



Sultanate of Oman

Ministry of Health



HIV/AIDS Epidemic: Monitoring Status in Oman Part 2

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National Response

The National AIDS control program has implemented the planned activities of the third five-year plan till the end of 2005. These included emphasis on counselling, advocacy through mass media, involvement of NGOs, health care support of **People Living With AIDS (PLWA)** and inter-sectoral cooperation. Viewed in this context the national commitment and programme implementation remained sustained during the period of review (January 2003 to December 2005).

A brief description of the components of the programme implementation is as follows:

Prevention

The major emphasis in prevention relies on health education. The well established health education department within the Ministry of Health looks after the needs of all primary health care programs and their activities. Thus the relative contributions to AIDS prevention programs was less and most often confined to activities relating to World AIDS day. There was an increasing awareness of using more effectively this resource for spreading culturally appropriate messages on HIV prevention in the third plan.

In the third five-year plan mass media

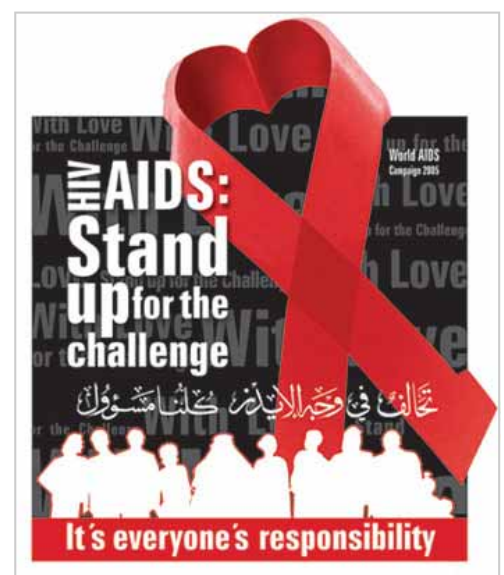
was increasingly used to convey the HIV prevention messages. The activities included newspaper articles, role play, lectures to the target groups, Television and radio programs and also during Friday prayer speech. However most of these activities were conducted on the background of the world AIDS day.

The role of NGOs in AIDS prevention strategies was also recognised. This was evidenced by lectures and workshops conducted under the auspices of the *Omani Women's Association* and also the *Scouts & Guides*.

Women play a more active and visible role in the Omani society today than in

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most of the countries of the Arabian Peninsula. They were encouraged and supported by the government in the field of education. It was decreed that women should be given equal career opportunities. These and the political empowerment of women evidenced by presence of women in *Shura* and *State Council* and women ministers is a clear indication of the larger role that the *Omani Women's Association* are likely to play in future.

In the context of the rapid socio-economic progress in the Sultanate there was an increasing vulnerability among the youth towards high risk behaviour. Thus there was a clear need for targeting the prevention strategies towards the vulnerable group. The *"Facts of Life"* booklet published by the Ministry of Health was revised with additional information on HIV/AIDS and distributed in the secondary schools during 2004-05. However a standardised teaching methodology needs to be evolved to ensure that the awareness in the target group is really achieved.

The major change in the *Information, Education & Communication (IEC)* component is the **"Peer Education project"** launched in 2002. The peer education is an important tool of health education among youth that would increase the awareness level of the community. The project has now been successfully implemented in Muscat Governorate. Its assessment has shown that the level of knowledge regarding HIV & methods of transmission was increased in the target group removing their most prevalent misconceptions. These encouraging results have prompted a decision for extending the project to all the regions in Oman.

Another important strategy was the starting of the AIDS Hotline centre in Muscat. The hotline centre was opened in 2003 end. The services included counselling about HIV/AIDS and guiding the clients to

the nearest health centre with voluntary testing and counselling services. There is need to monitor and evaluate the hotline services for further improvement and possible expansion.

Care & Treatment & Support

The second edition of the manual viz. *"Guidelines for the management of HIV infection & AIDS"* was published in 2004. This is quick reference for the policies and practices in the management of HIV/AIDS in the Sultanate. It is also the manual on standard operating procedures on HIV/AIDS for all levels of health care in the country.

Voluntary testing and counselling facilities were launched in Muscat Governorate from 2003 with the support of UNICEF-Oman office. This is in recognition of the need to develop more focused prevention and care strategies targeting the vulnerable populations. There is need for expansion of this facility to other regions after evaluating the existing one.

The Anti-Retro Viral (ARV) treatment was decentralised in 2004. Focal points were designated in all the regional referral hospitals for providing ARV. Presently around 200 patients are on treatment, 30% of which are females. Resources are now available to provide ARV treatment for all patients who are eligible. The data regarding treatment after decentralisation is not readily available at the central level, however updating the database of the AIDS cases on ARV treatment on a real-time basis needs urgent attention.

Apart from provision of ARV treatment, little progress has been achieved with regard to the care of PLWA. This aspect has been emphasised by the Physicians interviewed during the data collection process.

The counselling activities were continuing unchanged during the reporting period. The need for expanding their role further

"The peer education is an important tool of health education among youth that would increase the awareness level of the community. The project has now been successfully implemented in the Muscat Governorate."

to support the AIDS control program was recognised as they can effectively reduce the psychosocial isolation of the cases.

Knowledge & Behaviour change

Currently limited data exists to provide information on the issue of knowledge and behaviour change. Activities have been planned to bridge gaps in the KAP on HIV/AIDS. Such studies would provide the baseline information.

