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Community Health & Disease Surveillance Newsletter

Sultanate of Oman *Ministry of Health*

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The Safe Motherhood Initiative in Oman

Part 1

Introduction

Globally every year 160 million women become pregnant, 15% of them develop complications and around a third of these complications are life threatening.

Worldwide annually nearly 600,000 women die of pregnancy related complications. 99% of these deaths are in developing countries and only 1% in developed countries. The lifetime risk of death due to pregnancy related deaths ranges from one in 10 in at least a dozen developing countries to one in 6,000 in many developed countries. More than 90% of these deaths are preventable.

Most maternal deaths are due to five complications viz. Anaemia & Haemorrhage, Eclampsia, Abortion, Obstructed Labour and Sepsis.

In order to reduce pregnancy related maternal deaths and high morbidity associated with reproduction in all countries of the world, a conference on the '***Safe Motherhood Initiative'*** was held in Nairobi in 1987. The aim of the workshop was to bring to the knowledge of decision makers of from all over the world, the enormity of the preventable tragedy of maternal mortality and the efforts each one could make to reduce it according to their country's situation.

WHO recommends that each country should:

1. **Have country specific policy & guidelines/protocols that could contribute to safe motherhood**
2. **Have services available, accessible, affordable & culturally acceptable.**
3. **Sustain & improve the logistics & essential supplies**
4. **Have systems for human resource development**
5. **Have system for monitoring, evaluation & research**
6. **Have effective information, education & communication systems**
7. **Do social mobilization for optimizing the health service utilization**
8. **Have intersectoral collaboration, cooperation & support for the programme activities**

The MCH programme of Oman was launched more than a decade ago in 1987. In the present series of articles we have tried to evaluate the MCH programme activities, their outcomes

and impacts in perspective of the above WHO recommendations for making the motherhood safe.

1. Country Specific Policy & Guidelines for Safe Motherhood

a. Polices on Maternal & Child Health Programme:

The policies related to MCH program aim at promoting health and nutrition of women from conception to the post-partum period; ensure early risk detection, management at appropriate level of health care according to the need of the individual mother and her baby in utero. Encourage all women to deliver in the health care facility based on the delivery needs of the mother and baby as assessed in antenatal period. Prevent post-natal complications in the mother and baby; promote breast feeding. Encourage all women to have minimum 3 years birth interval to reduce morbidity and mortality in the mother due to high reproduction and to improve the perinatal outcome of subsequent pregnancy. Utilize all contact opportunities for informing the women on the health benefits of birth spacing and the options available in MoH.

"Presently of the total 25 local & 6 Wilayat hospitals that provide MCH & BS services, 17 hospitals have provisions for BEOS, two of the local hospitals in addition provide some of the functions of secondary care facility (CEOS)."

b. Polices on Birth Spacing Programme:

All clients would be registered in their catchment area. Five contraceptives methods viz. combined oral pill, progesterone only pill, injection depot medroxy progesterone acetate, intrauterine contraceptive device copper T 380 A (IUCD) and condom would be available free to Omani women. all clients would be given non-judgmental, unbiased information on all available contraceptive methods provided by MoH to facilitate clients in making informed choice. The client's preferred method of choice would be respected unless contraindicated medically. Trained doctors would provide the services to the first visit clients and the follow-up services would also be provided by the trained doctors/nurses. Client's privacy and confidentiality would be ensured.

2. The services should be available, geographically accessible, affordable & culturally acceptable:

In Oman all MCH & BS services affordable since these are free and there are neither cultural nor religious barriers for seeking the services. For making the services socially more acceptable, it is ensured that these are offered by a female health care provider.

The services have been integrated into the primary health care and are also provided at all levels of health care. It is ensured that the MCH services are accessible and are located in the geographical proximity to the community to minimize delay in timely health care. The availability of transport is also ensured at primary health care facility for referring the case for further management as and when required.

The WHO recommends availability of minimum 4 health facilities to provide *Basic Essential Obstetric Services* (BEOS) and minimum one health facility to provide *Comprehensive Essential Obstetric Services* (CEOS) for a population of 500,000.

As of year 2000, of the total 165 health care facilities (HCF) 158 provide out-patient services, 101 provide delivery services, 21 provide BEOS (5.25/50,000 population) and 17 provide (CEOS 4.25 /500,000 population). 158 HCF provide contraceptives to the follow-up clients. 92 HCF provide Birth Spacing (BS) services to first-visit clients with 4 contraceptives (two kinds of pills, depot medroxy progesterone acetate injections & condom) while 55 HCF in addition provide IUCD.

3. Sustain & improve the logistics and essential supplies

The first referral facilities providing BEOS in Oman have equipment, drugs and

(Continued on page 8)

Strengthening Viral Hepatitis Surveillance in Oman

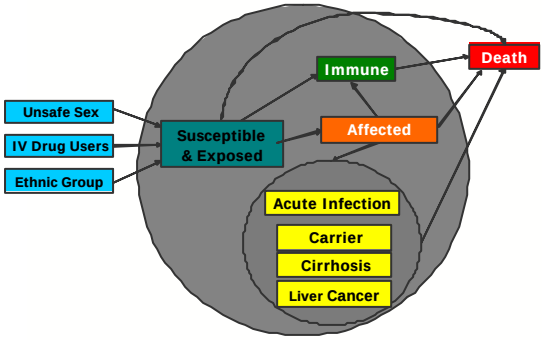
Background

Viral hepatitis is a major global public health problem. Of the various types, hepatitis B constitutes a major public health problem worldwide. WHO estimates that approximately 30% of the world's population, or about 2 billion persons, have serologic evidence of current or past hepatitis B virus (HBV) infection. The consequences of chronic liver disease such as cirrhosis and liver cancer put a considerable burden upon the communities. Viral hepatitis type B & C are the predominant risk factor associated with hepatocellular carcinoma.

Viral hepatitis A & E are mainly transmitted by foeco-oral route related to contamination of water and food. Hepatitis B & C are mainly transmitted by parenteral route through contaminated blood or blood products, contaminated or inadequately sterilized needles or instruments, high-risk sexual behaviour or through vertical transmission.

