



Editorial

It is impossible to describe the state of the nation's health and the burden of diseases in one or two pages. This issue of the Bulletin can only point out some major issues and challenges and invite the readers to await the detailed reports and evaluation that will form part of the Ministry of Health Annual Report and Statistical Report.

2003 statistics confirm that non-communicable diseases dominate the mortality table. Cardiovascular diseases constitute the largest category and the high and increasing prevalence of excess weight in children, if not tackled promptly and effectively, will only add to future burden of mortality. As we approach World Health Day, focussing on road accidents this year, we highlight the importance of these as a cause of mortality. We also draw attention to the high incidence of drowning, suicide and assault.

Our statistics provide an incomplete picture of health status. The data collection is itself incomplete and not always consistent and returns are not obtained from private health practitioners. Much of the focus is on mortality and we do not have an adequate perspective on morbidity and some important components of health, such as mental health, the performance of health services and satisfaction of users of the services. We must intensify our efforts to make our information and statistics more complete. We also need to concentrate on providing analysis and guidance on interpretation and utilisation, so that policy makers and health practitioners are able to make better use of the information presented.

Unfortunately, our last issue was delayed at the printers. This issue coincides with a current outbreak of viral fever and we provide some information on dengue. While we are yet to determine what proportion of the cases is actually dengue and confirm the strain, we hope that this publication will assist the management and control of the epidemic.

Conrad Shamlaye
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Challenges for Health

The development of health over the past two decades in Seychelles has scored many successes by pursuing health for all. However, there is a need to pursue health by all.

Due to rapid development in health systems, there is a growing concern over rising expectations of the population. The demand for health has been increasing due to demographic, social environmental and technological factors as well as emergence of new diseases. At present the country is in an epidemiological transition.

Communicable diseases like diphtheria, measles and polio have disappeared because of high immunization coverage. On the other hand the burden of non-communicable diseases such as obesity, cardiovascular diseases, diabetes and neoplasms is increasing steadily. The number of family planning users has gone down and abortions are on the rise.

On a brighter side there is free access to antiretroviral drugs to treat AIDS patients. Patients are receiving high tech care such as kidney transplants. The level of infant and neonatal mortality rates is comparable to the most developed countries in the world.

In 2004, there are many public health challenges lying ahead of us, namely :

- Implementing Integrated Disease Surveillance activities for early diagnosis of epidemic prone diseases;
- Integration of communicable and non-communicable diseases prevention and control into comprehensive health systems led by Primary Health Care;
- Certification of polio eradication;
- Prevention of STI/HIV/AIDS and sustaining the treatment and care of those infected and affected with HIV and AIDS;
- Sustaining the current levels of immunization coverage;
- Strengthening health promotion activities.



To conclude, Seychelles have achieved good health indicators, though we have weaknesses in certain areas. There are major public health challenges lying ahead of us, but we are committed to improving the health of the nation and we will succeed in doing so.

Major Burden of Diseases in Seychelles - 2003	Page 2
Dengue in Seychelles	Page 3
Prevalence of excess weight in school children	Page 4
Conferences & Meetings, Publications, Websites	Page 4

Major Burden of Diseases in Seychelles-2003

Any health care system needs robust health information system to be able to address the health needs of the population, to ensure that programs are reaching those most in need. It also helps to measure inequalities in access and use of health care as well as to evaluate the impact of interventions, among other.

Vital Health Statistics in Seychelles (1998 - 2003)

