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Ministry of Health/Kurdistan
Kurdistan Regional Statistics Office

In collaboration with WHO/Iraq

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Key Demographic and Health Status Indicators IFHS 2006/7

INDICATOR	Total	REGIONS		RESIDENCE		UNIT
		South/Centre	Kurdistan	Urban	Rural	
HOUSEHOLD LEVEL						
Female Marital Status (12+ years)						
Single	37.7	37.0	42.8	-----	-----	Percent
Married	52.5	53.2	47.8	-----	-----	Percent
Formerly married	9.8	9.9	9.4	-----	-----	Percent
Male Marital Status (12+ years)						
Single	47.8	47.3	53.4	-----	-----	Percent
Married	50.7	51.5	45.9	-----	-----	Percent
Formerly married	0.8	1.2	0.7	-----	-----	Percent
Household Education:						
No education	20.6	19.9	25.3	16.5	28.1	Percent
Primary	43.1	43.2	42.6	40.6	47.7	Percent
Secondary	13.2	13.4	11.6	16.5	7.1	Percent
HEALTH STATUS OF HOUSEHOLD MEMBERS						
Chronic Illnesses						
High blood Pressure	41.5	41.5	42.0	48.4	29.4	Per 1,000
Diabetes	21.8	23.0	14.3	25.3	15.8	Per 1,000
Mortality Key Indicators						
Maternal mortality ratio *	84	-----	-----	-----	-----	Per 100,000 live birth
Crude mortality rate**	4.97	5.21	3.43	-----	-----	Per 1000 PYRs

* During 0-14 years prior to the survey

** Between August 2001 to July 2006

INDICATOR	Total	REGIONS		RESIDENCE		UNIT
		South/Centre	Kurdistan	Urban	Rural	
WOMEN LEVEL						
Women's education (15-49)						
No education	17.3	15.1	31.7	11.3	29.2	Percent
Primary	40.1	41.3	32.6	35.1	50.0	Percent
Secondary	10.8	10.9	9.9	14.6	3.2	Percent
Women's employment (15-49)						
Currently not working	86.7	86.2	90.0	88.1	83.9	Percent
Agriculture/handicraft/ street sellers	4.8	5.3	1.8	1.2	12.2	Percent
Professional/technical/ managerial	4.4	4.5	4.3	5.7	1.9	Percent
Age at first marriage						
By exact age:						
15 years	9.4	9.2	10.3	9.3	9.6	Cumulative percentage
18 years	26.8	27.0	25.5	25.8	28.9	
25 years	55.6	56.8	47.9	54.7	57.5	
Gravidity and parity						
Ever had a live birth	86.9	86.7	88.9	87.3	86.2	Percent
Children ever born	3.61	3.54	4.17	3.39	4.04	Mean
Nulligravida	8.1	8.1	7.4	8.1	8.1	Percent
Currently pregnant	13.6	14.2	9.2	12.3	16.2	Percent
Delivery						
At Hospital	64.1	64.0	65.0	70.0	55.1	Percent
Assisted by Doctor	40.9	39.3	53.0	44.6	35.0	Percent
Abortion/Miscarriage						
At Hospital	58.3	57.6	66.0	62.9	48.7	Percent
Assisted by Doctor	61.8	61.3	66.6	64.7	55.6	Percent

INDICATOR	Total	REGIONS		RESIDENCE		UNIT
		South/Centre	Kurdistan	Urban	Rural	
Pregnancy loss						
Any pregnancy loss	10.9	11.2	9.0	11.9	9.3	Per 100 pregnancy
Abortion/miscarriage	9.7	9.9	7.8	10.7	8.0	
Still birth*	0.8	0.8	0.9	0.8	0.8	
Women's knowledge of						
HIV/AIDS	57.4	57.8	54.8	66.9	38.5	Percent
Any STI	17.1	18.5	8.5	21.2	8.9	Percent
Syphilis/gonorrhoea	17.7	19.7	4.7	22.7	7.7	Percent
ANAEMIA among						
All women **	35.5	38.0	21.9	35.1	36.4	Percent
Currently pregnant	37.9	38.2	34.1	36.0	40.8	Percent
Currently breast feeding	25.8	26.8	15.1	24.7	27.4	Percent
DOMESTIC VIOLENCE						
Controlling behaviour by husband	83.1	86.1	61.6	82.6	84.0	Percent
Emotional violence	33.4	35.7	17.6	31.9	36.4	Percent
Physical violence	21.2	22.7	10.9	20.3	23.0	Percent
Violence during pregnancy ***	13.9	13.1	25.8	14.9	12.3	Percent
* Per 100 viable pregnancy (Gestational age 6+ months)						
** Not currently pregnant or breastfeeding						
*** Among women who experienced physical violence						