Major challenges faced & actions needed to achieve the goals/targets

Oman has been classified as a low prevalence state for HIV/AIDS. However with over 50% of country's population being under the age of 15 years could pose as an high-risk situation. This demands an effective multi-sectoral strategy to tackle a wide spectrum of issues that may arise. It is crucial that the relevant authorities are aware of the situation and the political will and commitment have been secured.

A national strategic planning will progress the AIDS control program to reorient towards the UNGASS recommendations. This should provide a broad framework for the prevention and control activities, treatment and care of *People Living With HIV* (PLHIV).

There is need of clear guidelines and policy on the support services in the country such as the legal and social provision. Although there is no law favouring discrimination, a policy initiative aimed at non-discrimination against PLWA, participation of PLWA in all aspects of normal life and their legal protection against expulsion from home and work is needed.

There is need for more prevention activities at the regional level, which requires more financial assistance. There is a need to introduce innovative educational programmes aiming at tangible behavioural

outcomes among sub-populations of young people. To this effect, the expansion of the peer education project would be a valuable step. Also it is essential to increase the participatory approach in prevention activities by involving community groups, such as youth clubs, Scouts and Guides and women groups in HIV/AIDS prevention activities.

The network of counsellors in the regions forms a valuable resource who can be trained for to take care of all the psychosocial support required for PLHIV.

Blood safety and safe injection practices to be continued with the same vigour. For blood safety, persons seeking to know their HIV status should be guided to voluntary testing services outside of blood banks.

HIV/AIDS surveillance system is to be recast and strengthened within the context of Second Generation Surveillance. There is much scope for this by improving on both biological as well as behavioural surveillance. This calls in for regular KABP studies with the general population and vulnerable groups. There is need to increase the participation of private health care settings in this process.

The situation of STI in the country remains relatively unknown. A baseline study to determine STI prevalence is necessary beside also looking at the health care seeking behaviour of patients. In addition methods should be devised for reliable STI case reporting.

Indicators and methods for evaluating effectiveness outcome and impact of HIV/AIDS strategies should be improved.

Support required from country's development partners

The following areas with respect to the National AIDS Control program would possibly require assistance from donor

“A baseline study to determine STI prevalence is necessary beside also looking at the health care seeking behaviour of patients. In addition methods should be devised for reliable STI case reporting.”

agencies or partners

- Antiretroviral prophylaxis to reduce the risk of MTCT
- Provision of antiretroviral combination therapy for people with advanced HIV infection.
- Improving the quality of care and monitoring the STIs at health-care facilities.
- Identification of the vulnerable groups and institution of behavioural surveillance.
- Defining and identification of high-risk groups to monitor the HIV prevalence.
- Conducting a baseline KABP survey in the context of HIV/AIDS

“On the other hand the National AIDS Control program has a robust reporting system. The activity reports are being sent regularly by which the national data are maintained up-to-date.”

Developing and maintaining an educational strategy targeting the youth. Monitoring and evaluation environment

Because of the diversity of the AIDS epidemic the choice of appropriate indicators will be depending on the goals of the programme. In any case it is important to give attention to HIV prevention and care among young people. These indicators are best analyzed by disaggregating the data by age, sex, marital status and other important characteristics of young people. In addition, the desegregations of data by background characteristics (e.g. urban vs. rural residence, school attendance and marital status) allow programme managers to determine which populations may be at increased risk. It also allows them to make better-informed programmatic decisions, for instance concerning the inclusion of HIV/AIDS education based on life skills for the younger grades in schools. In order to avoid misinterpretations and erroneous programmatic decisions, indicators should not be reported if suitable data are unavailable.

In the above context in Oman the monitoring and evaluation process is deficient in

the specific information. On the other hand the National AIDS Control program has a robust reporting system. The activity reports are being sent regularly by which the national data are maintained up-to-date. Quarterly and annual feedback reports are prepared and sent periodically to the sub-national levels. Currently the program is not using standardized set of indicators in the annual and quarterly reports. The STI reporting is incorporated into the national health information system. In the process of monitoring and evaluation there is no involvement of community or PLHIV. Thus technical assistance would be required for streamlining the reporting process (by improving the quality and timeliness of reporting) and for development of standardized indicators.

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World Health Day: 7th April 2006

Theme: Working Together for Health

We have to work together to ensure access to a motivated, skilled, and supported health worker by every person in every village everywhere.

Late Dr LEE Jong-wook, Director-General,
World Health Organization

World Health Day is the annual flagship event of the World Health Organization. Since 1950, it has been held each year on 7th April to raise awareness of specific global health issues. This year's theme – *Working together for health* – highlights the challenging and often inspiring work carried out by the health care workers. On World Health Day 2006, WHO released its *world health report 2006*, which is on the same theme. These events will bring together top policy-makers, human rights leaders and health experts in this area. A concerted campaign of action will then be undertaken to promote fair and safe working conditions for health workers, and to strengthen the effectiveness of the health workforce.

A serious shortage of health workers in 57 countries is impairing provision of essential, life-saving interventions such as childhood immunization, safe pregnancy and delivery services for mothers, and access to treatment for HIV/AIDS, malaria and tuberculosis. This shortage, combined with a lack of training and knowledge, is also a major obstacle for health systems as they attempt to respond effectively to chronic diseases, avian influenza and other health challenges, according to The World Health

Report 2006.

More than four million additional doctors, nurses, midwives, managers and public health workers are urgently needed to fill the gap in these 57 countries, 36 of which are in sub-Saharan Africa, says the Report, which is highlighted by events in many cities around the world to mark World Health Day. Every country needs to improve the way it plans for, educates and employs the doctors, nurses and support staff who make up the health workforce and provide them with better working conditions,

The World Health Report sets out a 10-year plan to address the crisis. It calls for national leadership to urgently formulate and implement country strategies for the health workforce. These need to be backed by international donor assistance.

