EPI-NEWS

NATIONAL SURVEILLANCE OF COMMUNICABLE DISEASES

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INFECTIOUS DISEASES IN GREENLAND, PART I

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This and the following issue of EPI-NEWS deal with incidence, monitoring and prophylaxis of selected infections in Greenland, where the epidemiology differs from that in Denmark.

Tuberculosis

Tuberculosis (TB) was a dreaded disease in Greenland after the Second World War. The incidence was one of the highest in the world with 1,835 per 10^5, Fig. 1. As a result of a national strategy, that included the construction of Queen Ingrid's Sanatorium in Nuuk and the use of an X-ray ship, the incidence was successfully reduced by 84% to 286 per 10^5 in 1965. In 1987, it was 9 per 10^5, i.e. at the level of other western countries. Since then, the incidence has risen again, reaching 157 per 10^5 in 2002. The increase has been observed particularly in Southern Greenland, but outbreaks in several more northern villages have also contributed. Unlike Denmark, the male/female ratio is almost 1, Fig. 2.

BCG vaccination was introduced to Greenland in 1949 and integrated into the vaccination programme in 1955. General vaccination was discontinued in 1990, because of poor efficacy. Vaccination was reintroduced in 1996, primarily because of an increase in the incidence of fatal TB meningitis in small children, in whom BCG vaccination has a documented efficacy.

A tuberculosis group was established in 1999, and this group has drawn up new guidelines for diagnosis, treatment, monitoring, notification, contact tracing, vaccination, prophylactic treatment, and screening and prevention. In addition, improved surveillance has been implemented. Apart from notifications of new cases of TB, surveillance includes continuous update of information about check-up visits and treatment results.

From the beginning of 2003, this information is kept in a database that is intended as a tool to be used in the districts to ensure monitoring and treatment of TB.

Only by increasing efforts to improve living conditions in the villages and towns, and by increasing the population's self-care, along with the other initiatives, will it be possible to reduce transmission and thus reduce the incidence of TB to at least the same level as in the mid-1980s.

(F. Stenz, MOH, Greenland)

Fig. 1. Incidence of tuberculosis per 10^5 inhabitants in Greenland, 1955-2002

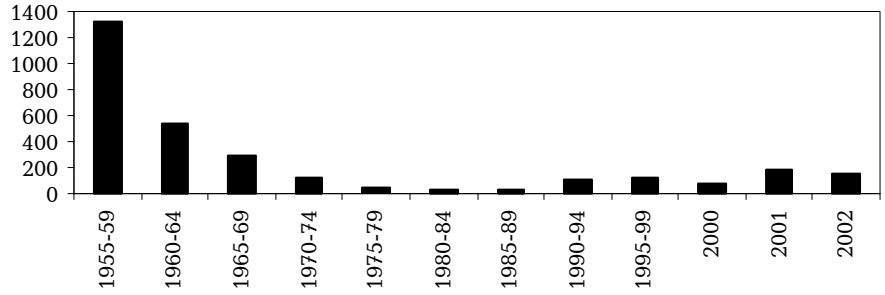
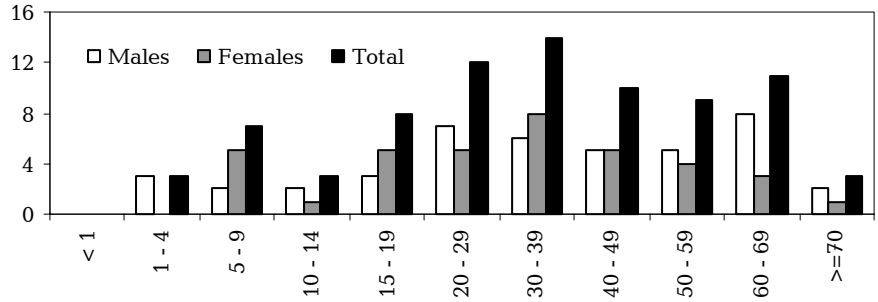


Fig. 2. No. of cases of tuberculosis in Greenland, by gender and age, 2002



Respiratory tract infections

It is well known that respiratory tract infections, particularly otitis media, are common among Greenlandic children. The problem has been examined in a cohort survey of respiratory tract infections among all children aged 0-2 years in Sisimiut (Holsteinsborg). Upper (URTI) and lower (LRTI) respiratory tract infections were 1.2 to 3.8 times more common than in similar studies in other countries. The children had symptoms for 42% of a two-year observation period, and the median duration of URTI was 14, and of LRTI 19 days.

A total of 32% of the children with URTI and 55% of those with LRTI had contact with the health centre. Attending day-care centres and sharing a sleeping room with others were risk factors for both URTI and LRTI. For LRTI, passive smoking was also a risk factor. Breast-feeding tended to be a protective factor.

Diseases in the middle ear

The incidence of chronic otitis media among Greenlandic children is one of the highest in the world.