Preface

The Iraqi Ministry of Health (MoH), in partnership with the Ministry of Planning and Development Cooperation/the Central Organization for Statistics & Information Technology (COSIT) and the World Health Organization's Iraq office (WHO/Iraq) are pleased to present the preliminary report of the 2006/7 Iraq Family Health Survey (IFHS). This report summarizes the key findings of the survey which was conducted under the leadership of the MoH, COSIT, the Ministry of Health/Kurdistan region (MoHK) and the Kurdistan Regional Statistics Office (KRSO). Technical and financial support was provided by WHO, United Nations Development Group (UNDG), Iraq Trust Fund (ITF) and the European Commission (EC).

The Iraq Family Health Survey (IFHS) 2006/7 is a nationally representative survey of 9,345 households and 14,675 women of reproductive age and covers all governorates in Iraq. This is the second nationally representative health survey since the Family Gulf Survey in 1989, although it is the first survey to disseminate the results. The IFHS 2006/7 was conducted in the central and southern governorates during August and September 2006, in Anbar during October and November 2006, while fieldwork in the Kurdistan region was carried out during February and March 2007. The survey had gone through a detailed and intensive planning and preparatory phases which was particularly important given the dire security situation in Iraq at the time of the survey. Not only were rigorous training and pre-testing undertaken, but a planning approach based on a number of different scenarios was adopted to respond to anticipated challenges. All interview teams were carefully supervised and given continuous support through out the period of the survey.

The principle objective of the survey is to provide critical information for policy-makers and programme managers working in health and development. It complements other surveys recently conducted in Iraq on the situation of women and children, namely the Iraq Child and Maternal Mortality Survey (ICMMS 1999), the Iraq Living Conditions Survey ILCS 2004, and the Multiple Indicators Cluster Survey MICS III 2006. Also the survey results will present data on a wide range of indicators related to women's and family health. It is also the first national survey ever conducted to present data on adult mortality, including the causes of deaths. The IFHS is the first national survey in Iraq to investigate domestic violence, as well as chronic illnesses. Detailed information was also collected on health expenditures and health care seeking behaviour, as well as a range of other health and demographic indicators. Blood test was carried out to measure the level of anaemia among women of reproductive age including pregnant and lactating women.

It is important to acknowledge that this survey was a critical step in the development of skills and technical capacities among the Iraqi professionals. The expertise gained from implementing this survey will be invaluable in conducting future national surveys to international standards.

Lastly, we hope that the survey results contribute to the revision of Iraq's National Development Strategy. The data generated will contribute to the ongoing efforts of the Ministry of Health (MoH), the Ministry of Planning and Development Cooperation (MoP), the Ministry of Health (MoHK), and the Ministry of Planning (MoPK) in Kurdistan Region, as well as other ministries, non-governmental organizations, and international agencies in formulating effective programmes and policies for the benefit of the health of Iraqi families.

Abbreviations

AIDS	Acquired Immuno-Deficiency Syndrome
CIDI	Component International Diagnostic Interview
COSIT	Central Organization for Statistics & Information Technology
CSPro	Census and Survey Processing System
DHS	Demographic and Health Survey
EC	European Commission
HIV	Human Immunodeficiency Virus
ICMMS	Iraq Child Maternal Mortality Survey
ILCS	Iraq Living Conditions Survey
IFHS	Iraq Family Health Survey
ITF	Iraq Trust Fund
KRSO	Kurdistan Regional Statistics Office
MMR	Maternal mortality ratio
MoH	Ministry of Health
MoHK	Ministry of Health/Kurdistan region
MoP	Ministry of Planning
MICS-III	Multiple Indicator Cluster Survey
PHCC	Primary Health Care Centre
PSUs	Primary sampling units
RTI	Reproductive Tract infections
SRQ	Self-reporting questionnaire
STI	Sexually transmitted Infection
TBA	Traditional birth attendants
UNDG	United Nations Development Group
UNDP	United Nations Development Programme
WHO	World Health Organization
WHO/Iraq	World Health Organization's Iraq office

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I. Background and objectives of the survey

Background

During the last three decades, Iraq has gone through a series of political and economic transformations that have profoundly influenced the well-being of its population. It is also currently confronting a dangerous military insurgency that has led to a breakdown of law and order which is having a significant impact on the health of the Iraqi people.