Infectious diseases and complications of pregnancy and delivery cause at least 10 million deaths each year. Better access to health workers could prevent many of those deaths. There is clear evidence that as the ratio of health workers to population increases, so in turn does infant, child and maternal survival.

To tackle this crisis, more direct investment in the training and support of health workers is needed now. Initial costs will be for the training of more health workers. As they graduate and enter the workforce, funds will be needed to pay their salaries. Health budgets will have to increase by at least US\$10 per person per year in the 57 countries with severe shortages to educate and pay the salaries of the four million health workers needed to fill the gap. To



“Health workforce crisis is having a deadly impact on many countries’ ability to fight disease & improve health, new WHO report warns.”

meet that target within 20 years is an ambitious but reasonable goal, the Report concludes.

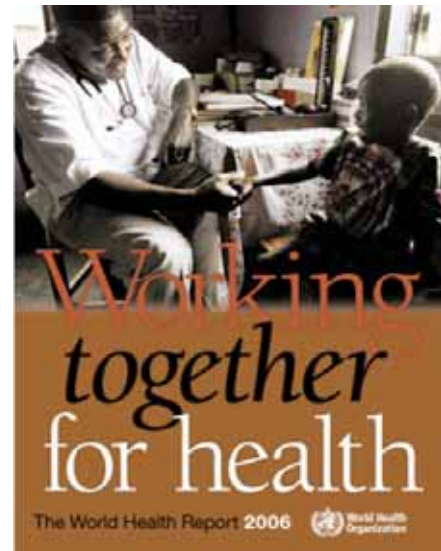
At least 1.3 billion people worldwide lack access to the most basic healthcare, often because there is no health worker. The shortage is global, but the burden is greatest in countries overwhelmed by poverty and disease where these health workers are needed most. Shortages are most severe in sub-Saharan Africa, which has 11% of the world's population and 24% of the global burden of disease but only 3% of the world's health workers.

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The Report calls for prompt and innovative initiatives to improve efficiency. For example, HIV/AIDS, TB and other priority disease programmes have implemented ways for health workers with limited formal training to successfully carry out specific health tasks. These experiences should be drawn upon to develop national health workforce strategies.

The World Health Report recommends that in order to achieve the goal of getting *"the right workers with the right skills in the right place doing the right things,"* countries should develop plans that include the following:

- Acting now for workforce productivity: better working conditions for health workers, improved safety, better access to treatment and care;
- Anticipating what lies ahead: a well-



developed plan to train the health workforce of the future;

- Acquiring critical capacity: workforce planning; development of leadership and management; standard setting, accreditation and licensing as drivers for quality improvement.

Beyond the national strategies the report urges global cooperation:

- Joint investment in research and information systems;
- Agreements on ethical recruitment of and working conditions for migrant health workers and international planning on the health workforce for humanitarian emergencies or global health threats such as an influenza pandemic;
- Commitment from donor countries to assist crisis countries with their efforts to improve and support the health workforce.

Web Resources:

⇒ - www.who.int/whr/2006/en/

⇒ - www.who.int/world-health-day/2006/en/

⇒ - www.who.int/hrh/



"The World Health Report outlines need for more investment in health workforce to improve working conditions, revitalize training institutions & anticipate future challenges."

Food Fortification: Study in Oman 2004

Introduction

The Department of Nutrition in collaboration with the World Health Organization Office for the Eastern Mediterranean and UNICEF, Muscat and Centers for Disease Control launched a national study to assess the impact of food fortification. The study was aimed at the assessment prevalence of anaemia among infants and young children, non-pregnant women of childbearing age, and men as well as iron, and vitamin A deficiency status among women and children. In addition urinary Iodine was also measured in women.

The fortification of flour with Iron was initiated in 1996 at 30 ppm of elemental iron for white flour. The iodization of salt was also initiated in the same year. In order to assess the need for vitamin A fortification the baseline data was also collected during the present study.

The results of the present cross-sectional study would be used to modify the current legislations on food fortification in Oman, identify gaps in the implementation process and propose new legislations and programs wherever necessary.

Study Design & Methodology

The households for the survey were selected based on sample proportional to population size and was nationally representative. However the sample was not representative at the provincial (regional) level. The 1993 census data were used to randomize 53 out of the 4000 equally populated enumeration areas each consisting of 4-5 residential blocks.

Houses in each cluster were sequentially numbered, and 16 houses were selected by randomizing the first house and including the next 15 eligible houses in the study sample. Eligibility was established if a non-

pregnant woman of child bearing age or a child aged 6-59 months lived in the household. All children 6-59 months of age, every other non-pregnant woman aged 15-49 years and all men aged 15 years or older in the eligible households were invited to participate in the survey. Only information obtained from Omani households were included in the survey. Location of the clusters sampled is shown in Figure 1.

Fig.1
The location of Study Clusters



Total 832 households completing the study questionnaire were included in the survey.

Field Survey

Five teams were recruited to collect the data for this study, each consisting of two interviewers, one nurse (paediatric phlebotomist) to collect blood and urine specimens, a supervisor to ensure appropriate sampling and quality data collection and a driver. After each interview the questionnaires were checked by the field supervisor for consistency and completeness. The field data were double entered in EPI ver-

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Table-1
Population Groups & Nutritional Indicators Surveyed, 2004

Group Surveyed	n	Urinary Iodine	Serum Retinol	CRP	Hb	Serum Ferritin
Children 6-59 months	359	-	152	199	266	199
Women 15-49 yrs (non-pregnant)	422	338	341	352	357	353
Men 18-60	195	-	-	-	175	-

sion 6.04 and analyses were conducted using complex sample survey module in SPSS version 13.0 and 14.0. All data except the descriptive demographic data and the results from men were weighted in the analysis.

