient Servt.

for Deputy Surgeon General
Indian Medical Deptt.
Presy & N Distts.

for the Surgeon General
Indian Medical Deptt.

—20,002—12-8-65.

No. 17 August 1874 Rev. 38

No. 3183.

Revenue 1874. Department.

From

Surgeon-General E. Balfour,
~~Inspector~~-General ~~of Hospitals~~,
Indian Medical Department,
Fort Saint George,

To

The Secretary to Government
Revenue Dept
Fort St. George

Dated 15th September Encl

Despatched —do—.

Received 16— —

No. 428

Subject.

Submits further report on the "water-drinking" disease lately prevalent in the Tinnevelly districts, with recommendations

No. 1271 - 6 October 1874

With order

No. 1271.

Communicated to the Board of Revenue & to the Sanitary Comm^r.

2. The Surgeon General's action in directing a warrant medical officer being sent to itinerate in those parts of the country where this novel disease has appeared is approved and further orders on the subject will be passed in the Public Department

Sd

* They ordered the inquiry into the Cholera very well known about the Tinnevelly &c

14 To Bd Revenue Dec 26 Oct
6 Sanitary Commissr 5
6 Surgeon Gl Indian Med Dept 5
5 Public Department 5

6 Oct 74

49-50.
Cog 16 Sept Rev 38