Nearly all HBV-related disease burden in countries with high and intermediate HBV-endemicity results from the chronic and fatal sequelae of infections acquired at birth or in early childhood. Effective vaccine against Hepatitis B introduced in the EPI programmes of many countries has produced a tangible impact on its incidence. The Hep-B immunization is focused on preventing the perinatal and early childhood infections that result in lifelong chronic infection.

Fig. 1
Disease Model of Hepatitis B
(Source: WHO, GBD study)



The sequelae of chronic infection, liver cancer and cirrhosis, are not typically manifest before the fourth and fifth decades of life. Similarly the sequelae of acute infection are not evident among infants and young children. Hence the burden of Hepatitis B in a community is difficult to assess and measure.

Effective viral hepatitis surveillance would detect outbreaks and would help for the monitoring and evaluation of the prevention and control programmes.

VIRAL HEPATITIS IN OMAN

Viral hepatitis B is one of the major public health problems in Oman. In the global context the Eastern Mediterranean Region has been identified by WHO as having an intermediate prevalence for Hepatitis B with HBsAg carrier rate ranging from 2 to 7% and anti-HBs prevalence of 20 to 55%. Community based prevalence data on hepatitis B carriers are not available in Oman.

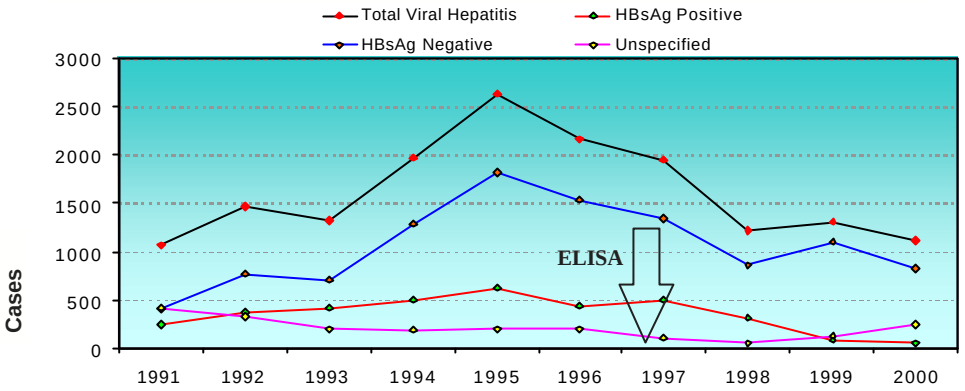
Hepatitis Surveillance

All forms of viral hepatitis are notifiable in Oman and are included in Group B of the diseases under surveillance since 1991. All hepatitis cases would be subjected to the testing for the serological marker for hepatitis B. If the test could not be performed then the case was labelled as *"unspecified"*. Other markers of hepatitis were not routinely monitored except under specific circumstances.

Diagnostic Test: At the outset highly sensitive rapid latex agglutination test was in vogue for detection of Hepatitis B surface antigen. From mid 1997 all latex positive

"Nearly all HBV-related disease burden in countries with high & intermediate HBV-endemicity results from the chronic & fatal sequelae of infections acquired at birth or in early childhood."

Fig. 2
Reported Cases of Viral Hepatitis in Oman: 1991-2000



were subjected to ELISA confirmation. This policy however was not uniformly followed in the country until 1998 due to administrative and logistic issues. Now, MoH has taken a decision to replace the latex test in favour of the gold standard 'ELISA'.

"The immunization coverage with Hepatitis B vaccine has been always above 97% since its introduction in the EPI in August 1990."

Community Action

Community action is done for all HBsAg positive cases as well as blood donors. The health worker would conduct a home visit, check all close family contacts for similar illness, collect a blood sample for HBsAg test. And immunise all negative children below 10 years with three doses of Hep-B vaccine. Since more than 10 years have passed since the introduction of the *HepB* vaccine in EPI this policy is no more relevant.

Protection of High-risk Groups

All health care providers working in operation theatre, accident & emergency, labour room, renal dialysis units etc. are immunised routinely against Hepatitis B. The policy of immunization of the spouse of a case of hepatitis B with other close family members is under review.

Screening in Blood Bank

All blood units are routinely screened for Hepatitis B since 1990. Hepatitis C screening was made mandatory since 1996. The prevalence of Hepatitis B surface antigen is around 5% in the blood units collected. Similarly the HCV prevalence amongst the blood donors is around 1%.

Hep-B Immunization

Vaccination against Hepatitis B was introduced in the EPI schedule from August 1990. Three doses were administered at birth, at 6 weeks and at 7 months. The immunization coverage has been always above 97% since its introduction. Figure 3 shows the age specific incidence of Hepatitis B revealing the impact of the infant immunization Programme.

Disposable Syringes

Disposable syringes were introduced in the EPI as well as for other injections in Oman in the early seventies.

Trend of Viral Hepatitis

Figure 1 represents the notified cases of viral hepatitis in Oman since 1991 to 2000. All hepatitis cases were tested for HBsAg marker. No markers for other type of hepatitis were tested.

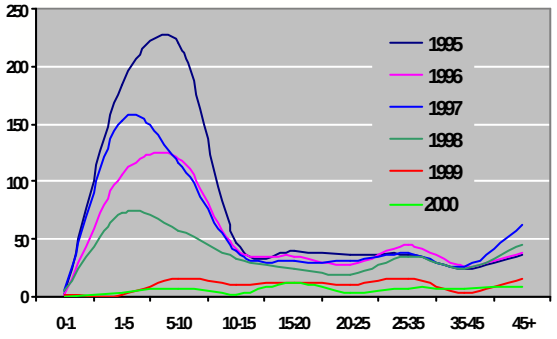
The above data represent only active hepatitis cases positive for the HBsAg surface antigen in the last decade. Asymptomatic chronic carriers were excluded. From the above graph it is clear that the unspecified cases assume a sizable proportion of the total hepatitis cases and they appear to be rising since the last two years.

