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Series 5. Case Finding

Tuberculosis Surveillance Center, RIT, JATA

Abstract Regarding current case findings, the mode of detection, delays in detection, the patient's occupation and so on were observed using the tuberculosis (TB) surveillance data base.

81.3% of 24,760 TB patients newly notified in 2008 were detected at medical institutions. However, 10.8% of TB patients were detected during hospitalization with a disease other than TB and 8.5% of TB patients were detected under outpatients with a disease other than TB. The proportion of TB patients detected during inpatient or outpatient increased with age.

On the other hand, significant proportion of adolescents and young adults were also detected by active case finding such as periodic school mass-screening and periodic health examination for employees. 22.5% of TB patients aged 15-19 years were detected by periodic school mass-screening, and 24.9% of TB patients aged 25-34 years were detected by periodic health examination for employees. Although active case finding generally detects bacillary negative cases, 14.1% of sputum smear positive pulmonary TB patients aged 20-49 years were detected by periodic health examination for employees.

Although the proportion of TB patients detected by contact examination was only 3.0%, they were large among younger TB patients, e.g. 53.7% of those aged 0-14 years, 19.4% of those aged 15-19 years, 9.2% of those aged 20-24 years and 6.7% of those aged 25-29 years.

According to the symptoms of 19,393 pulmonary TB patients, 28.7% had respiratory symptoms, 30.4% had both respiratory and other symptoms, and 15.1% had symptoms other than respiratory symptom. 24.8% of pulmonary TB patients had no symptoms and 0.9% had no data about symptoms. The proportion of TB patients only having other symptoms without respiratory symptoms increased among the elderly TB patients, e.g. 13.7% of those aged 65-69 years, 16.2% of those aged 70-74 years, 18.0% of those aged 75-79 years, 19.7% of those aged 80-84 years, 22.1% of those aged 85-89 years and 26.5% of those aged 90 years and over.

Regarding the delay of case detection among 14,400 symptomatic pulmonary TB patients, patient's delay was longer in those aged 20-64 years and shorter in those aged 65 years and over. While, doctor's delay showed an inverse relationship with patient's delay.

The sputum smear positive symptomatic pulmonary TB patients showed much longer total delay, and the proportion of total delay exceeding 3 months was 27.5% in those aged 20-64 years.

Regarding occupation, the proportion of service workers and nurses/public health nurses were large among young TB patients. 8.4% of male TB patients aged 20-24 years and 10.8% of female TB patients aged 20-24 years were service workers. 10.7% of female TB patients aged 25-49 years were nurses/public health nurses. TB control for nosocomial infection is still important in Japan.

Key words : Tuberculosis, Mode of detection, Delay of case finding, Occupation, Sex, Age

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表1 新登録結核患者の発見方法、年齢階層別、2008年
Table1 Proportion of mode of detection by age group, 2008

