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Community Health & Disease Surveillance Newsletter

Sultanate of Oman ***Ministry of Health***

Inside this issue:

Review of Maternal Mortality in Oman: 1991-2000

Background

Today at the crest of the global progress and better understanding and acceptance of human rights, illness associated with reproduction is no more just considered a health disadvantage but also a social injustice. Improving women's reproductive health and associated death due to reproduction has been further reinforced through the ***safe motherhood initiative*** call by the World Health Organization.

Introduction

In this article the data on maternal deaths for the period 1991-2000 are reviewed at the Department of Family and Community Health. Attempt has also been made to explore the relationship between causes of maternal deaths (direct v/s indirect), age and parity.

Methods

Total 96 maternal deaths were reported during the period 1991-2000. Data were collected from all the health facilities on '***maternal death reporting forms***' that were introduced in 1991.

In Oman, the birth and death registration is not mandatory. Hence there is likelihood that some maternal deaths occurring in the community and not reported to the heath facility would be missed. However, number of such deaths could be negligible.

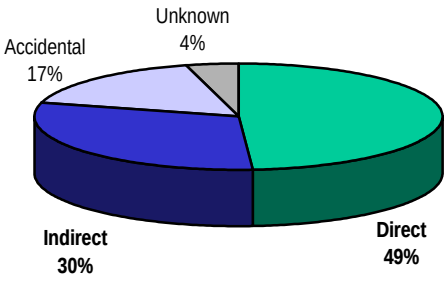
The causes of death have been classified by detailed review of the case sheets. The immediate causes of deaths have been classified into direct, indirect, accidental and unknown. The relationship of age and parity of direct and indirect causes of death has also been explored.

Results

Fig. 1 shows causes of maternal deaths as classified into direct, indirect, accidental and unknown. Direct causes contributed to almost 50% of all maternal deaths.

Table 1 shows that among all direct causes of deaths postpartum haemorrhage (PPH), pulmonary embolism and sepsis contributed to the highest percentage.

Fig. 1
Causes of Maternal Mortality 1991-2000



"Among all direct causes of maternal deaths postpartum haemorrhage, pulmonary embolism & sepsis contributed to the highest percentage"

Table 1
Direct Causes of Maternal Deaths 1991 - 2000

Causes of Deaths	# (%)
Postpartum Hemorrhage (PPH)	15 (32)
Pulmonary Embolism	15 (32)
Sepsis	11 (23)
Amniotic Fluid Embolism	6 (13)
Total	**47 (100)**

The data show that mothers who died of the direct causes tend to be older (mean age 30.2 years) as compared to those who died of the indirect cause (mean age 29 years).

Similarly mean parity at the time of the death of the two groups (direct v/s indirect) was compared. The results indicate that mothers who died of direct causes of deaths tended to have higher parity (mean parity 4.9 v/s 4) at the time of the death than otherwise.

Fig. 2
Cause of death v/s Age using Probability Scale

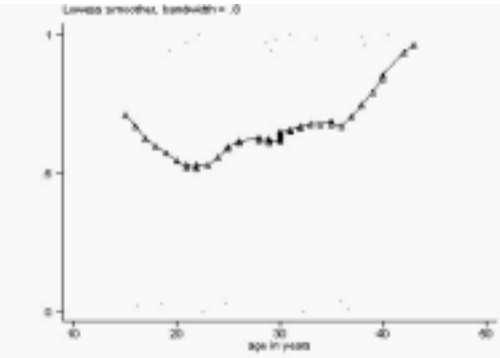


Fig. 2 of cause of death and age is in **'J' shaped pattern**, which means that the risk of dying from direct compared to indirect causes of death is more at the younger age i.e. below 20. Then the risk declines for mothers more than 20 but again it rises in late thirties.

The graph indicates that the difference is more at higher age in comparison to younger age group.

Fig. 3
Cause of death v/s Parity using Probability Scale

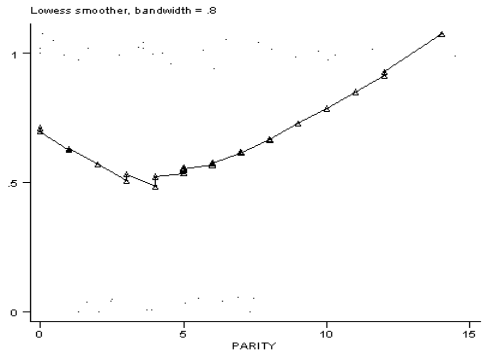


Fig. 3 shows a similar pattern to parity, in which risk of dying of direct relative to indirect causes of death is more at parity of 'zero'. Then the risk declines for mothers with more than 'zero' parity and once again it rises for mothers having more than 4 children.

Discussion

Certain aspect of reproductive behaviour such as maternal age and parity at the time the child is born has long been thought to affect the mother's survival [3]. There is evidence that the risk of maternal mortality is higher for women under the age 20 and over the age 35 and for parity 0 and very high parity [4]. Similar pattern has been observed in the present series (direct to indirect cause of death as shown in Fig. 2 & 3). The relationship between maternal death, age and parity might result from underlying biological factors: very young women's reproductive system may not be prepared adequately to the stress of the pregnancy, while advanced aging might reduce the efficiency of the entire reproductive process. Whereas first birth might be riskier as the body goes through parturition for the first time, and higher parity may be a greater risk due to exhaustion of the

body. The real effect of parity and age in fact may not be an entirely biological effect but may be due to other confounding factors viz. socio-economic status, which needs to be explored. Clearly age and parity are interrelated, as young mothers tend to have less parity. However, it is important to understand the real effect of each variable per se.

The observation that mothers dying of direct causes tend to be older is not statistically significant. This could be due to a small sample size, inaccuracies in estimation of age or due to other confounding variables, which need to be identified.

Conclusions

The relationship between the risk of dying due to direct compared to indirect causes showed a ***'J' type pattern.***

As per the global recommendations, the department of Maternal & Child Health has implemented the policies for the reduction of maternal mortality and morbidity in Oman. The success achieved by the ongoing programs is expected to be supplemented with efforts from other sectors to increase the women's literacy rate, which as John Bongaarts in 1994 pointed out is the most important and consistent among the socio-economic variable, which accelerates the fertility.

The continuous efforts of Maternal Health & Birth Spacing Programme to increase the contraceptive use and adequate monitoring of the services alongside with changing status of women is expected to result in better maternal health in the forth coming years.

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*"The success is expected to be supplemented with efforts to increase the women's literacy rate which as **John Bongaarts** in 1994 pointed out, is the most important & consistent among the socioeconomic variable which accelerates the fertility. "*

Rift Valley Fever in the Arabian Peninsula

Introduction

African continent has always been the traditional home of the *Rift Valley Fever* (RVF) since the virus was first isolated from cases of haemorrhagic fever in Kenya in 1930. Outbreaks were reported outside sub-Saharan Africa in Egypt (1977-78 & 1993) A large outbreak occurred in East Africa in 1998. In September 2000, RVF cases have been reported out of Africa for the first time across the red sea in the Arabian Peninsula.