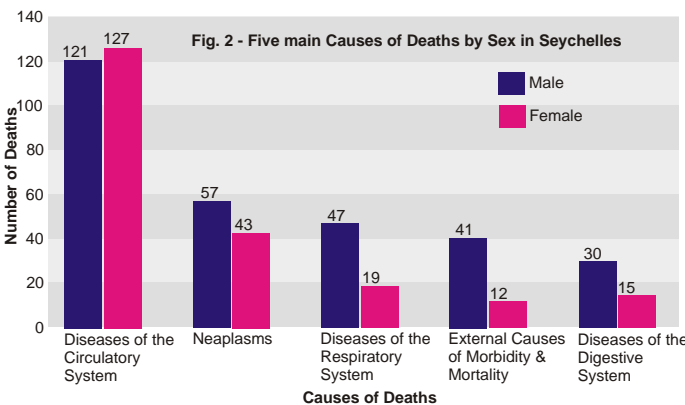
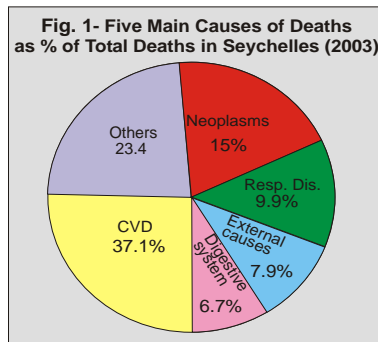
Vital Statistics	Years						
	1998	1999	2000	2001	2002	2003	Average
Mid Year Population	78,846	80,410	81,131	81,202	80,821	79,879	80,482
No. of Births	1,412	1,459	1,511	1,440	1,481	1,498	1,461
Crude Birth Rate /1,000 pop	17.9	18.1	18.6	17.7	18.3	18.7	18.1
No. of Deaths	570	560	553	554	647	668	577
Crude Death Rate / 1,000 pop	7.2	6.9	6.8	6.8	8.0	8.3	7.1
No. of Infant Deaths	12	14	15	19	26	25	17
Infant Mortality Rate/1,000	8.5	9.6	9.9	13.1	17.5	16.6	11.7
No. of Child Deaths	5	1	5	3	1	4	3
No. of Maternal Deaths	2	0	0	0	1	1	0.6
Maternal Mortality Ratio/100,000	111.6	0.00	0.00	0.00	54.5	53.3	33.0
Total Fertility Rate	2.04	2.04	2.08	1.98	2.01	2.04	2.03
Life Expectancy at Birth (Years)							
Males	67.6	67.3	67.9	67.3	66.5	65.0	67.3
Females	76.0	78.2	77.9	79.4	75.7	75.9	77.4
Both sexes	71.7	72.4	72.7	72.5	70.9	70.3	72.0

The table below presents the health personnel distribution in the country. Although the rates of population per doctors, nurses and dentists are above the averages recommended by WHO, it is important to highlight that there is yet a great dependency of foreign medical doctors (60%).

Health Personnel	Years					
	1998	1999	2000	2001	2002	2003
Number of Doctors	105	104	103	87	101	107
Population per Doctor	751	773	788	837	800	747
Number of Nurses	342	353	385	394	379	422
Population per Nurses	231	228	211	206	213	189
Number of Dentists	15	15	16	14	13	16
Population per Dentists	5,256	5,361	5,071	5,800	6,217	4,992

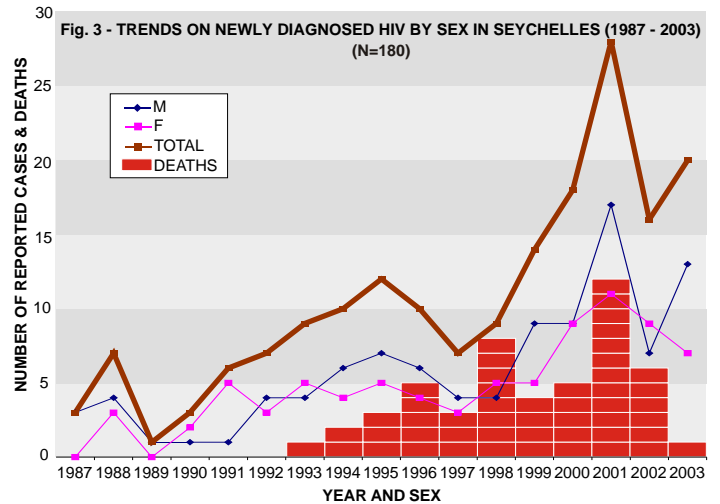
A total of 668 (56% males) people died in 2003. Approximately 71% of the registered deaths occurred beyond age 55, 23% between 15-44 yrs old and 6% below 14 years of age. These figures are comparable with mortality data in developed countries.