In Iraq, there was a need for having reliable information on a number of key health and demographic indicators on family members particularly women, including morbidity and mortality, chronic illnesses, health expenditures, women's status, domestic violence, and knowledge and behavior regarding HIV/AIDS and other sexually transmitted infections. Other child health indicators were not included, since child health was adequately covered in the recent MICS-III survey. The only source of data on some of these topics was partially provided by ICMMS 1999, ILCS 2004, and MICS- III 2006, so that the information generated by IFHS 2006/7 will provide an up-to-date information to better understand the dynamics of family health, and will guide health planners, policymakers, program managers, and researchers in the planning, implementation, monitoring and evaluation of health programmes, for the development of Iraq health systems at both national and governorate levels.

Objectives of the Survey

The survey was designed to achieve the following objectives:

1. to update and expand the national indicators database through collection of key health indicators, such as morbidity and mortality;
2. to measure disparities in health and health expenditure between different population strata; and
3. to provide policy- and decision-makers and researchers with reliable, timely and relevant data for the development of health and population policies.

Some of the unique features of this survey are that it will provide, for the first time, nationally representative data on:

- Adult mortality, including maternal mortality;
- Detailed information on recent household deaths;
- Self-reported morbidity, including chronic illness and reproductive ill-health;
- Domestic violence, both emotional and physical;
- Haemoglobin for measuring anaemia;
- Household health expenditure;
- Mental health status, using a self-reported questionnaire (SRQ).

In addition to these topics, the survey will generate data on a range of other demographic and health indicators such as: smoking, pregnancy loss, knowledge of RTI/STIs and HIV, health care-seeking behaviour, marriage patterns, infertility, as well

as data on housing characteristics, household income and expenditure. While this preliminary report presents data at the national level, the forthcoming final report will provide disaggregated estimates at sub-national and governorates levels.

II. Sample, survey methodology and coverage

Sample design

The sample was designed to provide estimates on a wide range of health-related indicators at the national and regional levels, and also at governorate level (for some indicators) and by metropolitan, other urban and rural areas. For this purpose the country was divided into 56 different sampling domains. Apart from the capital Baghdad, each of the 17 governorates contained three sampling domains, namely:

1. **Metropolitan area** representing the governorate capital;
2. **Other urban area** representing other urban areas outside the capital; and
3. **Rural area**

In Baghdad, five sampling domains were created, namely:

- three metropolitan areas representing Sadar City, Rusafah side, and Al-Karkh side;
- one “other urban area”, representing the urban areas not covered by the three metropolitan domains mentioned above; and
- one “rural area”.

A sample size of 10,080 households was deemed sufficient to give disaggregated estimates with a reasonable precision. Equal numbers of households were allocated to each of the 56 domains

To capitalize on a recent updated sampling frame, it was decided to use a subset of the same clusters or primary sampling units (PSUs) selected for the MICS-III 2006 survey. The MICS-III PSUs were originally selected with probability proportional to their size. Eighteen (or 9 pairs of PSUs) were selected from each of the 56 sample domain (this is equivalent to one-third of the original MICS-III clusters), and the number of households in each selected cluster was increased from 6 to 10 households.

The originally allocated sample sizes for the Karkh domain of Baghdad, Anbar and Nineveh governorates were inflated by 13%, 100% and 33.3%, respectively. This is to compensate for the expected difficulties in accessing some of the selected clusters in these areas due to security problems. The over-sampling was prompted by the recent experience with MICS-III survey in these areas. Therefore, the effective sample was 10,860 household.

The sampling frame used in the Southern and Central governorates was derived from the 1997 census of Iraq, while in Kurdistan the frame was based on information provided by the Statistical Offices in the region. A new listing of households in the selected PSUs was conducted. From this list linear systematic sampling was used to randomly select ten households. Due to different selection probabilities of households into the sample design base weights were calculated and further adjusted for non-response. All weights were standardized and all results are based on these standardized weights.

Questionnaires

The survey utilized three different questionnaires:

a) A **household questionnaire**, administered to the head of the household or an adult informant, consisted of five sections:

1. **Household roster:** A list of all usual household members and visitors who stayed a minimum of 15 days prior to the survey.
2. **Chronic illnesses:** Household heads or adult informants were asked to report up to three current chronic illnesses for each of the household members and indicated whether the illnesses were confirmed by a medical personnel.
3. **Housing and environmental characteristics:** include housing, cooking, water supply, lighting, sanitation, waste disposal.
4. **Household possessions:** include household assets, income and overall expenditure, with an emphasis on health expenditure.
5. **Recent household deaths:** information on age and sex of all household deaths since June 2001 were ascertained, as well as the cause, place and timing of death.