RVF is a viral zoonotic disease of the domestic ungulates, primarily sheep and goats. Man is an accidental host acquiring infection primarily by mosquito bites or by contact with infected animal body fluids. Person to person transmission has not been reported. The outbreak is characterized by large epizootics during periods of heavy rainfall with associated outbreak in humans. Most human infections are uncomplicated febrile illnesses or inapparent infections. More severe complications include retinitis, renal failure, haemorrhagic fever, encephalitis and death. The major vector is the *flood water 'Aedes'* mosquito. The virus may persist in the environment through transovarial transmission.

Outbreak in Arabia

The highlights of the current outbreak are:

1. First time cases of RVF have been reported in the Arabian peninsula.

(Continued on page 8)

Cancer Incidence in Oman

Introduction

Cancer is a major public health problem worldwide. Between 1975 and 1990 there was a 37% increase in cancer cases[1]. In 1996 more than 10 million people were diagnosed with cancer and at least 6 million people with the disease died from it[2]. The World Health Organization estimates these figures will have doubled by the year 2020 with 20 million new cases and 12 million deaths from cancer[3].

The successful control of most communicable diseases of childhood together with rapid strides in socioeconomic development has led to the emergence of non communicable diseases as the dominant source of ill health in Oman.We present here epidemiological data on cancer as recorded in this country during the 5 year period, 1993-1997.

The pattern of cancer among males in Oman is different from those of other countries in the region, with stomach cancer being the most dominant malignancy while in females it is consistent with the regional and global picture with breast cancer being the commonest"

Methods

The Oman National Cancer Registry was established in 1985 as a hospital based registry. In 1994 the registry expanded to become a population-based registry covering the entire country. New cancer notification forms were developed and distributed to all regional or secondary care hospitals for notification.

When cancer cases are diagnosed in a hospital, the attending physician in the relevant specialty completes the notification forms and sends them to the cancer registry. Similar passive reporting is done by other institutions not under the Ministry of Health, such as the Royal Oman Police Hospital, The Armed Forces Hospital and the University Hospital.

All cancer cases are coded using the second revision of the International Classification of Diseases for Oncology (ICD-O-2) with topography C and morphology M codes[4]. Incidence during the entire 1993-1997 period was calculated using the mid period population, i.e. mid 1995. The World Standard Population was used to obtain age standardized rates. Epi-info was used to obtain p- values for the trend test.

Results

Although the cancer registry collects data on all cancer cases occurring in Oman, the following analysis pertains to the Omani population only. Between 1993 and 1997, 4091 cases of cancer were reported to the Cancer Registry.

Table 1
Cancer Incidence: 1993-1997

Year	1993	1994	1995	1996	1997
Total Cases	796	760	833	807	895
Males CR* (ASR^)	57.3 (107.3)	52.9 (94.5)	50.2 (109.8)	56.2 (109.6)	61.1 (121.8)
Females CR* (ASR^)	50.0 (94.0)	47.3 (85.5)	47.0 (81.5)	44.7 (84.6)	47.8 (93.6)

**CR=Crude Incidence Rate*
^ASR=Age-adjusted Incidence Rate to the World Standard Population [9]

The annual age adjusted incidence rates were 108.4 and 87 per 100,000 population for males and females respectively. Stomach cancer was the leading cancer among males in Oman (11.1%)(Table 2). Among females, breast cancer was the most common Malignancy (13.7%)(Table 3).

Discussion

The age adjusted incidence rates for males in Oman (108.4/100,000) are similar to the rate reported among Kuwaitis (106.7/100,000)[5]. The age adjusted incidence rates among Omani females (87/100,000), however is substantially lower than Kuwaiti females (127.3/100,000). Both are substantially lower than in the USA (162.7 & 110.4/100,000 for males & females respectively[6]). The highest incidence of stomach cancer in the world occurs in Japan (age standardized rate 77.9/100,000 for men)[1]. In Oman the age adjusted incidence among males was 13.8 and in females 7.1/100,000. The rates in Omani males are similar to those reported in Setif, Algeria (14.4) but are higher than rates reported in Kuwaitis (4.1)[5]. Etiological factors for this relatively high incidence of stomach cancer are unclear. The International Agency for Research on Cancer has acknowledged Helicobacter Pylori as a major causal factor in the etiology of stomach

cancer worldwide[7]

Table 2

Ten Most Common Cancers in Omani Males

Rank	Type	n=2282 # (%)
1	Stomach	254 (11.1)
2	Non-Hodgkin Lymphoma	220 (9.6)
3	Prostate	174 (7.6)
4	Leukemia	153 (6.7)
5	Lung & Bronchus	147 (6.4)
6	Primary Liver	111 (4.9)
7	Bladder	102 (4.5)
8	Brain & Nervous System	77 (3.4)
9	Hodgkin's Disease	68 (3.0)
10	Colon	63 (2.8)

Table 3

10 Most Common Cancers in Omani Females

Rank	Type	n=1809 # (%)
1	Breast	248 (13.7)
2	Cervical & Uterine	159 (8.8)
3	Non-Hodgkin Lymphoma	138 (7.6)
4	Stomach	125 (6.9)
5	Thyroid	116 (6.4)
6	Leukemia	98 (5.4)
7	Ovarian	68 (3.8)
8	Lung & Bronchus	52 (2.9)
9	Primary Liver	46 (2.5)
10	Connective Tissue	40 (2.2)

At present there is no data regarding the prevalence of H. Pylori infection in the Omani population and it may be worthwhile investigating this.

The incidence of NonHodgkins Lymphoma (NHL) in Oman (8.7 and 5.7 in males & females/100,000) was higher than that reported in other Arab countries for males.[5] Breast cancer is the most common cancer in Omani women, the incidence being 13/100,000. It is also the most common cancer among Egyptian, Palestinian and Kuwaiti women.[5,8] However the incidence among them is much higher than among Omani women. Factors such as early age at first childbirth, multiparity, prolonged period of lactation and infrequent use of oral contraceptive pill may have contributed to the lower incidence in Oman.

Some limitations of the analysis could be under reporting. Mountainous and desert terrain in Oman may prevent some patients coming for medical care to Muscat. Instead, people living close to UAE may be attending UAE health institutions for treatment. Notification of cancer has been made mandatory in Oman only recently and this may have been another cause for under reporting.

Conclusions

At present the number of cancer cases in Oman is less than 1000 cases per year. However as the country undergoes demographic and socioeconomic changes, the actual burden of cancer may increase in the next century. The pattern of cancer among males in Oman is different from those of other countries in the region, with stomach cancer being the most dominant malignancy while in females it is consistent with the regional and global picture with breast cancer being the commonest.

" The incidence of Non-Hodgkin Lymphoma in Oman was higher than that reported in other Arab countries for males & Breast cancer is the most common cancer in Omani women"

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Case Based Surveillance for Active Trachoma

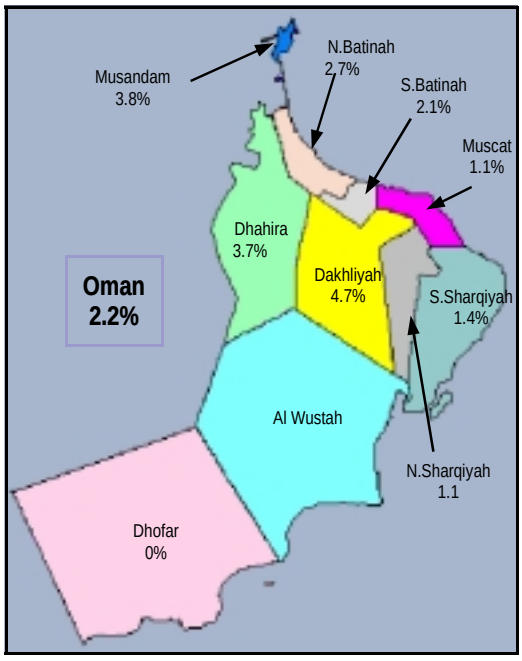
Background

Trachoma is a leading infectious eye disease responsible for preventable blindness in the developing countries. World Health Organization in collaboration with Non-Governmental organizations has launched special campaign with the aim of elimination of blinding trachoma.