年齢階層 Age groups	新登録患者 Newly notified cases	個別健診 Individual examination	定期健診 Mass screening				接触者健診 Contact examination		医療機関 Clinics/Hospitals			その他 Others	不明 Unknown
			学校 Schools	住民 Inhabitants	職場 Employees	施設 Facilities	家族 Family	その他 Others	症状受診 Outpatients with TB symptoms	入院中 Inpatients with other diseases	通院中 Outpatients with other diseases		
総数 Total	24,760	2.6	0.8	2.0	7.6	0.6	1.3	1.7	62.0	10.8	8.5	1.3	1.0
0-14	95	2.1	3.2	0.0	0.0	0.0	45.3	8.4	33.7	3.2	0.0	4.2	0.0
15-19	191	1.0	22.5	0.0	3.1	0.0	11.5	7.9	51.3	0.5	0.0	1.0	1.0
20-24	750	2.4	12.0	0.3	19.7	0.0	4.3	4.9	52.0	0.4	1.1	1.9	1.1
25-29	1,073	3.5	3.6	0.3	25.0	0.8	2.2	4.5	56.1	1.4	0.7	0.7	1.1
30-34	1,082	3.0	0.9	0.4	24.9	0.3	1.6	3.6	58.2	2.5	2.0	1.1	1.5
35-39	1,070	3.4	0.5	0.8	21.2	0.6	2.0	3.9	61.1	1.5	3.0	1.2	0.8
40-44	1,010	3.1	0.2	1.7	21.9	0.3	1.9	3.4	58.5	3.0	3.2	1.8	1.2
45-49	907	3.6	0.0	1.2	19.8	0.8	2.2	2.9	58.5	3.9	4.5	1.7	0.9
50-54	1,102	4.5	0.1	1.2	14.2	0.9	1.8	2.5	60.3	6.7	4.9	1.9	1.0
55-59	1,682	3.2	0.0	2.6	11.5	0.5	1.2	2.1	61.4	7.4	6.7	1.8	1.4
60-64	1,754	3.2	0.1	3.2	7.1	0.5	1.0	1.8	62.3	7.4	10.0	2.1	1.3
65-69	1,935	3.2	0.1	3.2	3.0	0.7	1.2	1.1	62.9	10.0	11.9	1.7	1.0
70-74	2,485	2.3	0.0	3.7	0.6	0.4	0.5	0.6	64.3	13.1	12.7	0.8	1.0
75-79	3,039	1.8	0.0	2.2	0.2	0.4	0.7	0.4	64.0	15.2	13.3	1.1	0.9
80-84	3,226	2.0	0.0	2.0	0.0	0.6	0.2	0.2	63.9	17.6	11.7	0.9	0.9
85-89	2,209	1.5	0.0	1.5	0.1	0.8	0.2	0.2	66.0	18.8	9.4	1.0	0.6
90+	1,150	1.0	0.0	0.7	0.0	1.3	0.0	0.6	65.4	22.7	7.0	0.9	0.4

表2 新登録結核患者の発見方法、年齢階層別、2008年
Table2 Proportion of mode of detection among newly notified TB patients by age group, 2008