B) A **20-items self-reporting questionnaire (SRQ)** on mental health status, administered to an adult 18+ years old randomly selected from the household roster using Kish Table. Individuals who completed the SRQ and living in households selected for the mental Health survey were approached to participate in the mental health survey by given convenient time for the revisit

C) A **woman questionnaire**, administered to all women aged 15-49 years recorded in the household roster.

1. **Respondent's background:** include place of residence, current age, educational and literacy levels, exposure to mass media, computer utilization and employment status.
2. **Marriage patterns:** including age at first marriage, husband's age, consanguinity and polygamy.
3. **A short pregnancy and birth history:** women who had at least one pregnancy during the preceding five years were asked detailed questions about the outcome of each pregnancy.
4. **Reproductive morbidity:** women who reported at least one pregnancy in the preceding five years were asked about reproductive morbidities.
5. **Domestic violence:** currently married women were asked privately, whether they were subjected to physical, emotional or verbal abuses.
6. **Adult mortality:** Information on the survival status, current age, age at death and timing of death of all respondents' siblings were collected using the sibling history module developed by Demographic and Health Surveys (DHS).

7. **Haemoglobin:** a HemoCue® was used to measure haemoglobin level among all consented respondents.

Additional materials that were required to use with the above questionnaires included:

- A Kish Table to select adult respondents for conducting the SRQ and the Component International Diagnostic Interview(CIDI);
- A literacy card used to assess the reading standards of women's respondents with no or low level of formal education.

Training and pilot testing

- **Training of trainers:** Central and local supervisors representing all governorates, were trained in Amman, Jordan on the questionnaires during 29 April- 19 May 2006.
- **Training of field workers:** 18 separate training workshops were conducted in each governorate, each lasted one week. A refresher training was conducted a day before the start of the survey fieldwork.
- **Training of data entry supervisors:** A training workshop was held in Amman for the survey data managers during the period 3-13 July 2006 on data management using the software CPro (Census and Survey Processing System), a software for entering, editing, tabulating, and disseminating data from censuses and surveys.
- **Training for data entry personnel:** Two training workshops for the data entry clerks for two weeks were conducted in Baghdad during August 2006 for the South/Centre region and in Erbil during December 2006 for the Kurdistan region.
- **Training of central editors:** A one-week training course was conducted on checking the questionnaire's responses and cluster tracking forms for completeness and consistency in Baghdad during August 2006 for South/Centre and in Erbil during December 2006 for Kurdistan region.

After the interviewer's training, a pilot test was conducted in all governorates in order to assess the survey instruments and the implementation of the fieldwork. This included an assessment of the interviewers' performance, an assessment of the responses obtained, verification of the quality of the questions and the length of each interview. The performance of the supervisors and the editors was also gauged.

Survey implementation

The implementation of the survey was staggered in different regions. In all South/Centre governorates except Anbar governorate, fieldwork began on the 1st of August 2006, and completed on the 8th of September 2006. The fieldwork in Anbar governorate was delayed until the 1st of October 2006, due to the security problems, and was completed on the 17th of November 2006. In Kurdistan region, the survey began on the 1st of February 2007 and completed on the 11th of March 2007.

Throughout the fieldwork, interviewers were closely supervised by the field, local and central supervisors. Supervisors helped in solving any technical or field problems encountered. Central supervisors were based in each governorate throughout the implementation phase and monitored the quality of the completed questionnaires on a daily basis. Members of the steering committee also monitored the survey implementation through field visits to all governorates.

Data processing

After each field team had completed an interview, a series of checks were made for consistency and correctness of the questionnaires. These checks were made at all levels by interviewers, field supervisor, local supervisor and central supervisors. Questionnaires were returned to the field for verifications if errors were found.

Each week, checked and completed questionnaires of each cluster were sent to the MoH in Baghdad from South/Centre governorates for final checks and editing, while in Kurdistan the final checks and editing were done at each of the 3 governorates. The editors also reviewed all survey monitoring forms and returned any questionnaire or forms that were incorrect to the respective governorate. Open-ended questions were coded by the editors. The questionnaires were then forwarded to the data entry team. Data entry began while the interviewing teams were still in the field. The data were entered into computers using the CPro. All questionnaires were independently entered by two different data entry clerks. A comparison of the results from both entries was conducted by external data programmers to check for accuracy.