Laboratory Analysis

A number of laboratory tests were carried out to analyse the biological and food samples. To assess Anaemia the *Hemocue* was used to assess the Haemoglobin whereas serum samples were collected from the subjects and analysed for *Ferritin*, Retinol and *C-reactive protein* (CRP). Some samples were analyzed for *Zinc Protoporphyrin* (ZP). Iron deficiency was assessed using the *Hb-Ferritin Model* while controlling for infection by CRP.

In every household samples were collected from each type of flour and salt available. Fortification of flour was determined using

semi-quantitative spot test of iron whereas iodine in salt was assessed using WYD iodine checkers verified further by titration method.

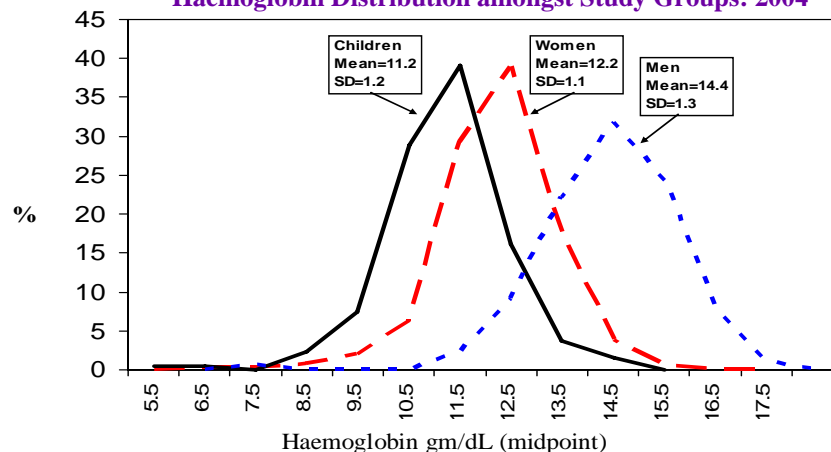
The laboratory analyses of samples were performed by the national Public Health Laboratory, Ministry of Health (Urinary Iodine, Vitamin A and ZP), Royal Hospital (Ferritin and CRP), and the Central laboratories of the Ministry of Regional Municipalities, Environment and Water Resources. For the applicable laboratory tests internal quality assurance procedures were performed and all laboratories participated in the external quality assurance programs with the reference laboratories in the USA and UK.

Results

Anaemia: The prevalence of anaemia among the preschool children was 42%. It was significantly higher in children under 2 (66%) compared to 2-5 years of age

“The prevalence of anaemia among the preschool children was 42%. It was significantly higher in children under 2 (66%) compared to 2-5 years of age group (26%).”

Fig.2
Haemoglobin Distribution amongst Study Groups: 2004

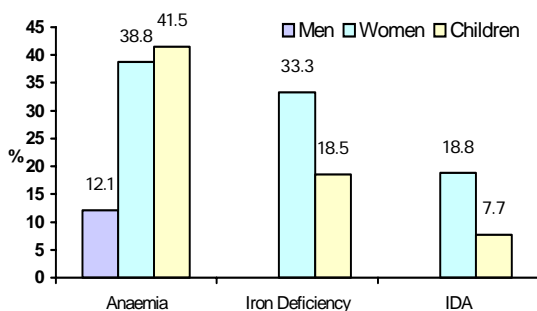


group (26%). The prevalence of anaemia in non-pregnant women was 39%, and in men 12%.

The haemoglobin distribution for the three groups is presented in Figure 2. Using the WHO classification the public health gradation of the prevalence of anaemia among the preschool children was “severe” while it was “moderate” among women and “mild” in men.

Among preschool children, the prevalence of iron deficiency was 19% and the prevalence of iron deficiency anaemia (IDA) was

Fig.3
Prevalence of Anaemia & Iron Deficiency among Study Groups: 2004



almost 8% (Fig-3). A third (33%) of non-pregnant women of child bearing age was iron deficient whereas almost a fifth (19%) had iron deficiency anaemia. Iron deficiency accounted for almost 50% of the anaemia among women of childbearing age and 32% of children 6-59 months old. Income, education of the head of the household, age-group and marital status were not significantly associated with iron deficiency or IDA among non-pregnant women (15-49 years) or children (6-59 months).

Availability & Consumption

Fortified flour: Of the 394 households surveyed, 359 households (91%) had flour available. Among the latter households, Oman Flour Mills was reported as the

brand of flour purchased most often (75% of households). Almost 17% of flour was imported.

Fortified flour was available in 81% of the 359 households. A non-significantly higher percent of households with higher income levels had fortified flour. There were no differences in the proportion of households with fortified flour based on the education level of the household head. Approximately 85% of flour from both Oman and Salalah flour Mills was fortified with iron level at 30 ppm. Only 11 households reported buying flour from local mills and these were not fortified. Fortified flour was available in houses that used white flour either alone, or mixed, whereas the flour in the houses that only used brown was not fortified. Almost 60% and 70% of households reported consuming ≥ 1 kg of white and brown flour per person per month respectively. Almost 58% of households had a per capita monthly consumption of 2 Kg of flour.

The prevalence of Iron deficiency (25%) was significantly lower among non-pregnant women living in households with >1 Kg per person per month consumption of white flour than among women from households with <1 Kg per person per month consumption (38%). Similarly, the higher the consumption of all flours, the lower the prevalence of iron deficiency among the women.