The national survey conducted in 1996-97 suggested that active trachoma prevalence in Oman was 2.2% and Dakhliyah, Musandam, North Batinah & North Sharqiyah regions were identified as hyper endemic areas *(Fig. 1)*. Improved socio-economic status, supervised trachoma treatment in school children, increased awareness among children regarding ocular hygiene and high literacy rate are the main responsible factors for a low rate in children. Contrary to the picture in other countries, Oman has 2/3 of trachoma infection pool among the adults (survey 96-97). Mapping of high-risk areas for trachoma based solely on the prevalence rates in school children may therefore be misguiding.

"Identification of 'TRUE' high-risk areas in the regions could further strengthen the program that can be achieved by introducing a case based surveillance for active trachoma infection at the health institutions"

Fig. 1
Prevalence of Active Trachoma by Regions
(Survey 1996-97)



Hence, it was decided to expand the scope of trachoma related activities to cover the adults as well as preschoolers. Identification of such true high-risk areas in the regions could further strengthen the program that can be achieved by introducing case based surveillance for trachoma infection at the health institutions.

Objectives

1. To review the feasibility of case based surveillance for trachoma integrated into the existing communicable disease surveillance system.
2. To study the ocular profile of the Trachoma contacts in the community.

Materials and Methods

Study period: 1st July to 30th September 2000
Study Sample: All cases of trachoma infection reported by the ophthalmologists at Nizwa Extended Health centre during the study period and their contacts in the community were included in the study. They were divided into two subgroups viz. treated with Azithromycin and those treated with tetracycline.

Methods

Ophthalmologists examined all cases visiting the ophthalmic unit of Nizwa EHC. Upper eyelids were everted and presence of *trachomatous follicular*, *trachomatous Intense*, and follicles less than five were classified as stages of active trachoma.

On all even dates during the study period, the cases of active trachoma were given Azithromycin (20-mg/kg) as a single dose. While on all odd dates, the active trachoma cases were offered standard Tetracycline eye ointment twice a day for 6 weeks. Health education and distribution of material related to trachoma and *trichiasis* was the integral part of management. The trachoma status was notified to the regional eye care supervisors at the Public Health section of Nizwa using notification

form (M-174) within one week.

Follow-up: The eye health care supervisors experienced in trachoma survey, conducted home visits of all the active trachoma cases within 2 weeks of notification. They provided prophylactic treatment with Azithromycin to all household members of the study group and with tetracycline ointment to the control group. Health education on ocular hygiene and need for compliance was stressed. The cases were followed-up after 1, 4 and 8 weeks by an Ophthalmologist. The supervisors examined the dropouts during contact tracing and follow-up home visits.

Results & Discussion

During the study period, 52 cases of active trachoma were seen in Nizwa EHC out of which 49 (94%) were enrolled for the study. Three cases refused to participate.

Houses of all 49 houses of the registered cases were visited by the supervisors. 437 (85.4%) family contacts were examined and treated. Some of the adult male were not available at the time of visit. However, they were provided with prophylactic treatment with detailed instructions.

25 (51%) cases were assigned to study group while 24 (49%) were included in the control group.

The Azithromycin treatment was generally preferred by the field staff as well as the family contacts. The advantages over conventional therapy were: easy implementation, better compliance and minimum side effects.

In developing countries the unsupervised long-term tetracycline regimen is considered a major hurdle in the trachoma control initiative in the community. Azithromycin therapy has a distinct advantage over the conventional management of contacts.

Gender distribution of active trachoma was not significantly different.

Of the detected active trachoma cases in the hospital only 8 (16%) were below 10 years of age. More than half belonged to age group 10 to 19 years. The remaining third were of 20 to 39 years of age.

A small percentage of cases in <10 age group indicates possibly the positive impact of ongoing trachoma control activities. However the large proportion of older school going children (10 to 19 years) is a matter of concern. This observation suggests extending the intervention strategies to senior classes.

Only 2 (4.1%) cases of active trachoma (age 6 to 7 years) belonging to 1st Primary class visited the health institution. While the rest 47 (95.9) belonged to age group other than 6-7 years. Thus the current institutional approach enabled to detect entirely new hidden pockets of trachoma infection in the community. These would otherwise have been missed if only school approach was utilized for tracing the contacts.

In the contact sample, there were 26, 1st primary students having no trachoma but one of their family members was having active trachoma infection. Since these families are not covered in school screening approach, these normal 1st primary children are at risk for trachoma and potential source for infection for other school children. Thus cycle of infection among 1st primary student will continue and will undermine the benefits achieved unless complemented by prophylactic treatment through Health institute approach.

"The current institutional approach enabled to detect entirely new hidden pockets of trachoma infection in the community"

Both the above observations support the usefulness of contact tracing through health institution in addition to the school.

The ocular status of contacts suggests 7% active trachoma rate and 6% infective conjunctivitis. The national survey in 1996-97 showed 4.8% rate in the region. High rate of communicable eye diseases in the contacts is expected since they are high-risk groups. To further reduce the rate of infection, this group should be targeted for all trachoma related activities.

28 cases of *trachomatous trichiasis* (2%) in the contact promote the regional eye care staff for undertaking activities for reducing

blinding trachoma. 8% of *trachomatous scarring* (TS) cases suggest that region is likely to face blinding trachoma in the next decade.

The screening of contacts detected 34 cases with few *trachomatous follicles* (<5). According to WHO definition, these were excluded in the estimation of active trachoma rate. Laboratory testing of such cases would detect the true aetiology of follicles.

National programs aiming at further reducing trachoma infection burden especially in countries with active trachoma rate as low as 1% to 3% should revise the definition of active trachoma and include less than five follicles for the treatment.

Conclusions

Surveillance of active trachoma has distinct advantages to complement ongoing trachoma control activities as well as to identify new pockets of trachoma infection in the community. However, nomination and training of existing regional EPI staff for contact tracing and provision of additional Azithromycin medicines should be thought of prior to introducing the surveillance for trachoma through health Institutions.

Acknowledgements:
We sincerely appreciate the dedication & efforts of the eye health care program staff in Dakhliyah Region &the National HQ for this project.