Response rate (sample coverage)

Out of the 1086 selected clusters, 115 (10.6%) were not visited due to insecurity these clusters were from (Anbar 61.7%, Nineveh 10.4%, Baghdad 26.9% and Wasit 0.8%). The final dispositions of the questionnaires in the visited 971 clusters are presented in Table 1. The household questionnaires were completed in 9345 households out of 9710 (98.2%), which is very comparable with the MICS3 response rate of 98.6% (COSIT and UNICEF 2007). The reasons for non response were as follows: 0.7% were absent for an extended period of time, 1.1% of households were vacant dwellings and 0.4% of households refused to participate in the survey.

Among households with completed interview, there were 14,933 women who were eligible (aged 15-49 years at the time of the survey) for the women questionnaire. Out of these women, 14,675 were successfully interviewed, which gives a response rate of 98.3%. The majority of non-respondents were not at home, and only 0.4% refused to complete or partially completed the questionnaire. Coupled with the response from the households, the overall response rate for the woman's questionnaire for the selected household was 96.5%.

The crude response rate for the SRQ was 99.0% and the adjusted overall response rate is 95.6%. Of those who did not respond to the SRQ, 0.2% were absent, 0.1% refused and 0.3% were unable to answer (Table 1).

III. Results

Household Characteristics

A socio demographic profile of the household sample covered by IFHS 2006/7 is presented in this section.

In Table 2 The household head is female in 10.2% of households. There are a larger proportion of households headed by females in urban areas (11.4%) than in rural areas (7.7%) and is also higher in Kurdistan (14.0%) than in the South/Centre (9.5%).

There are on average 6.4 persons per household, and the level does not vary greatly by region. Rural households have slightly more residents than urban households, with 6.9 and 6.2 persons per household respectively. There are fewer people per household in Kurdistan (5.8 persons) than in the South/centre region (6.5 persons). Just over quarter (27.6%) of all households have four or fewer residents, while 15.9% have 10 or more.

The population pyramid (Figure 1) depicts the age-sex distribution of the household population for all Iraq with their current marital status. The age distribution of the population in Iraq is typical of population of high fertility. The population is young as more than half are below age 20 years and about 5% are 60 years or older. The sex ratio is balanced at the younger age group, however, there is a severe male deficit in the age groups 40-54 years, specially in the age group 50-54. The age-specific marital status shows that women marry younger than men, but at the age 35 and above the proportion of married men is similar to that of women.

Education

In line with other recent surveys, Table 3 shows a slight increase in non-attendance between the 20-24 and 15-19 cohorts, increasing from 9.5% to 9.8% respectively. However, school attendance for the 10-14 cohort has improved, with only 7.8% of this group indicating non-attendance at school. The high proportion of non-attendance among 5-9 years (38.7%) reflects the fact that the school starting age is 7. This may also indicate that children are being enrolled late for school, a finding that was also obtained in the 2006 MICS-3. Rates of non-attendance increase as age increases, with only 45.7% of the oldest age group (50 or older) having attended school.

The table also clearly shows the gender disparity in access to education. The percentage of females who have not attended school is approximately twice as high as the percentage for males (26.8% and 14.6% respectively). Only 28.6% of women have completed intermediate school, in comparison to 42.1% of males. At secondary school, the gap widens even further, with 13.7% of women completing this level compared to 21.9% of men.

Table 3 also shows that one fifth of the individuals never attended school (20.6%). There are differentials between the urban and rural respondents, with over one quarter of the study population living in rural areas having no education compared to only 16.5% of urban residence. Differences are particularly marked at the highest educational levels. More than one quarter of the study population in Kurdistan never attended school, while in South/Centre region; only 19.9% never attended school.

Marital status among households

Overall about half of women and men (aged 12 or more) are currently married (52.5% and 50.7% respectively) as shown in Table 4. The legal age of marriage in Iraq is 18, although a number of individuals in the 12-14 age group are stated to already be married. In the whole country 9.8% of women are formerly married, compared with only 0.8% of men. The overall percentage of women formerly married does not differ greatly between the South/Centre region (9.9%) and Kurdistan (9.4%).

Overall, 33.6% of men and 22.4% of women aged 18 years or more have never been married. However this hides some regional differences, with much higher percentages of males and females in Kurdistan who have never been married. Also in Kurdistan there is an older age at marriage than in the South/Centre region. 64.8% of females in the 20-24 age group have never been married in Kurdistan, while only 42.4% of females in the same age group have never been married in the South/Centre region.

Housing characteristics

It is observed from Table 5 that the great majority of houses are free-standing structures (94.5%). Furthermore, 81.5% of households own or partly own their houses. The proportion of rented accommodation is higher in urban areas (19.6%). Only a very small number (1.2%) of houses are made from temporary materials (hut, sheet, tent, tin hut or caravan).