Non-Communicable Diseases - Figures 1 & 2 show the five leading causes of deaths in Seychelles in 2003 and its distribution by gender. The burden of non-communicable disease is increasing, mainly CVD and neoplasm. Population ageing and changes in the distribution of risk factors have accelerated the epidemic of non-communicable diseases. Cardiovascular diseases (heart disease and stroke) accounted for 37.1% of all registered deaths in 2003, followed by 15% of cancers.

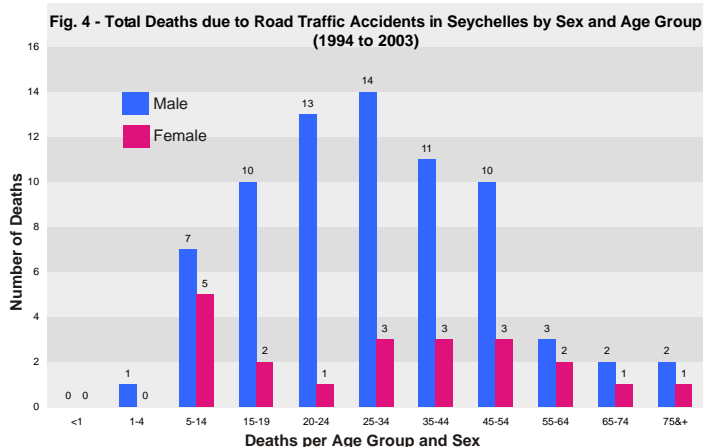


This growing burden has potential to hinder social and economic development indicators achieved so far. Risk factors, such as raised blood pressure, tobacco use, alcohol consumption, cholesterol and overweight are part of well-documented epidemiological transition.

HIV & AIDS - However, the advent of HIV/AIDS and the increasing number of cases of tuberculosis represents other enormous threats that remain and are growing. Figure 3 shows that HIV is increasing in both sexes, since the first case was diagnosed in 1987, with higher frequency among young adults. The main modes of transmission is heterosexual (75%), followed by homosexual (19%) and maternal-child transmission (6%).



Road traffic accidents, drowning, suicides, assaults, homicides, accidental burns and falls accounted in 2003 for 7.9% of all deaths. In the last five years out of 5,797 road traffic accidents reported 44 deaths occurred. At the end of 2002 the rate of road traffic accidents was 14 per 1,000 inhabitants and 115 per 1,000 motor vehicles. The figure below presents the age and sex distribution of deaths due to road traffic accidents in the country in the last 10 years.



Most of the deaths (78%) were among males and 74% among people aged 15 to 44 yrs old. In addition to the direct costs of road injuries and deaths, the increase number of vehicles has other serious implications as well as wider social economic and environmental impacts.

In 2003, 11 cases of **drowning** occurred in the country. 8 deaths due to intentional self-harm (**suicides**) including 2 females and 10 deaths due to **assaults**.

DENGUE IN SEYCHELLES

Seychelles is presently experiencing an outbreak of viral fever that clinically resembles dengue.

History of dengue in Seychelles

- Epidemics of dengue were first reported 200 years ago in Asia, Africa and America.
- In 1969 the annual report of the Seychelles medical department stated that no case of dengue has ever been reported on the islands.
- However, viral fever outbreaks of unknown etiology were reported in 1900, 1906, 1915 and 1926. It may have well been dengue.
- Seychelles officially recorded its first epidemic between December 1976 and April 1977.
- Our last epidemic on record was shorter, from December 1978 to January 1979.
- Sera collected from outpatients with a dengue-like illness revealed a prevalence rate by neutralization test for the four dengue types of between 81% to 91%.
- The most probable etiological agent was Dengue type 2.
- An acute outbreak of a flu-like infection from December 1996 to February 1997 led some local expert to suspect dengue.
- None of the 490 patients tested positive for IgM for dengue. 6.5 % tested positive for IgG against dengue 1 and/or 2. The outbreak turned out to be west Nile fever.