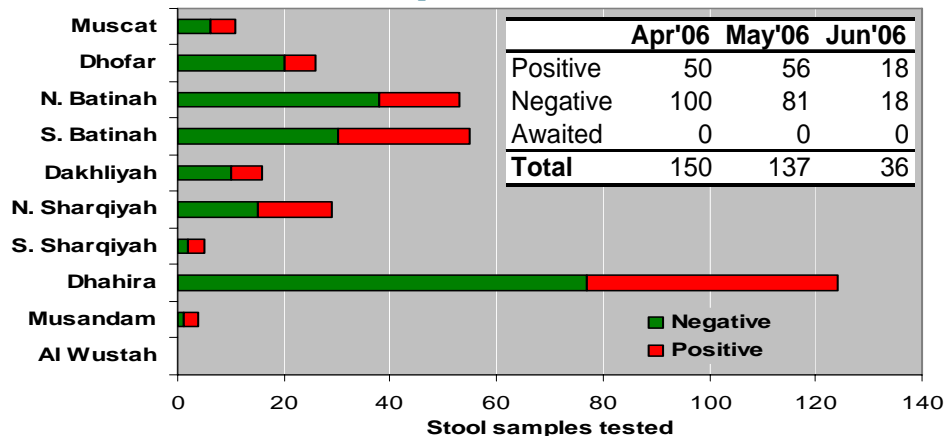
Milk: Milk was available in more than 96% of households at the time of the survey. Powdered and condensed milk were more commonly found in households, 44% and 42%; respectively. Boxed milk was found in 12% of households and about 2% of households had fresh milk. Milk labelled as vitamin A fortified was found in 80% of households.

“The prevalence of Iron deficiency was significantly lower among non-pregnant women living in households with >1 Kg/person/month consumption of white flour than among women from households with <1 Kg/person/month consumption”.

(Continued on page 10)

Rotavirus Sentinel Surveillance Monitoring: 2nd Quarter

Results of Stool Samples Tested for Rotavirus Sentinel Surveillance by Provinces April to June 2006



Note: Muscat Governorate stool samples were from SQUH.

“The percentage of men who looked for fortified food products was 33% compared to only 15% amongst women.”

(Continued from page 9)

Oil and Ghee (clarified butter): Fortification of staple foods such as cooking oil or ghee, with vitamin A is an effective and sustainable strategy to prevent vitamin A deficiency in a population. Oil was available in most of the households (95%). Over half of the households reported consuming ≥ 1 litre per capita of oil per month. Ghee was available in 62% of households while 12% of households reported never using Ghee. Per capita consumption was ≥ 0.2 litre monthly in 30% of the households.

Awareness & Perception Awareness of flour fortification was low among women. There was more public awareness of salt iodization than flour fortification. 36% of heads of household knew that salt in Oman is iodized but less than 10% of heads of household knew that flour is fortified. Although fortified flour was available in 81% of the households, only 20% of the heads of the households looked for fortified products in general when buying food. When the head of the household was asked to list the three factors most considered when purchasing food, the responses reflected that quality (48%), expiry date (49%), price (34%) and country of the product

(14%) took precedence over whether the food product was fortified (6%). The food was most frequently purchased by the husband (63%) or wife (15%). Approximately 70% of households purchase their bread from bakeries whereas only 22% buy bread from the supermarket.

Awareness of flour fortification was similar to the head of household where only 5% of the women and 8% of the men knew the bread was fortified; 5% of both women and men knew the flour was fortified; and 41% of women and 48% of men knew salt was iodized. The percentage of men who looked for fortified food products was 33% compared to only 15% amongst women. Among women, expiry date (55%), quality (46%) and price (32%) were the factors most considered when purchasing food. However, among men the country of origin seemed to be the most important at 62% followed by price at 35%. Fortification was considered important among only 4% of the women and 11% of the men.



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Communicable Diseases Quarterly Report

Second Quarter (April to June 2006)