The majority of dwellings have either cement or tile floors (43.1% and 46.6% respectively). In rural areas there are 21.1% of households which have sand, clay, earth or stone flooring. Three-quarters of the houses do not keep animals or birds in the dwelling, although the percentage in rural areas is much higher. Almost 60% of those in rural areas kept animals either inside or outside the house.

The results from the IFHS showed that the mean number of rooms per household is 3.3, with the largest houses found in the South/Centre region with an average of 3.4 rooms per house. Regarding the mean number of persons per room it is clear that the average Iraqi household is overcrowded according to the UN definition (three or more persons per room). This is the situation in all regions of Iraq. Overcrowding is particularly prevalent in rural areas, where the average number of persons per room is 3.8.

Smoking

Smoking is one of the most readily preventable risk factors for morbidity and mortality. The diseases that tobacco use is related to, such as cancer, respiratory disease and cardiovascular disease, are increasing in prevalence in developing countries. Women of reproductive age face additional adverse consequences of smoking. Those who smoke during pregnancy are more likely to have adverse birth outcomes.

Table 6 presents the results related to smoking habits, by age, sex, place of residence, region and education. In total 14.8% of the household members currently smoke and a further 3.4% have smoked at some point in the past.

Many more men than women smoke, with 31.8% of men having ever smoked, compared to only 4.4% of women. Smoking among women is more common in the older age

groups; with 12.3% of women 65+ and 9.2% of women aged 50-64 currently smoking. Current smoking among men is greatest in the 35-49 age groups, although reporting of ever smoking increases with older age. Smoking among adolescents is rare, with only 3.8% of young men aged 12-18 reporting smoking, and 0.7% of young women. The proportion of males who currently smoke in the 19-24 age groups (20.1%) is markedly higher than the proportion in the 12-18 age group. This may reflect a possible reporting bias by the household head, which may not want to state or is unaware of the fact that 12-18 years olds are smoking.

Current smoking levels vary little by place of residence or by region, with similar levels in rural and urban areas, and between the main regions of Iraq.

Chronic illnesses

Chronic illnesses such as heart disease, strokes, cancers, respiratory diseases and diabetes are by far the leading causes of mortality in the world, causing 60% of all deaths (WHO, 2005a). Previous statistics indicate that in recent years these diseases are the leading causes of mortality in Iraq as well (MoH, MoP& WHO 2006).

Table 7 present the prevalence per 1000 persons of the most commonly reported chronic illnesses by place of residence, region, age groups and sex. Overall the most frequently reported chronic conditions by the head of the household are high blood pressure (41.5 per 1000 persons), diabetes (21.8), joint diseases (18.6), heart diseases (12.0) and gastro-intestinal disease (11.2). Most of these conditions increase in prevalence as age rises. This trend is especially noticeable for high blood pressure, diabetes, joint disease and heart diseases where the prevalence increases greatly after age 50.

High blood pressure

High blood pressure is a risk factor for several major illnesses, including heart disease and strokes. As shown in Table 7, the prevalence of high blood pressure within the households is higher in urban than in rural areas; 48.4 per 1000 people with high blood pressure in urban areas, compared with only 29.4 per 1000 in rural areas. This difference may be mirroring the actual situation in these areas, with the differences due to life styles or dietary habits. There is minimal disparity in prevalence between the main regions. It can be seen that prevalence of high blood pressure is higher among women than men.

Diabetes

Diabetes mellitus is a chronic disease which is largely irreversible. Although it can occur at any age, its onset is most frequent either among people aged below 20 or over 40.

Table 7 shows that the overall prevalence of diabetes in Iraq is 21.8 per 1000. Rates are greater in urban than rural areas (25.3 and 15.8 per 1000 respectively), and in the South/Centre than in Kurdistan (23.0 and 14.3 respectively). Prevalence of Type 1 diabetes appears low as rates among 0-4 and 5-14 year olds of diabetes are negligible. Rates of diabetes increase markedly in the 30-49 age group, assumed to indicate the onset of Type 2 diabetes. Further increases in the rates are seen after age 50, with a prevalence rate of 143.8 per 1000 persons.

Joint diseases (Arthritis)

Arthritis comprises of a variety of diseases and conditions that can dramatically reduce a person's quality of life. The pain and disability accompanying all types of arthritis can be minimized through early diagnosis and appropriate management, including weight control, physical activity, physical and occupational therapy and joint replacement where necessary.