年齢階層 Age groups	新登録患者 Newly notified TB patients	個別健診 Individual examination	定期健診 Mass screening				接触者健診 Contact examination		医療機関 Clinics/Hospitals			その他 Others	不明 Unknown
			学校 Schools	住民 Residents	職場 Employees	施設 Facilities	家族 Family	その他 Others	症状受診 Outpatients with TB symptoms	入院中 Inpatients with other diseases	通院中 Outpatients with other diseases		
全結核 Total	All forms of TB												
総数 Total	24,760	2.6	0.8	2.0	7.6	0.6	1.3	1.7	62.0	10.8	8.5	1.3	1.0
0-14	95	2.1	3.2	0.0	0.0	0.0	45.3	8.4	33.7	3.2	0.0	4.2	0.0
15-19	191	1.0	22.5	0.0	3.1	0.0	11.5	7.9	51.3	0.5	0.0	1.0	1.0
20-24	750	2.4	12.0	0.3	19.7	0.0	4.3	4.9	52.0	0.4	1.1	1.9	1.1
25-29	1,073	3.5	3.6	0.3	25.0	0.8	2.2	4.5	56.1	1.4	0.7	0.7	1.1
30-34	1,082	3.0	0.9	0.4	24.9	0.3	1.6	3.6	58.2	2.5	2.0	1.1	1.5
35-39	1,070	3.4	0.5	0.8	21.2	0.6	2.0	3.9	61.1	1.5	3.0	1.2	0.8
40-44	1,010	3.1	0.2	1.7	21.9	0.3	1.9	3.4	58.5	3.0	3.2	1.8	1.2
45-49	907	3.6	0.0	1.2	19.8	0.8	2.2	2.9	58.5	3.9	4.5	1.7	0.9
50-54	1,102	4.5	0.1	1.2	14.2	0.9	1.8	2.5	60.3	6.7	4.9	1.9	1.0
55-59	1,682	3.2	0.0	2.6	11.5	0.5	1.2	2.1	61.4	7.4	6.7	1.8	1.4
60-64	1,754	3.2	0.1	3.2	7.1	0.5	1.0	1.8	62.3	7.4	10.0	2.1	1.3
65-69	1,935	3.2	0.1	3.2	3.0	0.7	1.2	1.1	62.9	10.0	11.9	1.7	1.0
70-74	2,485	2.3	0.0	3.7	0.6	0.4	0.5	0.6	64.3	13.1	12.7	0.8	1.0
75-79	3,039	1.8	0.0	2.2	0.2	0.4	0.7	0.4	64.0	15.2	13.3	1.1	0.9
80-84	3,226	2.0	0.0	2.0	0.0	0.6	0.2	0.2	63.9	17.6	11.7	0.9	0.9
85-89	2,209	1.5	0.0	1.5	0.1	0.8	0.2	0.2	66.0	18.8	9.4	1.0	0.6
90+	1,150	1.0	0.0	0.7	0.0	1.3	0.0	0.6	65.4	22.7	7.0	0.9	0.4
(再掲) 喀痰塗抹陽性肺結核 (Re-count) Sputum smear positive pulmonary TB													
総数 Total	9,809	2.0	0.3	1.4	4.4	0.5	0.4	0.7	69.2	11.7	7.4	0.9	1.1
0-14	3	0.0	0.0	0.0	0.0	0.0	33.3	0.0	66.7	0.0	0.0	0.0	0.0
15-19	55	0.0	25.5	0.0	0.0	0.0	0.0	3.6	69.1	0.0	0.0	1.8	0.0
20-24	187	1.1	4.8	0.0	12.8	0.0	0.0	1.6	76.5	0.5	0.5	0.5	1.6
25-29	298	2.3	0.7	0.3	15.1	0.3	0.0	1.7	75.5	1.7	0.7	0.7	1.0
30-34	357	1.7	1.1	0.3	16.5	0.0	0.6	0.6	74.5	2.0	1.4	1.4	0.0
35-39	356	2.2	0.3	0.6	14.3	0.6	0.6	1.4	75.3	2.0	1.7	0.3	0.8
40-44	370	2.2	0.3	1.1	13.0	0.0	0.8	1.1	72.7	3.8	2.7	1.1	1.4
45-49	352	1.7	0.0	1.7	12.2	0.9	1.1	0.3	70.5	3.7	4.5	1.1	2.3
50-54	476	4.6	0.0	0.8	8.8	0.6	1.1	2.1	68.3	7.1	3.6	0.8	2.1
55-59	740	2.8	0.0	1.8	7.6	0.4	0.5	0.9	72.3	6.2	4.2	1.5	1.8
60-64	693	2.3	0.0	2.5	5.8	0.6	0.4	1.3	70.6	7.4	6.2	1.6	1.4
65-69	737	2.3	0.1	1.4	2.6	0.3	0.8	0.9	70.8	9.5	8.7	1.2	1.4
70-74	1,033	2.1	0.0	2.9	0.1	0.6	0.2	0.5	67.6	13.8	11.3	0.4	0.5
75-79	1,198	1.8	0.0	1.3	0.2	0.3	0.3	0.3	67.4	15.1	11.7	0.7	0.9
80-84	1,405	1.6	0.0	1.3	0.0	0.8	0.0	0.1	65.2	17.9	11.1	1.1	1.0
85-89	1,015	1.4	0.0	1.3	0.0	0.7	0.3	0.1	67.2	19.9	7.9	0.3	1.0
90+	534	0.9	0.0	0.4	0.0	1.3	0.0	0.2	66.5	23.0	6.7	0.4	0.6