"Case based surveillance of active trachoma has distinct advantages to complement ongoing trachoma control activities as well as to identify new pockets of trachoma infection in the community"

2. As of November 1st, 516 cases of suspected severe RVF were reported from Saudi Arabia with 87 (17%) and 1087 from Yemen with 121 deaths (11%).
3. As on November 1st, 87 (17%) cases have died in Saudi Arabia.
4. The case fatality ratio is higher than previously reported. It is likely that this is due to underreporting of mild cases.
5. Cases were mainly from south-eastern province of *Jizan* and from the north-eastern Governorate of *Hodaidah* in Yemen. A total of 600 kilometre area involved in transmission.
6. The epidemiological investigations revealed history of exposure to dead/aborted animals. Almost all reported having had mosquito bites.
7. Laboratory studies demonstrated RVF virus in the local species of Culex & Aedes.
8. RVF antibody survey in the domestic ungulates showed high prevalence.
9. Control and prevention measures are going on in both countries. Intensive vector control measures are the mainstay of breaking the transmission.
10. Studies are in progress to identify risk factors for the severe disease, epizootic, nosocomial infection, efficacy of *IV Ribaverin*, vector studies, viral sequencing etc.
11. The almost simultaneous, extensive and multi-centric nature of the outbreaks argues against radiation of the disease from a single focus in Saudi Arabia or Yemen.
12. Several lines of evidence suggest that RVF was probably introduced in Arabia prior to the current outbreak.

A joint collaborative investigation was carried out in Yemen during the outbreak by **Ministry of Health Oman,** the UN Food & Drug Organization (FAO), WHO and the US Naval Medical Research Unit.

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Communicable Diseases Quarterly Report

Fourth Quarter (October to December 2000)

ICD Code	Diseases	2000 Fourth Quarter Oct	Nov	Dec	Total	1999 Q4 Oct-Dec	2000 Q1 Jan-Mar	Q2 Apr-Jun	Q3 Jul-Sep
GROUP 'A' DISEASES									
A00	Cholera	2	-	-	**2**	2(i)	-	2	5
A20	Plague	*Never reported*							
A36	Diphtheria	*Last case 1992*							
A39	Meningococcal infection	1	-	-	**1**	-	4	18	4
A80	Poliomyelitis	*Last case 1993*							
	Acute Flaccid Paralysis	1	1	1	**3**	7	4	1	2
B05	Measles	-	-	-	**0**	3	1	10	3
B06	Rubella & CRS	-	-	-	**0**	-	-	3	-
A95	Yellow fever	*Never reported*							
A82	Rabies	-	-	-	**0**	-	-	-	-
A75.0	Louse-borne typhus	*Never reported*							
A68	Relapsing fever	*Last case 1997*							
A33	Tetanus Neonatorum (NNT)	*Last case 1995*							
A99	Viral Hemorrhagic fever	-	-	-	**0**	-	-	-	-
GROUP 'B' DISEASES									
A03.0	Typhoid fever	14	6	7	**27**	23	22	24	40
A01.4	Paratyphoid fever	1	1	-	**2**	5	2	11	5
A02	Food poisoning	72	44	60	**176**	91	95	313	361
A22	Anthrax	*Never reported*							
A23	Brucellosis	25	12	15	**52**	63	70	76	104
A37	Pertussis	5	2	4	**11**	22	42	58	79
A35	Tetanus (Excluding NNT)	-	-	1	**1**	-	1	3	1
A90	Dengue	*Never reported*							
	Viral Hepatitis - Total	**102**	**71**	**117**	**290**	**232**	**273**	**296**	**253**
B15.9	Viral Hepatitis - HBsAg '+' (ELISA)	3	4	5	**12**	16	11	14	11
B15.0	Viral Hepatitis - HBsAg '-'	78	50	92	**220**	198	196	217	180
B17	Viral Hepatitis - Unspecified	21	17	20	**58**	18	66	65	62
B55	Leishmaniasis	3	1	6	**10**	5	4	1	2
B65	Schistosomiasis	-	-	-	**0**	2(i)	-	1	2(i)
B74	Filariasis	-	-	-	**0**	-	-	1(i)	1(i)
B72	Dracunculiasis	*Certified by WHO as Eradicated from Oman*							
G00.0	Haemophilus Meningitis	-	1	6	**7**	13	4	4	5
G00-G03	Meningitis - (All others)	12	9	12	**33**	43	35	45	41
A30	Leprosy	3	1	-	**4**	8	3	1	4
A15-A19	Pulm. Tuberculosis Sputum Positive	5	11	6	**22**	22	32	29	33
	Pulm. Tuberculosis Sputum Negative	1	2	1	**4**	14	9	13	5
	Extra Pulmonary Tuberculosis	9	5	1	**15**	12	21	29	33
B50-B54	Malaria (All sources)	66	46	39	**151**	165	117	147	281
A50-A53	Syphilis	24	15	9	**48**	47	49	58	64
A54	Gonococcal Infections	39	26	9	**74**	98	71	94	91
GROUP 'C' DISEASES									
A03	Shigellosis	215	165	117	**497**	330	349	348	372
A06	Amoebiasis	489	452	305	**1246**	1136	914	1069	1094
A09	Acute Gastro-Enteritis & Diarrhoea	11,996	10,879	10,716	**33,591**	27,239	29,301	23,461	25,855
B01	Chicken Pox	753	1015	998	**2766**	2,320	4,763	5,996	2,204
B26	Mumps	425	347	403	**1,175**	2,986	3,556	4,842	1,463
A71	Trachoma	60	64	24	**148**	252	296	297	275
J10-J11	Influenza	342	358	509	**1209**	1,135	1,279	1,077	850

Communicable Diseases Quarterly Report by Regions

Fourth Quarter (October to December 2000)

ICD Code	Diseases	Total	Muscat	Dhofar	Dakhliyah	North Sharqiyah	South Sharqiyah	North Batinah	South Batinah	Dhahira	Musan-dam	Al–Wustah
GROUP 'A' DISEASES												
A00	Cholera	**2**	-	-	-	-	-	-	-	2	-	-
A20	Plague	*Never Reported*										
A36	Diphtheria	*Last case 1992*										
A39	Meningococcal infection	**1**	-	-	1	-	-	-	-	-	-	-
A80	Poliomyelitis	*Last case 1993*										
	Acute Flaccid Paralysis	**3**	-	1	-	-	-	2	-	-	-	-
B05	Measles	**0**	-	-	-	-	-	-	-	-	-	-
B06	Rubella & CRS	**0**	-	-	-	-	-	-	-	-	-	-
A95	Yellow fever	*Never Reported*										
A82	Rabies	**0**	-	-	-	-	-	-	-	-	-	-
A75.0	Louse borne typhus	*Never Reported*										
A68	Relapsing fever	*Last case 1997*										
A33	Tetanus Neonatorum (NNT)	*Last case 1995*										
A99	Viral Haemorrhagic fever	**0**	-	-	-	-	-	-	-	-	-	-
GROUP 'B' DISEASES												
A03.0	Typhoid fever	**27**	4	6	2	-	-	13	1	1	-	-
A01.4	Paratyphoid fever	**2**	-	-	1	-	-	-	1	-	-	-
A02	Food poisoning	**176**	31	-	41	2	-	45	29	28	-	-
A22	Anthrax	*Never Reported*										
A23	Brucellosis	**52**	-	52	-	-	-	-	-	-	-	-
A37	Pertussis	**11**	2	3	4	2	-	-	-	-	-	-
A35	Tetanus (Non NNT)	**1**	1	-	-	-	-	-	-	-	-	-
A90	Dengue	*Never Reported*										
	Viral Hepatitis - Total	**290**	**27**	**65**	**51**	**14**	**30**	**11**	**38**	**15**	**5**	**34**
B15.9	Viral Hepatitis - HBsAg Positive (ELISA)	**12**	1	-	5	1	-	1	4	-	-	-
B15.0	Viral Hepatitis - HBsAg Negative	**220**	10	60	41	11	21	8	31	7	2	29
B17	Viral Hepatitis - Not Tested	**58**	16	5	5	2	9	2	3	8	3	5
B55	Leishmaniasis	**10**	-	8	-	2	-	-	-	-	-	-
B65	Schistosomiasis	**0**	-	-	-	-	-	-	-	-	-	-
B74	Filariasis	**0**	-	-	-	-	-	-	-	-	-	-
B72	Dracunculiasis	*Certified by WHO as Eradicated from Oman*										
G00.0	Haemophilus Meningitis	**7**	-	1	-	-	-	2	1	3	-	-
G00-G03	Meningitis (Others)	**33**	11	3	10	-	1	3	3	1	1	-
A30	Leprosy	**4**	4	-	-	-	-	-	-	-	-	-
A15-A19	Pulm. Tuberculosis Sputum Positive	**22**	6	-	1	-	1	8	5	-	-	1
	Pulm. Tuberculosis Sputum Negative	**4**	1	1	-	-	1	-	1	-	-	-
	Extra Pulmonary Tuberculosis	**15**	2	4	3	-	-	4	1	1	-	-
B50-B54	Malaria (All sources)	**151**	65	10	3	5	3	38	14	12	-	1
A50-A53	Syphilis	**48**	13	5	13	-	3	9	-	4	-	1
A54	Gonococcal Infections	**74**	9	11	9	-	22	8	2	9	1	3
GROUP 'C' DISEASES												
A03	Shigellosis	**497**	112	32	55	84	76	13	49	32	14	30
A06	Amoebiasis	**1,246**	66	4	312	116	178	154	67	159	6	184
A09	Acute Gastro-Enteritis & Diarrhoea	**33,591**	5,658	3,503	3,804	2,666	3,384	6,105	5,314	2,204	460	493
B01	Chicken Pox	**2,766**	550	66	497	54	122	487	696	212	81	1
B26	Mumps	**1,175**	126	89	96	35	326	126	88	284	2	3
A71	Trachoma	**148**	16	-	59	22	1	6	39	5	-	-
J10-J11	Influenza	**1,209**	780	4	-	-	1	268	3	153	-	-