The substantial decline in the incidence of Hepatitis B cases in the recent years could

be attributed to:

- **Change in the diagnostic test**: More specific ELISA test was introduced in the mid 1997. As a result a distinct decline in the Hepatitis B cases from 1997 was evident. It has been observed from the data of some of the laboratories that false positivity due to latex test is around 50%.
- **Change in the case definition**: From January 1999 only ELISA positive were counted as cases while those *'not tested'* or *'tested positive by latex test'* were pooled into the category of *'unspecified'*. As a result the decline is more marked in 1999 and 2000.
- **Immunization**: High coverage with Hep-B vaccine since 1990. All children under 11 are protected which represents 20 to 25% of the total population.

Fig. 3
Age Specific Incidence of Hepatitis B 1995-2000



Prevalence Studies

In 1988/89 a study was conducted in Oman to estimate the prevalence of hepatitis markers in the pregnant women. Nationally 8.9% of pregnant women were positive for HBsAg marker 38.4% showed evidence of hepatitis B infection. Some regions viz. Dakhliyah, Dhahira & South Batinah showed a higher prevalence compared to other regions. However the sampling methodology did not allow community estimates.

Another cross-sectional multicentre (GCC countries) study was conducted in Oman in the year 2000 with the aim to find out the prevalence of HBeAg among pregnant women of child bearing age to assess the risk of vertical transmission. HBsAg prevalence of 7% was observed in the sample of 605 women visiting ANC clinics routinely in 6 health institutions in Oman. The HBeAg prevalence amongst the HBsAg positive was low at 0.5% indicating minimal risk of vertical transmission.

Proposed Additional Interventions to Strengthen Viral Hepatits Surveillance: (2001-2002)

1. All viral hepatitis cases would be subjected to specific tests (ELISA) to differentiate between type A, B, C, D & E.
2. Protection of high-risk groups such as health care providers would be further strengthened.
3. The close family contacts of hepatitis B cases including the spouse would be offered *HepB* vaccine. The same strategy would be applicable for the asymptomatic chronic carriers detected during screening in blood bank or if detected accidentally.
4. A catch-up campaign with *HepB* would be conducted in schools for the adolescents (II & III Secondary class) and would be continued until these cohorts meet the cohorts immunized routinely under EPI. Thus after 3 years of these campaigns all population under 21 years in Oman would be immunized.

With these additional interventions it is envisaged that the hepatitis B would cease to be a major public health problem in Oman. In addition the MoH would have information on various types of hepatitis that would eventually facilitate developing new strategies for the future.

"The HBeAg prevalence amongst the HBsAg positive antenatal mothers was low at 0.5% indicating minimal risk of vertical transmission."

Cancer Incidence in Oman: 2000 *A Brief Report*

The annual report of the cancer incidence in Oman for the Year 2000 has been published by the Non-Communicable Disease Control Section (NCD), DSDC, DGHA. The salient features of the report are given below in the form of a summary.

Introduction

The total number of cancer cases registered in 2000 in the Oman National Cancer Registry was 979. Of these, 883 (90.2%) cases were among Omanis, and 96 (9.8%) cases were Non-Omanis. Of the total of 979 cases, males accounted for 457 cases (51.8%), and females accounted for 426 cases (48.2%); the male: female ratio being 1.1: 1. Eighty-four cases (9.5%) were reported in children aged 14 years and below. The median age at diagnosis was 54 years. This was higher in males (58 years) than in females (50 years).

Incidence Rates

In 2000, the crude incidence rates for all cancers among Omani were 50.5 per 100,000 for males and 48.6 per 100,000 for females. The age-standardized rates, adjusted to the world standard population of Segi, were 96.5 per 100,000 for males and 87.8 per 100,000 for females. Fig. 1 shows the age specific incidence rate by gender.

" The incidence rate in the various regions varied from 18.4 per 100,000 population to 59.0 per 100,000 population. The highest incidence was seen in Dhofar and the lowest in Al-Wousta".

Fig 1
Age-specific Incidence Rate/100,000 Omani Population

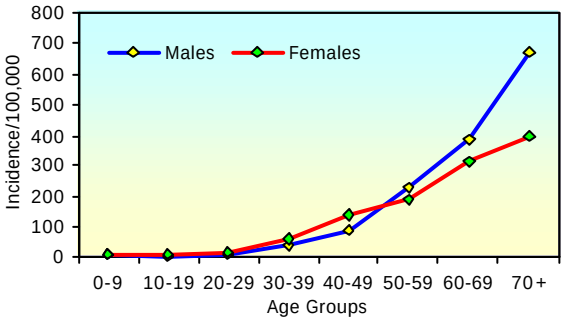


Table 1 shows the most common cancers among Omani population. Overall, Stomach cancer was the commonest cancer followed by breast cancer (predominantly female) and Non-Hodgkin's Lymphoma (Table 1). The most common cancer in males was cancer of the stomach (11.8%), followed by Non-Hodgkin's lymphoma (9%), and carcinoma of the lung and bronchus (8.1%). In females, the most common cancer was breast cancer (16.4%) followed by cancer of the cervix uteri (7.3%).

Table 1
Ten most Common Cancers among Omani (Males & Females)

Topography	Frequency
Stomach	76
Breast*	73
Non-Hodgkin's Lymphoma	70
Leukemia	61
Liver	38
Skin	34
Cervix	31
Hodgkin's Lymphoma	30
Ovary	27
Thyroid	25

Regional Distribution

The incidence rate in the various regions varied from 18.4 per 100,000 population to 59.0 per 100,000 population. The highest incidence was seen in Dhofar and the lowest in Al-Wousta. Table 2 presents the incidence rates and frequency by region.

The high frequency of cancer reported from Muscat could be biased since a majority of the cancer cases are referred to the tertiary centres in Muscat and people sometimes give a local address in Muscat, rather than their original place of residence.