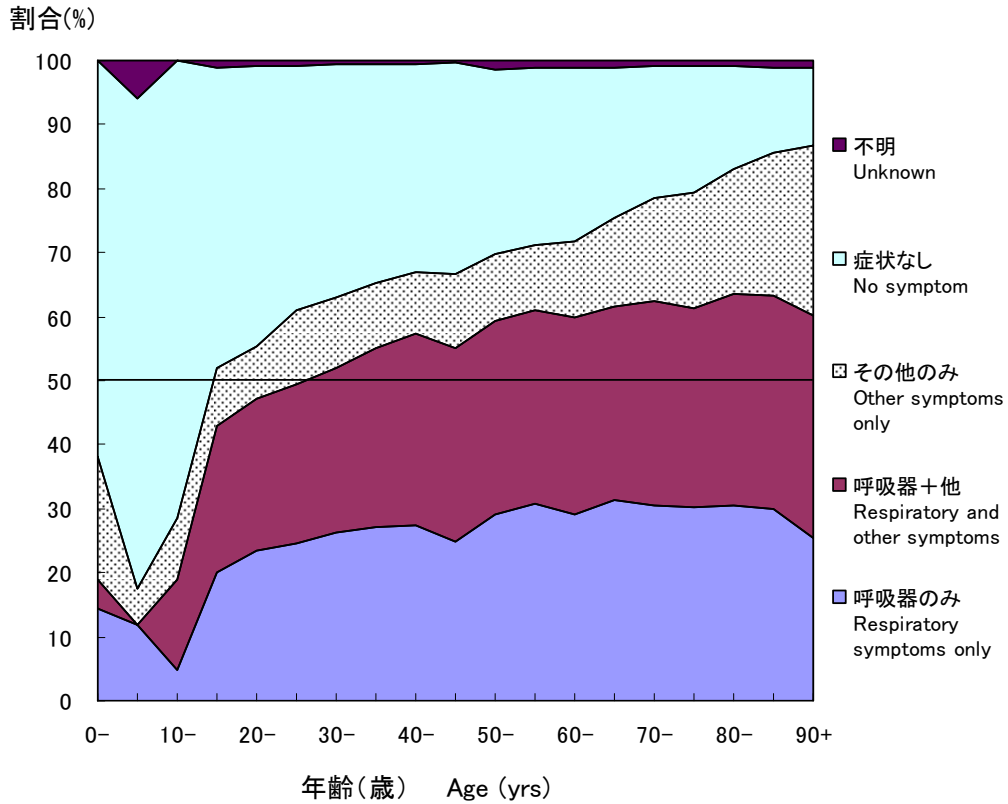


図1 新登録肺結核中 年齢5歳階層別症状の有無、2008年
Fig.1 Proportion of symptoms among newly notified pulmonary TB patients by 5 years age group, 2008