Selected Communicable Diseases by Wilayat for the Year 2000

Region	Wilayat	Acute Flaccid Paralysis	Measles	Rubella	Pertussis	TB (Total)	TB Sputum Positive	Tetanus (Ex. NNT)	Malaria (All)	Viral Hepatitis (Total)	Leprosy	Meningo. Infection	Leishmani-asis
MUSCAT	Muscat	-	1	1	6	7	2	-	14	19	-	-	-
	Seeb	1	-	-	12	18	11	1	128	37	3	-	1
	Muttrah	1	1	1	1	15	9	-	81	10	4	-	-
	Bowsher	1	1	1	11	11	4	-	105	33	-	-	-
	Al-Amerat	-	-	-	2	3	1	-	35	4	-	-	-
	Quriyat	-	-	-	3	6	6	-	4	12	-	-	1
DHOFAR	Salalah	1	1	-	19	22	4	-	23	129	2	2	8
	Thumrait	2	-	-	1	3	-	-	-	109	-	-	-
	Taqah	-	-	-	4	4	1	-	-	2	-	-	-
	Mirbat	-	-	-	-	2	-	-	-	-	-	-	-
	Sudah	-	-	-	-	-	-	-	-	3	-	-	-
	Rakhyut	-	-	-	-	4	1	-	-	1	-	-	3
	Dhalqut	-	-	-	1	-	-	-	-	1	-	-	-
	Muqshan	-	-	-	-	-	-	-	-	-	-	-	-
	Shaleem	-	-	-	-	-	-	-	-	-	-	-	-
N. BATINAH	Sohar	-	-	-	20	15	9	-	55	34	-	1	-
	Shinas	-	-	-	4	6	2	-	11	14	-	-	-
	Liwa	-	-	-	2	4	1	-	5	6	-	-	-
	Saham	-	-	-	8	10	8	-	21	83	-	1	-
	Khabura	1	-	-	5	8	6	-	4	23	-	-	-
	Suwaiq	2	-	-	9	10	5	1	16	36	-	1	-
S. BATINAH	Rustaq	-	-	-	1	10	4	1	9	55	-	5	-
	Nakhl	-	-	-	-	1	1	-	5	21	-	1	-
	Wadi Maawil	-	-	-	-	2	2	-	1	2	-	-	-
	Al-Awabi	-	-	-	1	-	-	-	2	10	-	1	-
	Musanah	-	-	-	2	10	6	1	6	33	-	-	-
	Barka	-	-	-	1	15	6	-	27	46	-	1	-
DAKHLIYAH	Nizwa	-	-	-	6	4	3	-	6	52	-	1	-
	Bahla	-	-	-	3	4	2	-	7	13	-	-	-
	Adam	-	-	-	4	1	1	-	4	3	-	-	-
	Hamra	-	-	-	-	2	-	-	-	6	-	-	-
	Manah	-	-	-	1	-	-	-	2	1	-	-	-
	Sumail	-	-	-	3	3	2	-	6	19	-	2	-
	Izki	-	-	-	-	3	1	1	4	12	-	-	-
	Bid Bid	-	-	-	1	1	1	-	-	12	-	-	-
DHAHIRA	Ibri	-	-	-	31	8	2	-	24	9	-	5	-
	Yanqul	-	-	-	3	-	-	-	-	-	-	-	-
	Dhank	-	-	-	-	1	-	-	3	1	-	-	-
	Buraimi	-	-	-	13	3	1	-	20	17	-	2	-
	Mahda	-	-	-	-	-	-	-	9	2	-	-	-
N. SHARQIYAH	Ibra	-	-	-	1	-	-	-	11	16	-	-	1
	Mudhaibi	-	7	-	5	2		-	11	28	-	1	1
	Bidiyah	-	2	-	1	-	-	-	5	10	-	-	1
	Al-Qabel	-	-	-	2	-	-	-	4	13	-	-	1
	Dima Al-Tayeen	-	-	-	2	1	-	1	-	20	-	2	-
	W. B. Khalid	-	-	-	-	-	-	-	1	5	1	-	-
S. SHARQIYAH	Sur	1	-	-	-	7	3	-	10	24	1	1	-
	Masirah	-	-	-	-	3	2	-	-	17	-	-	-
	Kamil & Wafi	-	-	-	-	-	-	-	5	3	-	-	-
	BBB Ali	-	-	-	-	5	3	-	3	52	-	-	-
	BBB Hassan	-	-	-	-	3	2	-	1	7	-	1	-
MUSANDUM	Khasab	-	-	-	-	4	2	-	3	8	-	-	-
	Dibba	-	-	-	-	-	-	-	1	9	-	-	-
	Bukha	-	-	-	-	-	-	-	1	1	-	-	-
	Madha	-	-	-	-	-	-	-	-	2	-	-	-
AL-WUSTAH	Haima	-	-	-	-	-	-	-	2	13	-	-	-
	Duqum	-	-	-	-	1	1	-	-	32	-	-	-
	Mahoot	-	1	-	1	1	-	-	-	15	1	-	-
	Al-Jazer	-	-	-	-	-	-	-	1	19	-	-	-
NATIONAL TOTAL		**10**	**15**	**3**	**190**	**243**	**115**	**6**	**696**	**1,164**	**12**	**28**	**17**