Childhood Cancers

Of the 883 cases reported during 2000, 84 cases were among children aged 14 years and

below, constituting 9.5% of the total cancers reported. Leukaemias, lymphoma followed by Wilm's tumour, were the commonest tumours seen in this age group.

Table 2
Regional Distribution of Cancer among Omani Population

Region	Frequency	Incidence Rate/ 100,000
Al Wousta	3	18.4
Dakhliyah	105	44.4
Dhahira	69	42.8
Dhofar	89	59
Musandam	5	18.7
Muscat	209	57.1
North Batinah	163	46.0
North Sharqiyah	43	35.4
South Batinah	100	48.9
South Sharqiyah	64	45.9
Unknown	33	—
Total	883	49.7

Table 3
Distribution of Cancer among Omani Children (Boys & Girls)

Topography	Frequency
Lymphoid Leukemia	15
Hodgkin's Lymphoma	9
Non Hodgkin's Lymphoma	8
Wilm's Tumour	7
Acute Non Lymphocytic Leukemia	6
Primitive Neuroectodermal Tumours	5
Neuroblastoma	5
Rhabdoblastoma	4
Ependymoma	3
Retinoblastoma	3

Table 3 lists the common childhood cancers in Omani children. The age standardized rates for childhood cancer were 103.4 per million for males and 124.9 per million for females. The commonest cancer among boys was lymphoid leukaemia (15.8%), followed by Hodgkin's lymphoma (13.2%). The commonest cancer among girls also was lymphoid leukaemia (19.5%), followed by Wilm's tumour (10.9%).

Cancer among Non-Omani

Non-Omani population constitutes 26% of the total population of Oman. In 2000, there were 96 cases of cancer among the expatriate population, giving a crude incidence rate of 15.4 per 100,000 population. The low rate does not reflect the incidence rates of the respective countries since the expatriate population is a highly selected population, with the majority being adult males. This is also confounded by a detection bias since the majority of the Non-Omanis return to their homeland for major medical problems such as cancer, once suspected or diagnosed. The commonest cancer among Non-Omanis was breast cancer, followed by Non-Hodgkin's Lymphoma and Leukaemia.

"The commonest cancer among the Non-Omani was breast cancer, followed by Non-Hodgkin's Lymphoma and Leukaemia".

Observations & Conclusions

Trends of cancer in Oman over the last five years show that except for the year 1996 stomach cancer has been the commonest among males and remains so in 2000. Similarly in females, breast cancer continues to be the leading cancer since 1996, the age standardized incidence rate (ASR) being between 12.6-14.7/100,000 females. However, ovarian cancer shows an increasing trend, the ASR rising from 2.0 to 6.0/100,000 in 1996 and in 2000. Leukemia is another cancer, which is also showing an increasing trend in males and females over the last five years.

We therefore need to conduct epidemiological studies of these common cancers in Oman to look for risk factors and to diagnose and treat them in the early stages.

manpower to perform vacuum extraction, manual removal of placenta, vacuum aspiration/curettage of incomplete abortion, to initiate first line emergency treatment of eclampsia, haemorrhage, sepsis (availability of IV/IM sedatives, oxytocics & antibiotics) and facilities to resuscitate the neonate. These facilities also provide contraceptive counselling and methods.

Secondary health care facilities providing CEOS in addition have equipment, drugs and manpower to provide blood transfusion, administer anaesthesia, perform caesarean section, repair ruptured uterus and perform male and female sterilization operations.

Presently of the total 28 local and 6 Wilayat hospitals that are required to provide BEOS, only 21 hospitals do so. 9 regional hospitals, one tertiary care hospital and 5 Wilayat hospitals and 2 local hospitals provide CEOS. Despite the facts that most health institutions have equipments and drugs available, some HCF are unable to provide BEOS due to shortage of female service provider.

"The NWCCP workshops are used as a platform for sharing the information on the various research & studies conducted at national & regional level, for orientation of the service providers to new policies."

4. Human Resource Development:

Through Training

To institutionalize the training capabilities of the regions, a pool of master trainer have been trained for the MCH & the BS programme. Since 1994, 61 master trainers in interpersonal communication (IPC) skills, 27 masters in IUCD technology and insertion skills and 50 trainers have been trained in adult learning techniques.

With the support of these trainers the pool of master trainers has been further expanded. Thirty six additional master trainers in adult learning techniques and 207 clinical trainers have been trained nationwide.

Clinical trainers are assessing the training needs of their region and are doing on job supervision and post-training evaluation of the service providers.

Over the last decade these master trainers have trained/retrained 4,403 service providers in IPC skills (18 hours course), 123 in IUCD technology and insertion skills (30 hours course) and 1,370 in Maternal Child Health.

Through SOP/Guidelines

Knowledge of primary health care service provider's is kept up-to-date on MoH policies, latest developments and recommendations on management through several programmes highlighting standard operative procedures (SOP) on antenatal, perinatal, postnatal & neonatal care and birth spacing.

Training Manuals

To facilitate ongoing training activity at regional level by the master trainers training curricula for training of service providers in IPC (Jul'94), training of trainers in IUCD technology & insertion skills (Jun'96) and training modules for training of service providers in maternal and child health care (Apr'99) and training of trainers in adult learning skills have been developed (Sep'99) and are in use.

National & International Publications

International publications like Population Report, Child Health Dialogue and through the articles published in Community Health & Disease Surveillance Newsletter.

National Women & Child Care Plan (NWCCP) Workshops are conducted twice in a year (in Arabic & English). These workshops are used as a platform for sharing the information on the various research and studies conducted at national and regional level, and for orientation of the service providers to new policies, change in management information tools, and for keeping the service providers abreast on the areas of future focus.

System for Monitoring Quality of Service & Programme Progress

Through Management & Information System (MIS)

The client held maternal heath and birth spacing card, health facility based ANC & BS register and routinely collected data from them, complied and transferred on to 3 types of MCH monthly reports form, have facilitated in having the information on the client's profile; outcome of pregnancies; monitoring the quality of service provision; and health facility performance at regional and national level.