ICD Code	Priority Communicable Diseases	2006				2005			2006
		Second Quarter				Q2	Q3	Q4	Q1
		Apr	May	Jun	Total	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar
Group 'A' Diseases									
A00	Cholera	-	-	-	0	-	-	-	-
A20	Plague	Never reported							
A95.9	Yellow Fever	Never reported							
A39, 39.0, 39.2-39.4	Meningococcal Infection	-	-	-	0	-	-	1	2
G00.0	H. influenzae type b, meningitis (<i>Hib</i>)	-	-	-	0	-	-	1	1
A82	Rabies	-	-	-	0	-	-	-	-
B50-54	Malaria	35	45	45	125	172	196	110	67
A-15	Pulmonary Tuberculosis (sputum positive)	12	13	5	30	31	21	25	32
Gr. 'A' Syndromes									
-	Acute Flaccid Paralysis (<i>AFP</i>)	3	-	2	5	7	5+2(Polio)	7	3
-	Fever & Rash-Illness	49	86	67	202	149	116	142+5(i)	151
B05	Measles (<i>IgM+</i>)	1	4	1	6	7	3	1	6
B06	Rubella (<i>IgM+</i>)	-	1	1	2	10	3	-	2
P35.0	Congenital Rubella Syndrome (<i>CRS</i>)	-	-	-	0	-	-	1 (i)	1 (i)
U04, 04.9	Severe Acute Respiratory Syndrome (<i>SARS</i>)	Never reported							
A99	Acute Haemorrhagic Fever Syndrome	-	-	-	0	-	-	-	-
A02	Food Poisoning (<i>Infectious origin</i>)	24	22	50	96	127	184	111	107
Group 'B' Diseases									
G00.1-9	Bacterial Meningitis (<i>other than Hib & Nm</i>)	2	1	3	6	5	2	7	4
A87	Viral Meningitis	-	1	1	2	1	1	2	1
G03	Other Meningitis (<i>unspecified</i>)	7	4	2	13	19	15	7	8
	Acute Viral Hepatitis (Total)	220	202	85	507	249	239	260	484
B15	Acute Viral Hepatitis A	39	16	-	55	24	44	174	275
B16	Acute Viral Hepatitis B	4	5	1	10	9	20	11	13
B17.1	Acute Viral Hepatitis C	3	2	-	5	4	5	2	6
B17.0	Acute Viral Hepatitis D (<i>amongst B positive</i>)	-	-	-	0	-	-	-	0
B17.2	Acute Viral Hepatitis E	1	-	-	1	1	7	2	2
B19/B17.8	Acute Viral Hepatitis (<i>unspecified</i>)	173*	179*	54	436*	211	163	71	188
A03.0, 01.4	Typhoid & Paratyphoid Fever	4	1	3	8	19	19	13	9
A37	Pertussis (<i>clinical</i>)	2	3	1	6	18	8	8	19
A71	Trachoma (<i>active</i>)	9	-	5	14	-	6	7	1
A23	Brucellosis (<i>human</i>)	3	7	8	18	22	43	25	19
B55.1	Leishmaniasis Cutaneous (<i>CL</i>)	2	-	1	3	2	1	4	0
B55	Leishmaniasis Visceral (<i>VL</i>)	-	-	-	0	1	1	-	0
B65	Schistosomiasis (<i>intestinal</i>)	-	-	-	0	2	-	-	1
A16	Pulmonary Tuberculosis (<i>sputum negative</i>)	2	1	4	7	7	10	10	6
A17-19	Extra-pulmonary Tuberculosis	6	10	8	24	21	26	16	33
A30	Leprosy	-	-	-	0	2	2	1	0
B20-24	HIV [AIDS]	6 [0]	2 [1]	0 [0]	8 [1]	18[6]	19[4]	9[6]	16 [6]
Group C Diseases & Syndromes									
J10-11	Influenza Like illnesses (<i>ILI</i>)	192	179	2199	2570	824	676	1256	388
-	aLRTI & Pneumonia (<i>childhood</i>)	916	863	811	2590	6803	2386	4188	9997
-	Acute 'Watery' Diarrhoea (<i>childhood</i>)	2864	1918	1268	6050	9615	6893	10277	6716
B01	Chickenpox	2962	2605	2087	7654	4857	3063	4235	7719
B26	Mumps	162	167	135	464	226	200	233	291

*Viral Hepatitis data are NOT updated by North & South Sharqiyah, & North Batinah Regions

Communicable Diseases Quarterly Report by Regions

Second Quarter (April to June 2006)

ICD Code	Priority Communicable Diseases	Total	Muscat	Dhofar	Dakhliyah	North Sharqiyah	South Sharqiyah	North Batinah	South Batinah	Dhahira	Musandam	Al-Wustah
Group 'A' Diseases												
A00	Cholera	0	-	-	-	-	-	-	-	-	-	-
A20	Plague	<i>Never reported</i>										
A95.9	Yellow Fever	<i>Never reported</i>										
A39, 39.0,	Meningococcal Infection			-	-	-	-	-	-	-	-	-
G00.0	H. influenzae type b, meningitis (<i>Hib</i>)			-	-	-	-	-	-	-	-	-
A82	Rabies		-	-	-	-	-	-	-	-	-	-
B50-54	Malaria	125	60	1	10	4	6	20	5	15	3	1
A-15	Pulmonary Tuberculosis (sputum+)	30	10	4	2	-	3	4	3	4	-	-
Gr. 'A' Syndromes												
	Acute Flaccid Paralysis (<i>AFP</i>)	5	-	-	-	-	-	-	-	-	-	-
	Fever & Rash-Illness	202	9	19	38	3	23	51	42	11	1	5
B05	Measles (<i>IgM+</i>)	6	3	2	-	-	-	1	-	-	-	-
B06	Rubella (<i>IgM+</i>)	2	1	1	-	-	-	-	-	-	-	-
P35.0	Congenital Rubella Syndrome (<i>CRS</i>)	0	-	-	-	-	-	-	-	-	-	-
U04,04.9	Severe Acute Respiratory Syndrome	<i>Never reported</i>										
A99	Acute Haemorrhagic Fever Syndrome	0	-	-	-	-	-	-	-	-	-	-
A02	Food Poisoning (<i>Infectious origin</i>)	96	-	9	-	12	5	4	26	40	-	-
Group 'B' Diseases												
G00.1-9	Bacterial Meningitis (<i>except Hib & Nm</i>)	6	1	-	1	2	1	1	-	-	-	-
A87	Viral Meningitis	2	-	-	-	2	-	-	-	-	-	-
G03	Other Meningitis (<i>unspecified</i>)	13	-	3	-	-	-	6	3	1	-	-
	Acute Viral Hepatitis (<i>total</i>)	507	9	18	27	148	92	177	3	33	0	0
B15	Acute Viral Hepatitis A	55	2	-	6	1	23	21	2	-	-	-
B16	Acute Viral Hepatitis B	10	3	5	1	-	-	-	1	-	-	-
B17.1	Acute Viral Hepatitis C	5	-	2	1	-	2	-	-	-	-	-
B17.0	Acute Viral Hepatitis D (<i>amongst B+</i>)	0	-	-	-	-	-	-	-	-	-	-
B17.2	Acute Viral Hepatitis E	1	-	-	-	-	1	-	-	-	-	-
B19/B17.8	Acute Viral Hepatitis (<i>unspecified</i>)	436*	4	10	19	147*	67*	156*	-	33	-	-
A03.0,	Typhoid & Paratyphoid Fever	8	3	-	1	-	1	2	1	-	-	-
A37	Pertussis (<i>clinical</i>)	6	-	-	-	3	-	2	-	1	-	-
A71	Trachoma (<i>active</i>)	14	-	-	-	11	3	-	-	-	-	-
A23	Brucellosis (<i>human</i>)	18	-	16	-	-	1	1	-	-	-	-
B55.1	Leishmaniasis Cutaneous (<i>CL</i>)	3	-	3	-	-	-	-	-	-	-	-
B55	Leishmaniasis Visceral (<i>VL</i>)	0	-	-	-	-	-	-	-	-	-	-
B65	Schistosomiasis (<i>intestinal</i>)	0	-	-	-	-	-	-	-	-	-	-
A16	Pulmonary Tuberculosis (<i>sputum neg.</i>)	7	1	-	-	2	-	1	2	1	-	-
A17-19	Extra-pulmonary Tuberculosis	24	6	1	4	-	-	7	5	1	-	-
A30	Leprosy	0	-	-	-	-	-	-	-	-	-	-
B20-24	HIV [AIDS]	8 [1]	3 [1]	-	-	-	1 [0]	2 [0]	-	2 [0]	-	-
Group C Diseases & Syndromes												
J10-11	Influenza Like Illnesses (<i>ILI</i>)	2570	-	189	237	2077	-	23	-	44	-	-
-	aLRTI & Pneumonia (<i>childhood</i>)	2590	174	736	350	86	218	136	806	1	63	20
-	Acute 'Watery' Diarrhoea (<i>childhood</i>)	6140	876	692	1757	25	380	1623	110	558	119	-
B01	Chickenpox	7654	1130	831	1515	257	651	1201	925	782	292	70
B26	Mumps	464	215	29	32	21	19	28	30	88	2	-