Communicable Diseases Annual Report by Regions

Year 2000 (Jan-Dec)

ICD Code	Diseases	Total	Muscat	Dhofar	Dakhliyah	North Sharqiyah	South Sharqiyah	North Batinah	South Batinah	Dhahira	Musan-dam	Al–Wustah
GROUP 'A' DISEASES												
A00	Cholera	**8+1(i)**	-	-	1	-	-	1(i)	-	7	-	-
A20	Plague	*Never Reported*										
A36	Diphtheria	*Last case 1992*										
A39	Meningococcal infection	**28**	-	2	2	4	2	3	8	7	-	-
A80	Poliomyelitis	*Last case 1993*										
	Acute Flaccid Paralysis	**10**	3	3	-	-	1	3	-	-	-	-
B05	Measles	**15**	3	1	1	10	-	-	-	-	-	-
B06	Rubella & CRS	**3**	3	-	-	-	-	-	-	-	-	-
A95	Yellow fever	*Never Reported*										
A82	Rabies	**0**	-	-	-	-	-	-	-	-	-	-
A75.0	Louse borne typhus	*Never Reported*										
A68	Relapsing fever	*Last case 1997*										
A33	Tetanus Neonatorum (NNT)	*Last case 1995*										
A99	Viral Haemorrhagic fever	**0**	-	-	-	-	-	-	-	-	-	-
GROUP 'B' DISEASES												
A03.0	Typhoid fever	**117**	19	13	19	7	4	44	7	3	-	1
A01.4	Paratyphoid fever	**20**	1	-	2	2	3	10	1	1	-	-
A02	Food poisoning	**953**	134	46	194	46	21	227	114	171	-	-
A22	Anthrax	*Never Reported*										
A23	Brucellosis	**307**	2	302	-	-	-	-	-	2	-	1
A37	Pertussis	**190**	35	25	18	11	-	48	5	47	-	1
A35	Tetanus (Non NNT)	**6**	1	-	1	1	-	1	2	-	-	-
A90	Dengue	*Never Reported*										
	Viral Hepatitis - Total	**1164**	**115**	**245**	**118**	**92**	**104**	**196**	**167**	**29**	**19**	**79**
B15.9	Viral Hepatitis - HBsAg Positive (ELISA)	**49**	3	3	14	5	3	12	8	-	-	1
B15.0	Viral Hepatitis - HBsAg Negative	**863**	55	192	93	75	76	130	155	9	10	68
B17	Viral Hepatitis - Not Tested	**252**	57	50	11	12	25	54	4	20	9	10
B55	Leishmaniasis	**17**	2	11	-	4	-	-	-	-	-	-
B65	Schistosomiasis	**2(i)+1**	1(i)	1	-	-	-	-	1(i)	-	-	-
B74	Filariasis	**2(i)**	2(i)	-	-	-	-	-	-	-	-	-
B72	Dracunculiasis	*Certified by WHO as Eradicated from Oman*										
G00.0	Haemophilus Meningitis	**20**	5	3	1	-	2	2	4	3	-	-
G00-G03	Meningitis (Others)	**154**	46	12	29	4	10	30	14	6	1	2
A30	Leprosy	**12**	7	2	-	1	1	-	-	-	-	1
A15-A19	Pulm. Tuberculosis Sputum Positive	**115**	33	6	10	-	10	31	19	3	2	1
	Pulm. Tuberculosis Sputum Negative	**30**	8	2	1	-	4	4	9	2	-	-
	Extra Pulmonary Tuberculosis	**98**	19	27	7	3	4	18	10	7	2	1
B50-B54	Malaria (All sources)	**696**	367	23	29	32	19	112	50	56	5	3
A50-A53	Syphilis	**183**	16	16	36	6	5	76	9	15	2	2
A54	Gonococcal Infections	**276**	27	63	39	2	57	44	7	24	3	10
GROUP 'C' DISEASES												
A03	Shigellosis	**1,582**	277	169	217	203	304	29	130	113	46	94
A06	Amoebiasis	**4,312**	384	39	849	498	548	615	287	557	17	518
A09	Acute Gastro-Enteritis & Diarrhoea	**112,212**	17,668	13,403	12,088	8,667	11,217	21,282	17,498	7,824	1,279	1,286
B01	Chicken Pox	**15,803**	2,070	499	2,680	1,966	797	2,151	2,578	2,534	178	350
B26	Mumps	**10,443**	1,265	533	1,222	505	2,165	950	910	2,868	13	12
A71	Trachoma	**1,012**	80	-	376	99	7	80	334	35	1	-
J10-J11	Influenza	**4,682**	2,083	96	40	62	10	1,497	79	815	-	-

Monthly Incidence of Communicable Diseases: *Jan to Dec 2000*
& Annual Incidence from 1991 to 2000