A cross-sectional study from Nuuk and Sisimiut has shown that chronic otitis media is substantially more common among Greenlandic children than among Danish children, Table 1. 40% of Greenlandic children have had acute otitis media before the age of 1 year, and 20% have five or more episodes, often before the age of 3. An early infection involves great risk of recurrent or chronic otitis. The same incidence of diseases in the middle ear is observed in other Inuit populations.

(A. Koch, Department of Epidemiological Research, P. Homøe, Otorhinolaryngology Department, Copenhagen University Hospital, O. Rosing Olsen, Sisimiut Health Centre)

12 February 2003

Table 1. Cross-sectional study of the occurrence of middle ear disease among children aged 3-8 years in Nuuk and Sisimiut, as percentage, 1993-1994

	Both parents Greenlandic	Danish/Greenlandic parents (n=109)	Both parents Danish (n=13)
Acute otitis	1%	0%	0%
Chronic otitis	10%	4%	0%
Secretory otitis	22%	24%	23%
Simple tubal-dysfunction	9%	12%	15%
Sequelae	12%	8%	0%
Total	54%	48%	38%

Streptococci isolated from blood and CSF from infected patients

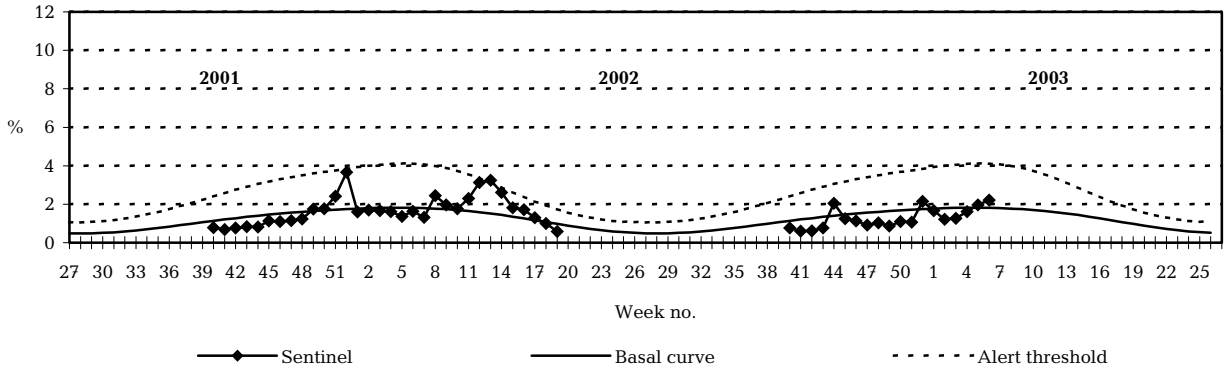
4th quarter of 2002 compared with 4th quarters of 2000 and 2001, respectively

		4th quarter 2002				4th quarter	
		< 2 yrs	2-59 yrs	60+ yrs	Total	2000	2001
October	S. pneumoniae	11	29	53	93	44	64
	Gr. A strep.	-	3	2	5	2	4
	Gr. C strep.	-	1	1	2	2	-
	Gr. G strep.	-	2	11	13	8	6
November	S. pneumoniae	7	33	63	103	78	51
	Gr. A strep.	-	4	5	9	10	8
	Gr. C strep.	-	-	-	-	2	3
	Gr. G strep.	1	1	3	5	7	7
December	S. pneumoniae	4	61	94	159	74	133
	Gr. A strep.	1	9	11	21	9	9
	Gr. C strep.	-	-	-	-	2	1
	Gr. G strep.	-	5	6	11	12	10
4th quarter	S. pneumoniae	22	123	210	355	196	248
	Gr. A strep.	1	16	18	35	21	21
	Gr. C strep.	-	1	1	2	6	4
	Gr. G strep.	1	8	20	29	27	23

(Dept. of Respiratory Infections, Meningitis and STIs)

Sentinel surveillance of influenza activity

Weekly percentage of consultations, 2001/2002/2003



Sentinel: Influenza consultations as percentage of total consultations
Basal curve: Expected frequency of influenza consultations under non-epidemic conditions
Alert threshold: Possible incipient epidemic

(Dept. of Epidemiology)

Sentinel specimens received 2002/2003

Week	40-52	1	2	3	4	5	6
Specimens received, total no.	18	3	2	3	13	11	19
Influenza A							
Moscow/10/99 (H3)-like					2	4	2
New Caledonia/20/99 (H1)-like						1	
Influenza A not typed							
Influenza B							
Hong/Kong/330/01-like					2	1	2

In specimens outside the sentinel system five influenza A/Moscow/10/99 and one influenza B/Hong Kong 330/01-like virus strain were found. The isolated strains are covered by the current influenza vaccine.

(Depts. of Epidemiology and Virology)