*Viral Hepatitis data are NOT updated by North & South Sharqiyah, & North Batinah Regions

Selected Communicable Diseases by Wilayah

Second Quarter (April to June 2006)

Region	Wilayah	AFP	Measles	Rubella	Meningo-coccal Infection	Hib Meningitis	TB (Total)	TB Sputum Positive	Viral Hepatitis A	Viral Hepatitis B	Malaria (All)	Pertussis	Leprosy
MUSCAT	Muscat						3	2			2		
	Seeb		1				6	4	1	2	18		
	Muttrah						3				10		
	Bowsher		2				2	2			24		
	Al Amerat						2	1			6		
	Quriyat						1	1					
DHOFAR	Salalah	1	2	1			4	3		5	1		
	Thumrait						1	1					
	Taqah												
	Mirbat												
	Sadah												
	Rakhyut												
	Dhalqut												
	Muqshan												
	Shaleem												
	Mazyoona												
NORTH BATINAH	Sohar	1	1				2	1	1		14	2	
	Shinas						1		2		1		
	Liwa								17		1		
	Saham						4	1			2		
	Khabura						2	1					
	Suwaiq						3	1	1		2		
SOUTH BATINAH	Rustaq						4	1			2		
	Nakhl								1				
	Wadi Maawil												
	Al Awabi												
	Musanah						4	1		1			
	Barka						2	1			3		
DAKHLIYAH	Nizwa						1	1			4		
	Bahla						1				3		
	Adam								4	1			
	Al Hamra												
	Manah	1					1				1		
	Samail						2				2		
	Izki						1	1	1				
	Bid Bid							1					
DHAHIRA	Ibri						1	1			2		
	Yanqul	1					1						
	Dhank						1	1			1		
	Al Buraimi						3	2			8		
	Mahda							1		4			
NORTH SHARQIYAH	Ibra												
	Al Mudhaibi										1	3	
	Bidiyah						1				2		
	Al Qabel										1		
	Dima Al Tayeen						1						
	Wadi Bani Khalid												
SOUTH SHARQIYAH	Sur	1					2	2	6		6		
	Masirah								1				
	Al Kamil Wa Al Wafi												
	Bilad Bani Bu Ali								7				
	Bilad Bani Bu Hassan						1	1	9				
MUSANDUM	Khasab												
	Dibba										3		
	Bukha												
	Madha												
AL-WUSTAH	Haima												
	Duqum										1		
	Mahoot												
	Al Jazer												
NATIONAL TOTAL		5	6	2	0	0	61	30	55	10	125	6	0

Age Distribution of Communicable Diseases

Second Quarter (April to June 2006)