Diseases	2000													1999	1998	1997	1996	1995	1994	1993	1992	1991
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total									
GROUP 'A' DISEASES																						
Cholera	-	-	-	-	-	2	2	1	1+1(i)	2	-	-	8+1(i)	7 (i)	-	-	-	-	-	-	-	-
Plague	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-
Diphtheria	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	1	2
Meningococcal infection	-	-	4	14	2	3	-	1	3	1	-	-	28	2	4	8	7	4	2	15	7	27
AFP (& Polio)	1	1	2	-	-	1	2	-	-	1	1	1	10	10	21	8	8	10	23	Polio-2 16	16	Polio-4 16
Measles	-	-	2	2	6	2	1	1	1	-	-	-	15	9	5	12	24	68	181	3,108	1,834	220
Rubella (& CRS)	-	-	-	3	-	-	-	-	-	-	-	-	3	5	4	7	10	46	109	1,253	211	6
Yellow fever	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-
Rabies	-	-	-	-	-	-	-	-	-	-	-	-	0	1	1	1	-	-	-	1*	1	1
Louse-borne typhus	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-
Relapsing fever	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	1	1	-	1	-	-
Tetanus Neonatorum	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	1	-	-	-	1
VHF	-	-	-	-	-	-	-	-	-	-	-	-	0	2	3	1	1	2	NA	NA	NA	NA
GROUP 'B' DISEASES																						
Typhoid fever	5	7	13	9	12	3	5	16	20	14	6	7	117	106	89	114	147	213	152	117	102	100
Paratyphoid fevers	-	2	-	5	3	3	2	-	3	1	1	-	20	13	16	23	24	22	43	23	22	21
Food poisoning	31	29	38	49	103	166	120	115	126	72	44	60	953	838	1062	978	753	596	512	531	338	259
Anthrax	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-
Brucellosis	24	28	23	21	23	32	27	36	41	25	12	15	307	316	307	203	205	348	431	472	371	350
Whooping cough	9	19	14	24	22	12	48	22	9	5	2	4	190	205	484	694	73	108	168	239	45	26
Tetanus (Non NNT)	1	-	-	1	2	-	1	-	-	-	-	1	6	1	5	5	3	7	7	7	10	8
Dengue	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-
Viral Hepatitis - Total	101	91	123	113	108	78	82	73	105	102	71	117	1,164	1,308	1,219	1,943	2,167	2631	1,969	1,322	1,465	1,066
V.Hepatitis HBsAg+(ELISA)	8	2	1	8	4	2	5	3	4	3	4	5	49	85	313	499	437	622	494	420	368	245
V.Hepatitis -HBsAg Neg.	72	71	94	77	84	59	61	50	75	78	50	92	863	1,099	860	1,341	1,531	1,813	1,289	703	767	402
V.Hepatitis -Unspecified	21	18	28	28	20	17	16	20	26	21	17	20	252	124	46	103	199	196	186	199	330	419
Leishmaniasis	2	-	2	1	-	-	1	1	-	3	1	6	17	22	30	31	49	27	29	40	14	3
Schistosomiasis	-	-	-	1	-	-	-	-	2(i)	-	-	-	1+2(i)	3(i)	11(i)	10(i)	7	6	7	14	6	9
Filariasis	-	-	-	-	1	-	-	1	-	-	-	-	2(i)	1(i)	1(i)	2(i)	5(i)	-	-	-	-	1
Dracunculiasis	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	1(i)	-
Haemophilus Meningitis	1	2	1	1	2	1	3	-	2	-	1	6	20	31	23	17	20	19	12	11	4	NA
Meningitis (others)	10	12	13	19	14	12	13	19	9	12	9	12	154	175	127	167	221	171	142	131	49	NA.
Leprosy	1	-	2	-	-	1	-	2	2	3	1	-	12	27	39	31	37	38	35	43	36	17
Pulm. TB Sputum Pos.	9	8	14	11	8	10	17	9	7	5	11	6	115	85	109	120	110	107	99	93	114	117
Pulm. TB Sputum Neg.	3	2	4	5	5	2	2	2	1	1	2	1	30	38	26	20	35	56	58	57	80	99
Extra-Pulmonary TB	12	3	6	10	10	9	15	9	9	9	5	1	98	70	77	91	71	64	69	51	50	73
Malaria	31	33	53	42	43	62	78	105	98	66	46	39	696	446	882	1027	1,265	1801	7,215	16,787	14,827	19,274
Syphilis	12	14	19	17	18	14	14	12	15	24	15	9	183	184	199	331	328	379	465	402	377	196
Gonococcal Infections	15	24	23	27	15	25	22	23	28	39	26	9	276	364	247	362	313	310	354	440	639	574
GROUP 'C' DISEASES																						
Shigellosis	145	116	100	111	110	127	100	159	117	215	165	117	1,582	1,427	1,381	1,738	2,636	2449	2,388	1,641	1,680	1,971
Amoebiasis	295	368	276	387	350	264	382	357	387	489	452	305	4,312	4,387	4,381	5,567	6,969	3512	3,450	3,392	2,766	5,105
Acute GE & Diarrhoea	10,469	8,899	9,625	9,790	7,750	5,721	6,886	9,836	9,645	11,996	10,879	10,716	112,212	105,378	96,908	135,506	162,535	178823	196,761	198,975	193,709	227,127
Chicken Pox	1,299	1,545	1,957	2,753	1,802	1,424	976	691	590	753	1,015	998	15,803	12,103	9,345	23,293	18,591	14185	22,261	23,793	22,600	17,779
Mumps	1,391	1,062	1,145	1,617	1,527	1,245	598	422	261	425	347	403	10,443	12,628	5,951	7,909	23,285	14574	5,419	5,390	10,655	15,654
Trachoma	80	86	123	88	105	104	74	95	109	60	64	24	1,012	1,445	2,279	4,097	5,979	8426	11,328	13,196	10,142	10,117
Influenza	454	450	598	584	338	199	177	290	383	342	358	509	4,682	5,027	4,914	11,215	31,892	62818	60,056	82,426	61,244	51,933

Communicable Disease Incidence by Regions

Year 2000

ICD Code	Diseases	1999	2000										
		Incidence Rate per 100,000 population		Muscat	Dhofar	Dakhliyah	North Sharqiyah	South Sharqiyah	North Batinah	South Batinah	Dhahira	Musan-dum	Al–Wustah
GROUP 'A' DISEASES													
A00	Cholera	**0.3**	**0.4**	-	-	0.4	-	-	0.2	-	3.3	-	-
A20	Plague	*Never Reported*											
A36	Diphtheria	*Last case 1992*											
A39	Meningococcal infection	**0.1**	**1.2**	-	0.9	0.7	2.9	1.2	0.7	3.3	3.3	-	-
A80	Poliomyelitis	*Last case 1993*											
	Acute Flaccid Paralysis	**0.9**	**0.4**	0.5	1.4	-	-	0.6	0.7	-	-	-	-
B05	Measles	**0.4**	**0.6**	0.5	0.5	0.4	-	6.1	-	-	-	-	-
B06	Rubella & CRS	**0.2**	**0.1**	0.5	-	-	-	-	-	-	-	-	-
A95	Yellow fever	*Never Reported*											
A82	Rabies	**0**	**0**	-	-	-	-	-	-	-	-	-	-
A75.0	Louse borne typhus	*Never Reported*											
A68	Relapsing fever	*Last case 1997*											
A33	Tetanus Neonatorum (NNT)	*Last case 1995*											
A99	Viral Haemorrhagic fever	**0.1**	**0**	-	-	-	-	-	-	-	-	-	-
GROUP 'B' DISEASES													
A03.0	Typhoid fever	**4.6**	**4.9**	2.9	5.9	7	5	2.4	10.5	2.9	1.4	-	5
A01.4	Paratyphoid fever	**0.6**	**0.8**	0.2	-	0.7	1.4	1.8	2.4	0.4	0.5	-	-
A02	Food poisoning	**36**	**40.3**	20.8	20.8	71.9	33.1	12.8	54.2	47.3	80.7	-	-
A22	Anthrax	*Never Reported*											
A23	Brucellosis	**13.6**	**13**	0.3	136.8	-	-	-	-	-	0.9	-	5
A37	Pertussis	**8.8**	**8**	5.4	11.3	6.7	7.9	-	11.5	2.1	22.2	-	5
A35	Tetanus (Non NNT)	**0**	**0.3**	0.2	-	0.4	0.7	-	0.2	0.8	-	-	-
A90	Dengue	*Never Reported*											
	Viral Hepatitis - Total	**56.2**	**49.2**	**17.8**	**111**	**43.7**	**66.2**	**63.2**	**46.8**	**69.3**	**13.7**	**56.6**	**396.5**
B15.9	Viral Hepatitis - HBsAg Pos. (ELISA)	**3.7**	**2.1**	0.5	1.4	5.2	3.6	1.8	2.9	3.3	-	-	5
B15.0	Viral Hepatitis - HBsAg Negative	**47.3**	**36.5**	8.5	87	34.5	54	46.2	31	64.3	4.2	29.8	341.3
B17	Viral Hepatitis - Not Tested	**5.3**	**10.7**	8.8	22.7	4.1	8.6	15.2	12.9	1.7	9.4	26.8	50.2
B55	Leishmaniasis	**0.9**	**0.7**	0.3	5	-	2.9	-	-	-	-	-	-
B65	Schistosomiasis	**0.1**	**0.1**	0.2	0.5	-	-	-	-	0.4	-	-	-
B74	Filariasis	**0**	**0.1**	0.3	-	-	-	-	-	-	-	-	-
B72	Dracunculiasis	*Certified by WHO as Eradicated from Oman*											
G00.0	Haemophilus Meningitis	**1.3**	**0.8**	0.8	1.4	0.4	-	1.2	0.5	1.7	1.4	-	-
G00-G03	Meningitis (Others)	**7.5**	**6.5**	7.1	5.4	10.7	2.9	6.1	7.2	5.8	2.8	3	10
A30	Leprosy	**1.2**	**0.5**	1.1	0.9	-	0.7	0.6	-	-	-	-	5
A15-A19	Pulm. Tuberculosis Sputum Positive	**3.7**	**4.9**	5.1	2.7	3.7	-	6.1	7.4	7.9	1.4	6	5
	Pulm. Tuberculosis Sputum Negative	**1.6**	**1.3**	1.2	0.9	0.4	-	2.4	1	3.7	0.9	-	-
	Extra Pulmonary Tuberculosis	**3**	**4.1**	2.9	12.2	2.6	2.2	2.4	4.3	4.1	3.3	6	5
B50-B54	Malaria (All sources)	**29.9**	**29.4**	57	10.4	10.7	23	11.6	26.7	20.7	26.4	14.9	15.1
A50-A53	Syphilis	**7.9**	**7.7**	2.5	7.2	13.3	4.3	3	18.1	3.7	7.1	6	10
A54	Gonococcal Infections	**15.7**	**11.7**	4.2	28.5	14.4	1.4	34.7	10.5	2.9	11.3	8.9	50.2
GROUP 'C' DISEASES													
A03	Shigellosis	**61**	**67**	43	77	80	146	185	7	54	53	137	472
A06	Amoebiasis	**189**	**182**	60	18	315	358	333	147	119	263	51	2600
A09	Acute Gastro-Enteritis & Diarrhoea	**4532**	**4747**	2742	6073	4478	6236	6819	5080	7257	3691	3808	6454
B01	Chicken Pox	**521**	**667**	321	226	993	1414	485	514	1069	1196	530	1757
B26	Mumps	**543**	**442**	196	242	453	363	1316	227	377	1353	39	60
A71	Trachoma	**62**	**43**	12	-	139	71	4	19	139	17	3	-
J10-J11	Influenza	**216**	**198**	323	44	15	45	6	357	33	385	-	-