The birth spacing monthly report forms in addition to above have facilitated in monitoring the client satisfaction rate, switch rate, and type of side effects and complications by methods and have also allowed to calculate the couple years of protection.

Over the decade MCH MIS has been revised 3 times in perspective of newly introduced policies and for monitoring of the new indicators.

Other Miscellaneous Monitoring Forms

Training activity report forms

All training activity conducted at the regional level both for the birth spacing and MCH program are compiled in DFCH on biannual basis.

Contraceptive failure, side effects and complications by methods are being monitored through the compiled annual reports from the regions. Contraceptive failure rate, side effects or complications has been always at par with the data reported internationally.

Tubal ligation operation

The data on the number of tubal ligation done both for high risk cases and for planning purpose are collected at regional level. Over the last 7 years the total number of operations done have ranged from 1,016 to 1,136. The rate is same compared to the tubal ligation done for high risk pregnancies and planned purpose in the last 6 years.

Contraceptive consumption in regions, quantity projected and quantity received from the central MoH drug store are being monitored on quarterly basis.

Surveillance System for Maternal Deaths

A maternal death notification form has been introduced in 1991. All maternal deaths occurring in or outside the health facility are notified within 24 hours to DFCH. All maternal deaths are investigated both at regional and the national level to assess and evaluate the case management and also to look into the preventable contributory factors for taking appropriate actions. The data on maternal deaths so far have been evaluated twice and shared with the service providers through the article in **Community Health & Disease Surveillance Newsletter (Vol. 5, No. 1, Jan – Mar. 96 &Vol. 9, No. 4, Oct.' to Dec'. 2000)**

Surveillance System for Foetal Deaths

Based on the experience of the pilot study for Foetal Death notifications from Aug' to Dec'98 the surveillance has been implemented from Jan'99. The data collected has facilitated the evaluation of the contributory factors in mother and the baby. This information has led to formulating appropriate interventions for the avoidable factors at the level of health care system or in the community.

... to be continued

"Several research activities have been done through data reviews, hospital based surveys, case control studies & exit interviews of clients with the aim of improving the quality of services".

WHO Guidance on Anthrax (2001)

Q. What is anthrax?

A. Anthrax is a disease caused by a bacterium called *Bacillus anthracis*. It is a disease which has existed for hundreds of years and which still occurs naturally in both animals and humans in many parts of the world, including Asia, southern Europe, sub-Sahelian Africa and parts of Australia. Anthrax bacteria can survive in the environment by forming spores. In its most common natural form, it creates dark sores on the skin, from which it derives its name. Anthrax is Greek for coal

Q. Is there just one type of anthrax?

A. There are three types of anthrax, each with different symptoms:

- Cutaneous, or skin, anthrax is the most common form. It is usually contracted when a person with a break in their skin, such as a cut or abrasion, comes into direct contact with anthrax spores. The resulting itchy bump rapidly develops into a black sore. Some people can then develop headaches, muscle aches, fever and vomiting. Cutaneous anthrax must be treated quickly. Appropriate medical evaluation and treatment are essential.

- **Gastrointestinal anthrax** is caught from eating meat from an infected animal. It causes initial symptoms similar to food poisoning but these can worsen to produce severe abdominal pain, vomiting of blood and severe diarrhoea. Appropriate medical evaluation and treatment are essential.

- The most severe form of human anthrax is called **inhalation or pulmonary anthrax**. Though the rarest, it is the form of human anthrax causing the most current concern. This form of the disease is caused when a person is directly exposed to a large number of anthrax spores suspended in the air, and breathes them in. The first symptoms are similar to those of a common cold, but this can rapidly progress to severe breathing difficulties and shock. Appropriate medical evaluation and treatment are essential.

*" The most severe form of human anthrax is called **inhalation or pulmonary anthrax**. Though the rarest, it is the form of human anthrax causing the most current concern."*

Q. Is there a vaccine?

A. There is a vaccine against anthrax, but it is not approved for widespread use because it has never been comprehensively tested in human trials. The vaccine is sometimes given to people who are likely to be exposed to anthrax through their occupation, for example, tannery workers, or to military personnel. It is not widely available, nor is its use for mass immunization recommended.

Q. Can I catch it from someone else?

A. Inhalation anthrax cannot be transmitted from person to person. That is, a person with inhalation anthrax cannot transfer the disease to someone else. Therefore, there is no need to worry about catching the disease from anyone else. Inhalation anthrax can only be contracted by directly inhaling anthrax spores. In the case of cutaneous anthrax, there is a small risk of direct infection from the lesions on another person's body.

Q. I feel like I have a cold. Could it be anthrax?

A. Only people who have been directly exposed to the spores can catch anthrax. If you feel unwell, you should get medical advice in exactly the same way as you normally would. In most places, that means going to the doctor. If you are ill, the doctor will then be able to prescribe the most appropriate treatment.

Q. What do I do if I get a suspicious package or letter?

Announcement

Cataract Fortnight in Bidiya (North Sharqiyah)

Cataract is a leading curable cause of blindness. The survey conducted in 1996-97 in Oman suggested that the prevalence of cataract (blindness stage) was 3.05/1000 population. The coverage of existing cataract services could address 76% of blinding cataract. Thus a large backlog existed especially in areas with less access. North Sharqiyah constituting 6% of the national population and showed high trend of cataract. (57/1000 with CI $_{95\%}$ 54.6 59.4 per thousand). So far the EHCP, MoH undertook a number of ***'cataract fortnight projects'*** in selected Wilayat of each region.

Bidiya Wilayat of North Sharqiyah has 15,000 population of which 2,250 (15%) is above 40 years. Majority of the land area is open and arid with bright sunshine throughout the year. It has the highest rate of diabetes in the region. The nearest ophthalmic services are available at Ibra Hospital 40 km away. In presence of high-risk factors for developing cataract and lack of access the un-operated cataract cases are likely to be high. Therefore this Wilayat was selected for the project.