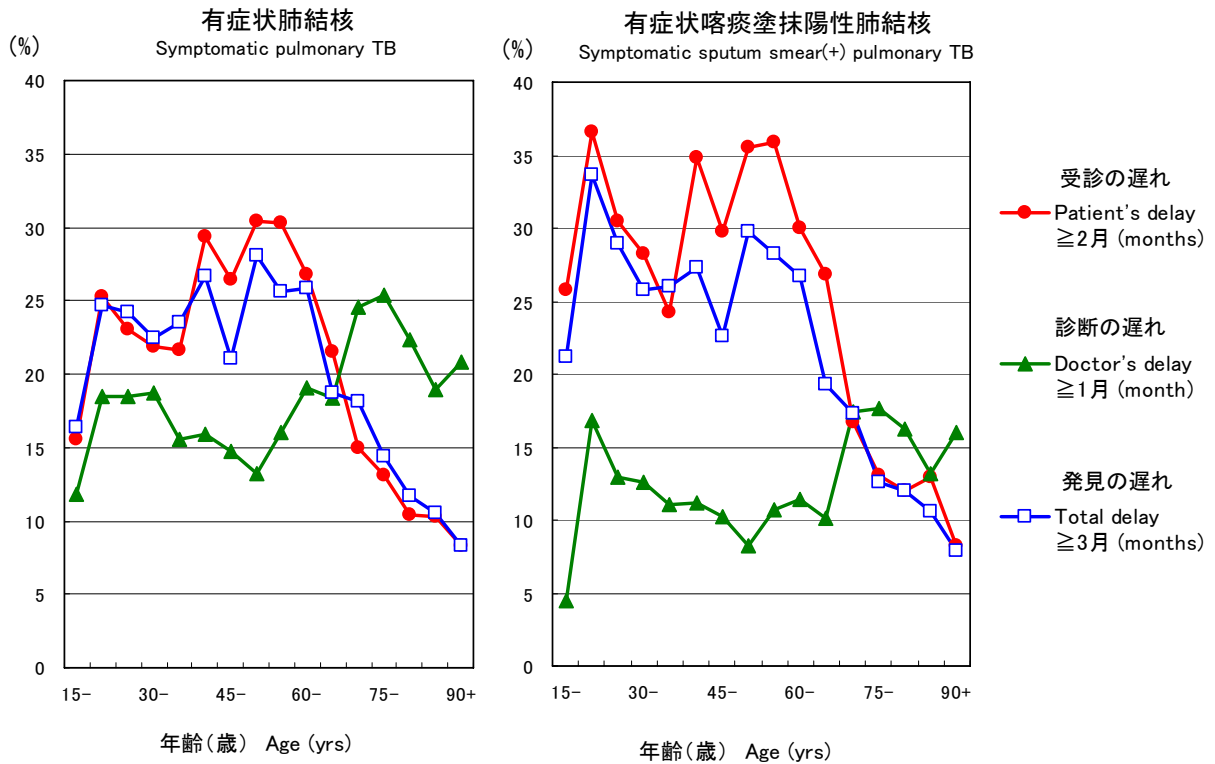


図2 新登録有症状肺結核中年齢5歳階層別発見の遅れの割合、2008年
Fig.2 Proportion of patient's delay, doctor's delay and total delay among symptomatic pulmonary TB patients by 5 years age group, 2008

表3 新登録結核患者数、職業・性・年齢階層別、2008年
Table 3 Number of newly notified TB patients by occupation, sex and age group, 2008

性/年齢	総数	接客業	看護師 /保健 師	医師	他医療 従事者	教員/ 保育士	生徒/ 学生	他常用 勤労者	他臨時 /日雇	他自営 /自由 業	家事従 事者	乳幼児 /無職/ 他	不明
Sex/Age group	Total	Service workers	Nurses/ Public health nurses	Medical doctors	Other medical workers	Teachers /Nursery nurses	Pupils/St udents	Other regular workers	Other temporar y/daily workers	Other self- employed	Houseke epers	Infants/ Unemplo yed/Othe rs	Unknown
男 Male	15,707	385	20	66	64	66	291	3,441	671	1,081	26	9,097	499
0-14	52	-	-	-	-	-	26	-	-	-	-	26	-
15-19	102	1	-	-	-	-	74	11	6	-	-	8	2
20-24	371	31	2	-	2	2	121	153	20	2	-	33	5
25-29	543	30	3	4	11	6	47	316	47	17	-	45	17
30-34	594	32	3	7	5	7	13	382	38	23	1	66	17
35-39	626	40	3	4	8	3	8	367	33	53	2	86	19
40-44	630	25	3	5	3	4	2	356	48	56	-	108	20
45-49	607	29	2	6	11	12	-	304	46	48	-	127	22
50-54	800	34	2	6	7	6	-	375	55	82	-	197	36
55-59	1,267	48	-	4	9	13	-	513	114	139	2	355	70
60-64	1,294	50	-	4	4	6	-	362	94	148	3	545	78
65-69	1,352	35	1	1	2	2	-	169	93	137	-	832	80
70-74	1,668	19	-	4	-	1	-	78	56	129	6	1,328	47
75-79	1,990	8	-	7	-	-	-	32	16	122	6	1,763	36
80-84	2,000	2	-	13	1	3	-	14	5	86	3	1,845	28
85+	1,811	1	1	1	1	1	-	9	0	39	3	1,733	22
女 Female	9,053	294	309	17	121	58	228	975	364	187	790	5,510	200
0-14	43	-	-	-	-	-	23	-	-	-	-	20	-
15-19	89	3	-	-	-	-	70	6	6	-	1	2	1
20-24	379	41	23	-	11	3	81	109	34	4	25	36	12
25-29	530	46	55	4	28	9	34	175	51	3	41	70	14
30-34	488	36	46	5	17	8	11	160	44	8	62	73	18
35-39	444	37	44	3	6	6	4	127	38	10	74	81	14
40-44	380	30	49	-	11	7	2	86	45	8	58	74	10
45-49	300	23	35	4	8	5	1	86	21	11	47	50	9
50-54	302	18	23	-	13	7	1	64	29	13	47	74	13
55-59	415	23	25	-	15	11	-	63	37	21	78	133	9
60-64	460	15	4	-	7	2	1	58	21	20	90	228	14
65-69	583	15	4	-	3	-	-	23	25	24	91	377	21
70-74	817	3	1	-	2	-	-	8	6	30	74	671	22
75-79	1,049	1	-	-	-	-	-	5	4	17	60	947	15
80-84	1,226	2	-	-	-	-	-	4	2	15	22	1,161	20
85+	1,548	1	-	1	-	-	-	1	1	3	20	1,513	8