Clinical aspects

- Dengue fever is a vector born tropical viral illness which affects all age groups.
- It has an incubation period of 2-7 days.
- Most patients who contract the infection recover fully within a week without specific treatment.
- However, for every subsequent infection with a new strain, the illness becomes more serious.
- Infection with one of the four existing strains conveys lifelong immunity to that particular strain and not the others.
- Dengue shock syndrome (DSS) or dengue haemorrhagic fever (DHF) are the most feared eventuality with a case fatality rate of 1-20%.

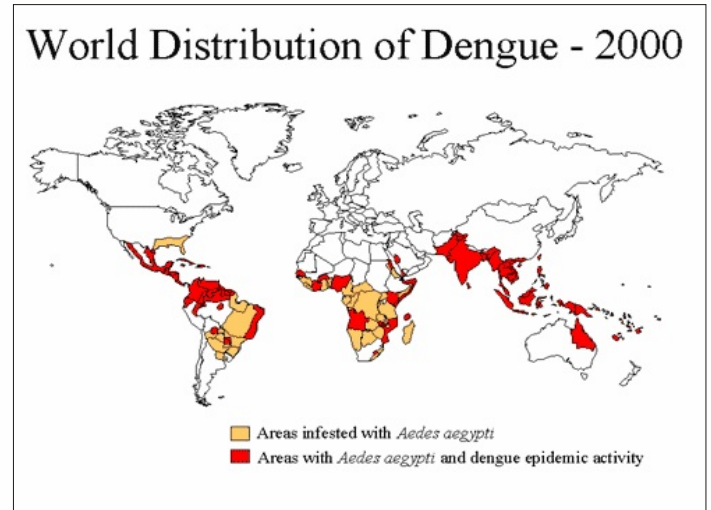
Vector	Aedes albopictus/ egypti mosquitoes
Incubation period	2-7 days
Signs and symptoms	Fever
	Headache
	Retro-orbital pain
	Joint pain
	Muscle pain
	Generalized rash
	Haemorrhagic manifestation
	Leucopenia

I DSR:
Fever plus 2
or more

The clinical case definition given above is not specific to dengue and often poses a problem if one cannot perform confirmatory tests. Several other viral illnesses present in this way. Nevertheless in an epidemic situation, the clinical case definition suffice for its diagnosis.

The current situation

Seychelles' wet tropical climate, the abundance of the aedes mosquito species and the ease of transmission of dengue makes its epidemic potential remarkable. The map below shows Seychelles in the middle of the world dengue belt.



Given the ubiquitous existence of aedes albopictus in all the districts of Seychelles, it dominates over aedes egypti mosquito as the main vector for transmission of dengue here. These two species of mosquitoes are also responsible for the transmission of several other viral infections in tropical countries.

- Since November 2003, there has been an upsurge in the number of patients presenting with signs and symptoms that were suspicious of dengue.
- In December 2003 a series of 23 acute phase samples were collected from inpatient with clinical suspicion of dengue, and were sent to a WHO reference lab in South Africa for dengue testing.
- Nine (9) cases were confirmed to be dengue by antibody test.
- Both IgM and IgG antibodies were detected. PCR was positive on one of those cases which turned out to be dengue type one.
- The evidence that we have in hand is insufficient to confirm the strain that is causing the outbreak. Moreover 77% (7) of the patients who tested positive for dengue were below 25 years of age (ie. They were born after the last epidemic of 1979.)
- The result of a second batch of test that was sent may yield more conclusive identity of the current strain.
- Meanwhile, the Ministry of Health has launched a campaign that is targeting mosquito control and the spread of dengue in the community. It is hoped that these efforts are timely enough to control the epidemic, limit morbidity and avoid mortality altogether.

References

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- 2 Yersin C, Bovet P, Herminie P, Zeller H. Public health importance of mosquito born diseases in the Seychelles (Indian Ocean). The infectious Review 1999; 1 (3): 189-199.
- 3 Metselaar D, Grainger C. R, Oei K G, e al. An outbreak of type 2 dengue in the seychelles, probably transmitted by aedes albopictus. Bulletin of the World Health Organisation 1980; 58 (6): 937-943.

High and increasing prevalence of excess weight in school children

The proportion of overweight has increased dramatically worldwide during the last decade among adults and children. This has become a leading public health challenge because overweight is a main determinant of diabetes, hypertension, blood lipid disorders, and cardiovascular disease.