Screening of above 40 population in the health facilities as well as through out-reach teams is expected to identify nearly 800 cataract cases. Those with vision less than 3/60 would be listed and ophthalmologist would conduct a 2nd stage screening to give appointments for surgery. It is expected that nearly 60 patients would be operated in 10 days scheduled for surgery.

To increase awareness mass publicity campaign would be conducted prior to screening. The health staff would be trained for screening procedures. All logistic support for the screening would be planned and carried out using available resources. Regional administrators have approached the national as well as other regional authorities for support.

Such efforts at regional levels would help to build capacity of the regional eye care services & thereby strengthen the efforts of reducing visual disability in the Omani population.

"The vaccine is sometimes given to people who are likely to be exposed to anthrax through their occupation, for e.g. tannery workers, or to military personnel. It is not widely available, nor is its use for mass immunization recommended."

A. Common sense is critical in dealing with this unfamiliar situation. Unopened envelopes or packages present a low risk. The risk of exposure is greatest after a suspicious package or letter is opened. Some countries have produced guidelines on what to do if you receive a suspicious package or letter. These are available on the Internet. Some key points are summarized below.

Q. *What constitutes a suspicious letter or parcel?*

A. Some typical characteristics which ought to trigger suspicion include letters or parcels that:

- Have any powdery substance on the outside.
- Are unexpected or from someone unfamiliar to you.
- Have excessive postage, handwritten or poorly typed address, incorrect titles or titles with no name, or misspellings of common words.
- Are addressed to someone no longer at your workplace or home or are otherwise outdated.
- Have no return address, or have one that can't be verified as legitimate. Are of unusual weight, given their size, or are lopsided or oddly shaped.
- Have an unusual amount of tape. Are marked with restrictive endorsements, such as "Personal" or "Confidential."
- Have strange odors or stains.

Reproduced from WHO Guidelines on Anthrax October 18th, 2001

Communicable Diseases Quarterly Report

Third Quarter (July to September 2001)

ICD Code	Diseases	2001 Third Quarter Jul	Aug	Sep	Total	2000 Q3 Jul-Sep	Q4 Oct-Dec	2001 Q1 Jan-Mar	Q2 Apr-Jun
GROUP 'A' DISEASES									
A00	Cholera	1 (i)	5+1(i)	-	**5+2(i)**	5	2	-	-
A20	Plague	*Never Reported*							
A36	Diphtheria	*Last Case in 1992*							
A39	Meningococcal infection	1	-	-	**1**	4	1	8	4
A80	Poliomyelitis	*Last Case in 1993*							
	Acute Flaccid Paralysis	1	2	-	**3**	2	3	5	5
B05	Measles	-	-	2 (i)	**2** (i)	3	-	1 (i)	1 (i)
B06	Rubella & [CRS]	-	-	1	**1**		-	-	-
A95	Yellow fever	*Never Reported*							
A82	Rabies	-	-	-	**0**	-	-	-	-
A75.0	Louse-borne typhus	*Never Reported*							
A68	Relapsing fever	*Last Case in 1997*							
A33	Tetanus Neonatorum (NNT)	*Last Case in 1995*							
A99	Viral Hemorrhagic fever	-	-	-	**0**	-	-	-	-
GROUP 'B' DISEASES									
A03.0	Typhoid fever	12	13	7	**32**	40	27	19	19
A01.4	Paratyphoid fever	-	1	3	**4**	5	2	4	2
A02	Food poisoning	226	118	91	**435**	361	176	160	299
A22	Anthrax	*Never Reported*							
A23	Brucellosis	13	14	14	**41**	104	52	25	37
A37	Pertussis	6	3	2	**11**	79	11	16	20
A35	Tetanus (Excluding NNT)	-	1	-	**1**	1	1	-	1
A90	Dengue	-	1 (i)	-	**1** (i)	-	-	-	-
	Viral Hepatitis - Total	**123**	**114**	**133**	**370**	**253**	**290**	**376**	**478**
B15.9	Viral Hepatitis - HBsAg '+' (ELISA)	3	2	3	**8**	11	12	9	14
B15.0	Viral Hepatitis - HBsAg Negative	100	94	96	**290**	180	220	299	385
B17	Viral Hepatitis - Unspecified	20	18	34	**72**	62	58	68	79
B55	Leishmaniasis	-	1	-	**1**	2	10	3	2
B65	Schistosomiasis	-	-	-	**0**	2	-	2	-
B74	Filariasis	-	2(i)	1(i)	**3** (i)	1 (i)	-	-	-
B72	Dracunculiasis	*Certified by WHO as Eradicated from Oman*							
G00.0	Haemophilus Meningitis	3	3	1	**7**	5	7	2	5
G00-G03	Meningitis - (All others)	12	4	4	**20**	41	33	19	26
A30	Leprosy	-	1	1	**2**	4	4	1	-
A15-A19	Pulm. Tuberculosis Sputum Positive	7	7	8	**22**	33	22	38	25
	Pulm. Tuberculosis Sputum Negative	4	-	3	**7**	5	4	1	10
	Extra Pulmonary Tuberculosis	8	6	7	**21**	33	15	18	29
B50-B54	Malaria (All sources)	63	108	81	**252**	281	151	100	122
A50-A53	Syphilis	22	8	6	**36**	64	48	31	49
A54	Gonococcal Infections	10	18	20	**48**	91	74	81	70
GROUP 'C' DISEASES									
A03	Shigellosis	63	120	177	**360**	372	497	485	290
A06	Amoebiasis	295	262	435	**992**	1,094	1,246	1,431	1152
A09	Acute Gastro-Enteritis & Diarrhoea	6505	7730	9199	**23434**	25,855	33,591	32,521	22219
B01	Chicken Pox	1210	921	973	**3104**	2,204	2,766	3,886	4557
B26	Mumps	250	234	136	**620**	1,463	1,175	809	1371
A71	Trachoma	48	46	36	**130**	275	148	139	171
J10-J11	Influenza	207	193	292	**692**	850	1,209	901	789

Communicable Diseases Quarterly Report by Regions

Third Quarter (July to September 2001)