ICD Code	Priority Communicable Diseases	Total	Age Groups in Years								
			< 1	1-4	5-9	10-14	15-19	20-24	25-34	35-45	45+
Group 'A' Diseases											
A00	Cholera	0	-	-	-	-	-	-	-	-	-
A20	Plague	Never reported									
A95.9	Yellow Fever	Never reported									
A39, 39.0, 39.2-39.4	Meningococcal Infection	0	-	-	-	-	-	-	-	-	
G00.0	H. influenzae type b, meningitis (<i>Hib</i>)	0	-	-	-	-	-	-	-	-	
A82	Rabies	0	-	-	-	-	-	-	-	-	
A-15	Pulmonary Tuberculosis (sputum+)	30	-	-	-	2	3	4	6	3	12
Gr. 'A' Syndromes											
	Acute Flaccid Paralysis (<i>AFP</i>)	5	-	4	1	-	-	-	-	-	
	Fever & Rash-Illness	202	98	66	22	11	2	-	3	-	
B05	Measles (<i>IgM+</i>)	6	1	5	-	-	-	-	-	-	
B06	Rubella (<i>IgM+</i>)	2	-	2	-	-	-	-	-	-	
P35.0	Congenital Rubella Syndrome (<i>CRS</i>)	0	-	-	-	-	-	-	-	-	
U04, 04.9	Severe Acute Respiratory Syndrome	Never reported									
	Acute Haemorrhagic Fever Syndrome	0	-	-	-	-	-	-	-	-	
A02	Food Poisoning (<i>Infectious origin</i>)	96	4	23	22	13	8	9	12	3	2
Group 'B' Diseases											
G00.1-9	Bacterial Meningitis (<i>except Hib & Nm</i>)	6	4	1	-	-	1	-	-	-	
A87	Viral Meningitis	2	-	-	1	1	-	-	-	-	
G03	Other Meningitis (<i>unspecified</i>)	13	5	4	2	-	-	1	-	1	
	Acute Viral Hepatitis (Total)	508	7	165	207	50	17	20	21	14	7
B15	Acute Viral Hepatitis A	55	-	27	18	7	2	1	-	-	
B16	Acute Viral Hepatitis B	10	-	-	-	-	-	2	1	1	
B17.1	Acute Viral Hepatitis C	5	-	-	-	-	-	-	-	-	
B17.0	Acute Viral Hepatitis D (<i>amongst B+</i>)	0	-	-	-	-	-	-	-	-	
B17.2	Acute Viral Hepatitis E	1	-	-	-	-	-	-	-	1	
B19/B17.8	Acute Viral Hepatitis (<i>unspecified</i>)	436*	7	138	189	43	15	12	16	11	5
A03.0, A01.4	Typhoid & Paratyphoid Fever	8	-	1	2	-	-	1	1	1	2
A37	Pertussis (<i>clinical</i>)	6	5	-	1	-	-	-	-	-	
A71	Trachoma (<i>active</i>)	14	1	9	2	-	1	1	-	-	
A23	Brucellosis (<i>human</i>)	18	-	2	4	4	1	-	4	1	2
B55.1	Leishmaniasis Cutaneous (<i>CL</i>)	3	-	1	-	-	1	-	-	-	
B55	Leishmaniasis Visceral (<i>VL</i>)	0	-	-	-	-	-	-	-	-	
B65	Schistosomiasis (<i>intestinal</i>)	0	-	-	-	-	-	-	-	-	
A16	Pulmonary Tuberculosis (<i>sputum Neg.</i>)	7	-	-	-	3	1	-	-	-	3
A17-19	Extra-pulmonary Tuberculosis	24	-	-	2	4	3	4	3	3	5
A30	Leprosy	0	-	-	-	-	-	-	-	-	
B20-24	HIV [AIDS]	8 [1]	-	-	-	-	2 [0]	1 [0]	4 [1]	-	1 [0]

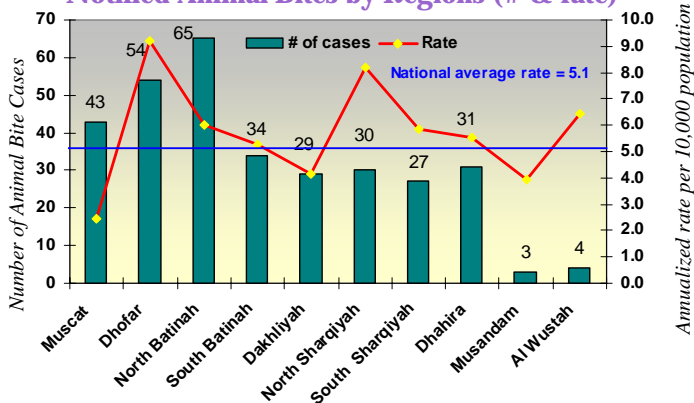
Note:

- The quarterly data are 'provisional' & should be scrutinized & verified by the focal point of communicable diseases (Epidemiologist) at the provincial level. The data would be finalized after receiving feedback. Similarly the Group C data should also be carefully checked & verified for accuracy ensuring that the case definitions are strictly followed.
- *Viral Hepatitis data are NOT updated by North & South Sharqiyah, & North Batinah Regions.
- Tuberculosis, Leprosy & HIV [AIDS] data are for nationals only.
- Unspecified cases of acute viral hepatitis are due shortage of diagnostic kits and would be subsequently tested in the next quarter.
- (i) = imported case.

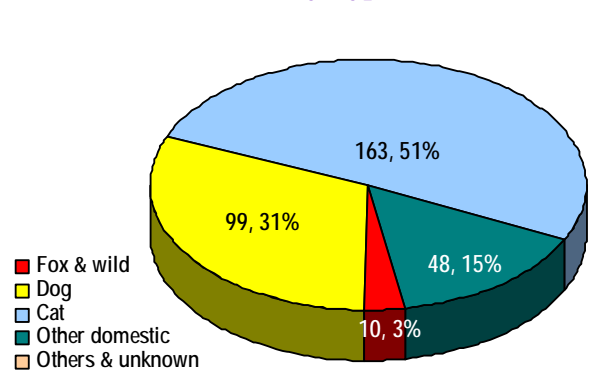
Animal Bite Surveillance Data

Second Quarter (April to June 2006)

Notified Animal Bites by Regions (# & rate)



Notified Animal Bites by Type of Animal (#, %)



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