Results presented in Table 7 show that overall 18.6 per 1000 persons have Joint diseases (Arthritis). Rates are very high among women, with 24.1 per 1000 persons recorded. Rates among men were much lower, with 13.1 per 1000 persons. No marked differences were identified between the Kurdistan and the South/Centre regions. Joint diseases are seen to be slightly more prevalent in urban than rural areas, with a rate of 19.9 per 1000 in urban areas compared with a rural rate of 16.2 per 1000 persons.

Heart disease

There are many different forms of heart diseases and it is the leading cause of death globally (WHO, 2005b).

Table 7 shows that, while the overall prevalence of cardiac disease is 12.0 per 1000 persons, rates are slightly higher in urban areas than in rural areas (13.7 and 9.2 per 1000 persons respectively). There is a dramatic increase in heart diseases after age 50, there are not, however, marked differences between the main regions of Iraq.

Gastro-intestinal diseases

Gastrointestinal diseases encompass a diverse group of conditions that have a major impact on the health and quality of life on both the sufferer and their families. Among the diseases associated with the gastro-intestinal system are chronic gastritis, peptic ulcer, irritable colon, celiac disease and ulcerative colitis.

Table 7 shows that the reported prevalence of gastrointestinal diseases is 11.2 per 1000 persons, with no great differences between rural and urban areas or between different regions of Iraq. As with other chronic conditions, prevalence increases with age, with a large increase in prevalence in the 30-49 age group when compared to the 15-29 age group. There is a small difference in rates between men and women, with a prevalence of 12.6 per 1000 for males and 9.7 per 1000 for females.

Asthma

Asthma is a chronic, often progressive disease, in which the airways become temporarily constricted. The prevalence of asthma is 8.3 per 1000 persons. Table 7 shows that although there is nearly the same prevalence between rural and urban areas, there is higher prevalence in the South/Centre region than in Kurdistan (8.6 and 6.0 per 1000 persons respectively). As with the diseases noted above, prevalence rates increase steadily with age, with the greatest number of cases reported among those over 50. There is a small difference between male and female rates 8.8 and 7.7 per 1000 respectively.

Urinary tract diseases

Urinary tract diseases are major public health problems, with enormous financial burden on the health-care system and health-care providers. Early diagnosis and proper management are vital to prevent the progression of the illness to end-stage renal disease.

Table 7 indicates that the reported prevalence of urinary tract diseases is 7.4 per 1000 persons, with high differences in the prevalence between rural (5.9 per 1000) and urban areas (8.2 per 1000). Interestingly there are marked differences between regions, with prevalence in Kurdistan of 15.9 per 1000 compared with a rate of 6.1 per 1000 in the South/Centre region. As with other chronic conditions, prevalence increases with age.

Characteristics of women's respondents

In total 14,675 women were successfully interviewed; women aged 15-49 who were usual residents or had been visiting the household for at least the 15 days prior to the interviewer's visit were interviewed; information is presented on a number of basic characteristics of the respondents including age, residence, region and marital status.

Background characteristics

The age distribution in Table 8 clearly displays the youthful age structure seen in the population sample. 57.7% of the women interviewed are aged between 15 and 29 years old, while the remaining 42.3% are aged between 30 and 49 years. A large proportion of the sample resides in the South/Centre of Iraq (86.2%), while (13.8%) is observed in Kurdistan. Two thirds of women live in urban areas. Among the women in the sample, 59.9% are currently married, 2.4% widowed, 1.5% divorced and 0.4% separated.

Women's education and literacy

The educational level of those who responded to the women's questionnaire is shown in Table 8. This indicates that 17.3% of Iraqi women aged 15 to 49 have had no education. The remainder of the women attended at least primary school, with 42.5% attending at least intermediate school, 22.5% attending at least secondary education and 11.7% attending higher education

Table 8 also shows women's literacy levels. Overall, 65.7% of women aged between 15 and 49 in the survey are literate. 12.0% are partially literate, while 22.0% cannot read at all. The percentage of illiterate women is higher than the percentage of women who do not attend school. This may reflect the poor quality of education at the primary level.

Employment of women

Table 8 indicates that a very high percentage (86.7%) of interviewed women is not currently working. This is comparable to the figure of 89.8% reported in MICS-III (COSIT and UNICEF, 2007). The highest proportion (4.8%) work in agriculture, handicrafts or street sales, while 4.4% work in professional, technical or managerial positions.