ICD Code	Diseases	Total	Muscat	Dhofar	Dakhliyah	North Sharqiyah	South Sharqiyah	North Batinah	South Batinah	Dhahirah	Musandum	Al-Wusta
GROUP 'A' DISEASES												
A00	Cholera	**5+2(i)**	-	-	-	-	-	2+1(i)	-	3+1(i)	-	-
A20	Plague	*Never Reported*										
A36	Diphtheria	*Last Case in 1992*										
A39	Meningococcal infection	**1**		-	-	-	-	-	1	-	-	-
A80	Poliomyelitis	*Last Case in 1993*										
	Acute Flaccid Paralysis	**3**	-	1	-	-	-	1	1	-	-	-
B05	Measles	**2 (i)**	-	-	-	-	-	-	-	2 (i)	-	-
B06	Rubella & [CRS]	**1**	1	-	-	-	-	-	-	-	-	-
A95	Yellow fever	*Never Reported*										
A82	Rabies	**0**	-	-	-	-	-	-	-	-	-	-
A75.0	Louse borne typhus	*Never Reported*										
—A68	Relapsing fever	*Last Case in 1997*										
A33	Tetanus Neonatorum (NNT)	*Last Case in 1995*										
A99	Viral Haemorrhagic fever	**0**	-	-	-	-	-	-	-	-	-	-
GROUP 'B' DISEASES												
A03.0	Typhoid fever	**32**	14	5	4	-	2	6	1	-	-	-
A01.4	Paratyphoid fever	**4**	-	-	1	-	2	1	-	-	-	
A02	Food poisoning	**435**	65	9	97	12	14	54	51	132	-	1
A22	Anthrax	*Never Reported*										
A23	Brucellosis	**41**	1	39	-	-	-	-	1	-	-	-
A37	Pertussis	**11**	1	3	-	1	-	-	1	5	-	-
A35	Tetanus (Non-Neonatal)	**1**	-	-	-	-	-	-	1	-	-	-
A90	Dengue	**1 (i)**	1	-	-	-	-	-	-	-	-	-
	Viral Hepatitis - Total	**370**	**39**	**31**	**44**	**80**	**31**	**34**	**58**	**26**	**8**	**19**
B15.9	V. Hepatitis - HBsAg Positive (ELISA)	**8**	-	1	-	3	-	1	3	-	-	-
B15.0	Viral Hepatitis - HBsAg Negative	**290**	15	30	39	68	24	25	53	13	5	18
B17	Viral Hepatitis - Not Tested	**72**	24	-	5	9	7	8	2	13	3	1
B55	Leishmaniasis	**1**	-	-	-	1	-	-	-	-	-	-
B65	Schistosomiasis	**0**	-	-	-	-	-	-	-	-	-	-
B74	Filariasis	**3 (i)**	-	-	-	-	-	1 (i)	-	-	2 (i)	-
B72	Dracunculiasis	*Certified by WHO as Eradicated from Oman*										
G00.0	Haemophilus Meningitis	**7**	1	-	1	1	2	-	-	1	-	1
G00-G03	Meningitis (Others)	**20**	2	1	2	-	3	7	2	3	-	-
A30	Leprosy	**2**	-	-	-	-	-	1	-	1	-	-
A15-A19	Pulm. Tuberculosis Sputum Positive	**22**	5	2	3	-	1	8	2	1	-	-
	Pulm. Tuberculosis Sputum Negative	**7**	-	-	1	-	2	2	-	2	-	-
	Extra Pulmonary Tuberculosis	**21**	5	2	2	-	1	6	3	2	-	-
B50-B54	Malaria (All sources)	**252**	146	15	13	9	5	20	18	20	3	3
A50-A53	Syphilis	**36**	5	4	2	3	4	16	2	-	-	-
A54	Gonococcal Infections	**48**	14	-	-	1	7	18	3	-	1	4
GROUP 'C' DISEASES 2												
A03	Shigellosis	**360**	48	18	39	28	65	6	9	27	17	103
A06	Amoebiasis	**992**	91	4	198	153	82	147	67	94	30	126
A09	Acute Gastro-Enteritis & Diarrhoea	**23434**	3293	3934	2813	2237	2911	3506	2733	1189	309	509
B01	Chicken Pox	**3104**	583	72	451	176	170	1006	346	188	97	15
B26	Mumps	**620**	94	152	65	26	34	80	46	121	2	-
A71	Trachoma	**130**	7	-	19	25	1	10	58	10	-	-
J10-J11	Influenza	**692**	284	4	3	10	-	330	2	59	-	-

Selected Communicable Diseases by Wilayat, Third Quarter

Region	Wilayat	Acute Flaccid Paralysis	Measles	Rubella	Pertussis	TB (Total)	TB Sputum Positive	Tetanus (Ex. NNT)	Malaria (All)	Viral Hepatitis (Total)	Leprosy	Meningo. Infection	Leishma-niasis
MUSCAT	Muscat								3	9			
	Seeb				1	3	2		54	12			
	Muttrah					1	1		27	5			
	Bowsher					1			41	11			
	Al Amerat					1	1		21	1			
	Quriyat					4	1			1			
DHOFAR	Salalah	1			3	4	2		15	21			
	Thumrait												
	Taqah									9			
	Mirbat												
	Sudah									1			
	Rakhyut												
	Dhalqut												
	Muqshan												
	Shaleem												
NORTH BATINAH	Sohar					5	2		10				
	Shinas					1			1	5			
	Liwa								3				
	Saham					4	3		5	8			
	Khabura	1				3	1		1	6			
	Suwaiq					3	2			15			
SOUTH BATINAH	Rustaq			1	1	2		1	2	28		1	
	Nakhl								1	1			
	Wadi Maawil									5			
	Al Awabi									7			
	Musanah					2	1		4	9			
	Barka	1				1	1		11	8			
DAKHLIYAH	Nizwa					3	1		6	4			
	Bahla					1	1		3	1			
	Adam								2	1			
	Hamra									3			
	Manah								1	1			
	Sumail									19			
	Izki					1	1		1	13			
	Bid Bid					1				2			
DHAHIRA	Ibri				4	1			7	18	1		
	Yanqul					1			2	2			
	Dhank					1	1						
	Buraimi		2		1	2			10	6			
	Mahda								1				
NORTH SHARQIYAH	Ibra								2	16			
	Mudhaibi				1				3	42			1
	Bidiyah									8	1		
	Al-Qabel								4	6			
	Dima Al-Tayeen									7			
	Wadi Bani Khalid									1			
SOUTH SHARQIYAH	Sur						2			5			
	Masirah						2			5			
	Al Kamil & Al Wafi									4			
	BBB Ali								5	9			
	BBB Hassan									8			
MUSANDUM	Khasab									3			
	Dibba								2	3			
	Bukha								1	1			
	Madha									1			
AL-WUSTAH	Haima								2	12			
	Duqum								1	3			
	Mahoot									3			
	Al-Jazer									1			
NATIONAL TOTAL		**3**	**2**	**1**	**11**	**50**	**22**	**1**	**252**	**370**	**2**	**1**	**1**