Age Distribution of Communicable Diseases

Year 2000

ICD Code	Diseases	Total	Age Groups in Years								
			< 1	1-4	5-9	10-14	15-19	20-24	25-34	35-44	> 45
GROUP 'A' DISEASES											
A00	Cholera	**9 (i)**	-	2	-	1	2	2	2	-	-
A20	Plague	*Never Reported*									
A36	Diphtheria	*Last Case 1992*									
A39	Meningococcal infection	**28**	1	7	5	3	2	1	-	2	7
A80	Poliomyelitis	*Last Case 1993*									
	Acute Flaccid Paralysis	**10**	-	2	7	1	-	-	-	-	-
B05	Measles	**15**	8	1	2	-	-	1	2	1	-
B06	Rubella & CRS	**3**	-	1	-	-	1	-	-	1	-
A95	Yellow fever	*Never Reported*									
A82	Rabies	**0**	-	-	-	-	-	-	-	-	-
A75.0	Louse borne typhus	*Never Reported*									
A68	Relapsing fever	*Last Case 1997*									
A33	Tetanus Neonatorum	*Last Case 1995*									
A99	Viral Haemorrhagic fever	**0**	-	-	-	-	-	-	-	-	-
GROUP 'B' DISEASES											
A03.0	Typhoid fever	**117**	1	16	17	21	9	14	25	5	9
A01.4	Paratyphoid fever	**20**	-	3	1	1	3	4	1	3	4
A02	Food poisoning	**953**	7	82	242	201	127	77	112	60	45
A22	Anthrax	*Never Reported*									
A23	Brucellosis	**307**	3	37	64	64	27	32	33	19	28
A37	Pertussis	**190**	98	9	47	32	2	-	2	-	-
A35	Tetanus (Non NNT)	**6**	-	-	-	-	-	1	-	1	4
A90	Dengue	*Never Reported*									
	Viral Hepatitis - Total	**1164**	**3**	**272**	**563**	**126**	**56**	**29**	**37**	**34**	**44**
B15.9	V. Hepatitis - HBsAg +ve (ELISA)	**49**	-	3	7	2	12	3	7	7	8
B15.0	V. Hepatitis - HBsAg Negative	**863**	2	225	457	92	25	13	12	17	20
B17	V. Hepatitis - Unspecified	**252**	1	44	99	32	19	13	18	10	16
B55	Leishmaniasis	**17**	-	3	3	5	2	-	-	1	3
B65	Schistosomiasis	**3 (i)**	-	-	-	-	1	1	-	1	-
B74	Filariasis	**2 (i)**	-	-	-	-	-	1	1	-	-
B72	Dracunculiasis	*Certified by WHO as Eradicated from Oman*									
G00.0	Haemophilus Meningitis	**20**	11	7	2	-	-	-	-	-	-
G00-G03	Meningitis (Others)	**154**	51	24	31	26	4	-	4	7	7
A30	Leprosy	**12**	-	-	-	-	-	3	5	1	3
A15-A19	Tuberculosis: Sputum Positive	**115**	-	-	-	-	12	11	17	16	59
	Tuberculosis: Sputum Negative	**30**	-	2	3	2	4	5	1	2	11
	TB Extra-Pulmonary	**98**	-	2	3	5	7	13	18	16	34

Note:

1. *Previous quarter & annual data have been revised & finalized after receiving feedback from the regions.*
2. *Data on Tuberculosis are for Nationals only.*
3. *Cases of measles and Rubella cases are confirmed by serology (IgM).*
4. *(i) = imported case.*

Animal Bite Surveillance by Regions of Oman
Year 2000

Region	Population at Risk	Type of Animal					Total Animal Bites reported	Rate/ 10,000 Population
		Fox or Wild	*Dog*	*Cat*	*Other Domestic*	Others (unknown)		
Muscat	*644,334*	*1*	*157*	*89*	*11*	*5*	*263*	*4.1*
Dhofar	*220,692*	*2*	*32*	*25*	*7*	*3*	*69*	*3.1*
North Batinah	*418,909*	*0*	*78*	*43*	*11*	*0*	*132*	*3.2*
South Batinah	*241,113*	*13*	*70*	*69*	*17*	*1*	*170*	*7.1*
Dakhliyah	*269,924*	*12*	*17*	*118*	*9*	*0*	*156*	*5.8*
Dhahira	*211,955*	*0*	*16*	*25*	*4*	*0*	*45*	*2.1*
North Sharqiyah	*138,995*	*6*	*25*	*74*	*16*	*0*	*122*	*8.8*
South Sharqiyah	*164,491*	*5*	*48*	*30*	*11*	*2*	*96*	*5.8*
Musandam	*33,590*	*1*	*4*	*12*	*0*	*0*	*17*	*5.1*
Al-Wustah	*19,926*	*4*	*0*	*6*	*12*	*0*	*22*	*11.0*
National Total	*2,363,929*	*44*	*447*	*491*	*98*	*11*	*1092*	*4.6*

Note: Rodent bites excluded

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Your opinion matters to us:

Any suggestions to improve upon the contents & the design of this Newsletter will always be gratefully received.

Your contribution is valuable to us:

Please write to us concerning your ideas and experiences, both good and bad. sharing them with a wider audience could benefit others, leading to new ideas, techniques and policies and helping to avoid struggling with problems others have already solved.

Editorial Board

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