Within a surveillance program of non-communicable diseases in children initiated in 1998, school nurses are screening every year body weight and other conditions in all students of Seychelles attending Crèche, P4, S1 and S4 in collaboration with UPCCD.

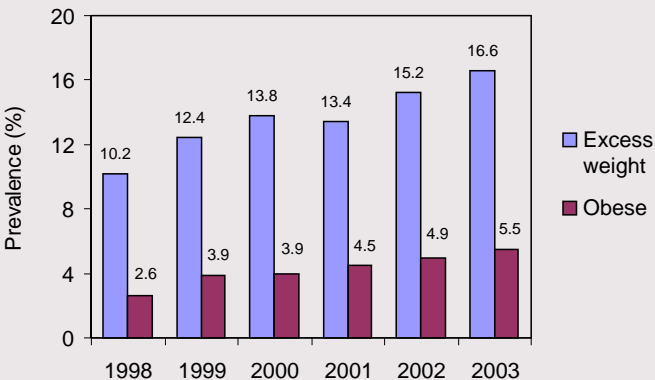
In 2003, 5701 children were examined from an eligible total of 6422 (participation: 89%). Mean age of students in the 4 grades was 5.4, 9.1, 12.4 and 15.6 years, respectively. Overweight and obesity in children were defined according to sex- and age-specific body mass index criteria set by the International Obesity Task Force. In this paper, "excess weight" refers to overweight or obesity.

In 2003, the prevalence of excess weight was 16.1% (95% confidence interval: 14.7-17.5) in boys and 16.9% (CI: 15.6-18.3) in girls. Prevalence of obesity was 5.5% (CI: 4.6-6.4) in both boys and girls. These proportions are very high by international standards.

Graph 1 shows that the proportion of children with excess weight or obesity tended to be higher among younger than older students, which suggests that the younger cohorts are particularly prone to develop overweight.



Graph 2 shows that the proportions of children with excess weight - using same standard methods and criteria - increased markedly between 1998 and 2003 (based on a total of 28,394 observations during this period). Within the 6-year period, the prevalence of overweight among children has increased by more than 50%.



The high and increasing proportions of children with excess body weight predict an increasing burden of non-communicable diseases among adults in the next decades. This calls for prompt and energetic policies and programs to promote physical activity and healthy nutrition among children.

Conferences & Meetings

22-26 Mar. 2004	Training course on data analysis Global Tobacco Survey (GYTS)	Harare, Zimbabwe
15-16 Apr. 2004	FDI/WHO Conference - Oral Health in the African Region	Nairobi, Kenya
31 May -03 Jun. 2004	II International Congress of Dengue & Yellow Fever	Havana, Cuba

New Publications

	Controlling Diseases due to Helminth Infections Year - 2004		Peer Education Kit for Uniformed Services Year - 2003 Available at WHO Liaison Office
	Guidelines - Management of Sexually Transmitted Infections Year - 2003		Global Strategy - Infant & Young Child Feeding Year - 2003
	Long-term Care in Developing Countries Year - 2003 Available at UPCCD, MoH		Quality Improvement - Mental Health Year - 2003 Series available at the MoH Library
	Accelerating Action Against AIDS in Africa Year - 2003		Making Choices in Health: WHO Guide to Cost Effectiveness Analysis Year - 2003

Details available at: <http://bookorders.who.int>

Websites

SUBJECT	ADDRESS
Ministry of Health - Seychelles	www.moh.gov.sc
CDC-chronic diseases	www.cdc.gov/nddcp/
Global Atlas of Infectious Diseases	http://globalatlas.who.int
Global Forum for Health Research	www.globalforumhealth.ch
Outbreaks	www.who.int/csr/don
Tobacco free kids campaign	www.tobaccofreekids.org/
WHO-NCD	www.who.int/ncd/
Tropical Diseases Research	www.who.int/tdr
World Bank	www.worldbank.org/
World Health Report	www.who.int/whr/en/
WHO Vacancies	http://erecruit.who.int
JAMA publication	www.jama.com
Global Health Network	www.pitt.edu/~super1/

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