Age Distribution of Communicable Diseases

Third Quarter (July to September 2001)

ICD Code	Diseases	Total	Age Groups in Years								
			< 1	1-5	5-10	10-15	15-19	20-24	25-34	35-44	> 45
GROUP 'A' DISEASES											
A00	Cholera	**7**	-	-	-	1	2	2	1	-	1
A20	Plague	*Never Reported*									
A36	Diphtheria	*Last Case in 1992*									
A39	Meningococcal infection	**1**	1	-	-	-	-	-	-	-	-
A80	Poliomyelitis	*Last Case in 1993*									
	Acute Flaccid Paralysis	**3**	1	1	1	-	-	-	-	-	-
B05	Measles	**2**	-	-	2	-	-	-	-	-	-
B06	Rubella & [CRS]	**1**	-	1	-	-	-	-	-	-	-
A95	Yellow fever	*Never Reported*									
A82	Rabies	**0**	-	-	-	-	-	-	-	-	-
A75.0	Louse borne typhus	*Never Reported*									
A68	Relapsing fever	*Last Case in 1997*									
A33	Tetanus Neonatorum	*Last Case in 1995*									
A99	Viral Haemorrhagic fever	**0**	-	-	-	-	-	-	-	-	-
GROUP 'B' DISEASES											
A03.0	Typhoid fever	**32**	-	4	7	4	5	2	6	3	1
A01.4	Paratyphoid fever	**4**	-	-	-	-	1	2	1	-	-
A02	Food poisoning	**435**	6	48	88	63	55	45	80	29	21
A22	Anthrax	*Never Reported*									
A23	Brucellosis	**41**	-	5	7	7	3	2	6	4	7
A37	Pertussis	**11**	6	1	3	-	-	-	1	-	-
A35	Tetanus (Non NNT)	**1**	-	-	-	-	-	-	-	-	1
A90	Dengue	**1**	-	1	-	-	-	-	-	-	-
	Viral Hepatitis - Total	**370**	**3**	**68**	**182**	**59**	**19**	**12**	**8**	**11**	**8**
B15.9	V. Hepatitis - HBsAg +ve (ELISA)	**8**	-	1	-	3	2	1	-	-	1
B15.0	V. Hepatitis - HBsAg Negative	**290**	2	61	155	46	9	6	4	3	4
B17	V. Hepatitis - Unspecified	**72**	1	6	27	10	8	5	4	8	3
B55	Leishmaniasis	**1**	-	-	-	1	-	-	-	-	
B65	Schistosomiasis	**0**	-	-	-	-	-	-	-	-	-
B74	Filariasis	**3 (i)**	-	-	-	-	-	-	2	1	-
B72	Dracunculiasis	*Certified by WHO as Eradicated from Oman*									
G00.0	Haemophilus Meningitis	**7**	4	2	1	-	-	-	-	-	-
G00-G03	Meningitis (Others)	**20**	6	5	3	3	2	-	-	1	-
A30	Leprosy	**2**	-	-	-	-	-	-	-	1	1
A15-A19	Tuberculosis: Sputum Positive	**22**	-	-	-	-	3	3	5	2	9
	Tuberculosis: Sputum Negative	**7**	-	-	2	1	-	-	1	-	3
	TB Extra-Pulmonary	**21**	-	1	1	-	2	4	3	5	5

Note:

1. *The quarterly data are provisional & should be scrutinized & verified by the Epidemiologist / Focal Point of communicable diseases in the regions & a corrected feedback report should be sent to DSDC.*
2. *Previous quarter data would be finalized in the following quarter after receiving the feedback from the regions.*
3. *Tuberculosis & Leprosy data are for nationals only.*
4. *(i) = Imported case.*
5. *[CRS] cases are registered on the basis of the year of birth, & '**NOT**' according to the reporting year .*

Animal Bite Surveillance by Regions of Oman

Third Quarter (July to September 2001)

Region	Population at Risk	Type of Animal					Total Animal Bites reported	Annualised Rate/ 10,000 Population
		Fox or Wild	Dog	Cat	Other Domestic	Others (unknown)		
Muscat	644,334	0	32	23	2	1	58	3.6
Dhofar	220,692	1	1	4	0	0	6	1.2
North Batinah	418,909	0	19	12	7	0	38	3.6
South Batinah	241,113	4	24	20	3	1	52	**8.8**
Dakhliyah	269,924	0	4	37	2	0	43	**6.4**
Dhahira	211,955	0	8	6	4	0	18	3.2
North Sharqiyah	138,995	3	5	34	8	1	51	**14.8**
South Sharqiyah	164,491	0	9	2	3	0	14	**3.6**
Musandam	33,590	0	1	3	0	0	4	4.8
Al-Wustah	19,926	0	0	1	0	0	2	4.0
National Total	**2,363,929**	**8**	**103**	**142**	**27**	**3**	**286**	**4.8**

Note: Rodent Bites excluded

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