Marital status among women respondents

Table 9 displays marital status by selected background variables. As age increases the proportion of women who are married, widowed or divorced/separated also rises, as expected. In the 15-19 age group there are 18.8% of women who are already married. There are a higher percentage of single women in Kurdistan (44.2%) than in the rest of the country (34.5%). Education is closely related to marital status, with the proportion of single women increasing as the educational level rises. Interestingly, the proportion of widowed women falls as education increases, from 5.6% for women without education to 1.1% for those with a university education.

Age at first marriage is shown in Table 10. The percentages of women who are married by specific ages by various characteristics. 9.4% married by age 15, 26.8% married by age 18 and 55.6% by the age of 25. The overall figures do hide some interesting trends, however. The percentage of ever married women who were married by age 18 is falling over the different age cohorts. For the 45-49 age group 39.3% were married by age 18, while in the 20-24 age group this had fallen to 24.9%. The percentage married at the different ages is also highly related to educational level in the expected way, with higher educated women having a later age at first marriage.

Table 10 also presents data on consanguinity, a traditional marriage practice in the Middle East. The percentage of women who are related to their husband is higher than the percentages who are unrelated (60.5% and 39.4% respectively). In comparison to the results of the 1999 Iraq Child and Maternal Mortality Survey (MoH, 2005), the results indicate that levels of consanguinity have increased over the past 7 years. In the ICMMS only 52.9% of women were related to their husband.

A total of 12.3% of women have a co-wife. As with consanguinity, levels of polygamy are higher among those with less education and become more common in older age groups. 26.1% of women aged 45-49 have a co-wife, compared to only 4.8% of those aged 20-24.

Maternal and Reproductive Health

The information on maternal and reproductive health coupled with women's general health status and maternal mortality is useful in formulating programmes and policies to improve maternal and reproductive health services, as well as for long-term health systems planning.

Gravidity and parity

The data in Table 11 show that 92% of ever married women have been pregnant at some point in their lives. This varies little by place of residence, region or educational level. The proportion of women who have been pregnant increases with age, as expected. Of young women aged 15-19 years, 72.7% have been pregnant. This proportion increases rapidly in older age groups, until in the 45-49 age group, the women at the end of their reproductive years, 98.4% have ever been pregnant.

A lower percentage of women have had live births than pregnancies in every age group. However, in the younger cohorts the difference between gravidity and parity is large. 52.5% of young women (aged 15-19) have ever had live births. This is markedly lower

than the numbers who have ever been pregnant (72.7%). This may indicate a high level of pregnancy loss among young women. Overall, out of every 100 pregnancies, 86.9 ended in a live birth.

It is noticeable that a relatively low percentage of divorced or separated women have ever been pregnant (70.1%), or have ever had a live birth (64.7%), compared to the average over all women. Consequently, nulliparity among these women is very high (29.9%). Considering the high fertility norms in Iraqi society, this may indicate a high level of divorce or separation precipitated by infertility.

Data on the number of children ever born shown in Table 11 reflect the accumulation of births over the past 30 years and therefore have limited relevance to current fertility levels, especially as Iraq has experienced a decline in fertility (COSIT 2007). Nevertheless, information on children ever born (or parity) is useful in looking at how average family size varies across age groups.

On average, by the end of their reproductive years (those in the age group 45-49), Iraqi women have attained a parity of 6.38. Parity decreases with descending age group, as women in younger years have not yet completed their childbearing. The mean number of children ever born is higher in rural areas than urban, with rural mothers having on average 4.04 children, as compared to those in urban areas who have 3.39. Within the different regions the mean number of children is greater in Kurdistan (4.17 children) than in South/Centre (3.54 children).

The mean number of children ever born is markedly higher among women with no education (5.24 children) than it is among women who have had primary education (3.44 children). This reflects the strong influence that education has on fertility. Women with higher education have the lowest mean number of children ever born. The mean number of children born dead increases with age cohort, reflecting increased parity, which is associated with poorer birth outcomes. This may also indicate declining levels of foetal loss in younger age groups.

Pregnancy outcome

The loss of a child at any stage of a pregnancy is a devastating event for both the women and her family. Despite the magnitude of the problem, data on pregnancy loss at a country level in Iraq is scarce. Two different types of pregnancy loss can be identified. If a foetal death occurs before 24 weeks gestation, either spontaneously or induced, the death is termed miscarriage and abortion. If death occurs after 24 weeks but before the birth, then the death is termed a stillbirth. It is estimated that the number of stillbirths in the world is 3.2 million per year (Stanton et al., 2006). Infants are not treated as a pregnancy loss if they were breathing or showing any sign of life at the time of birth, even if they died soon afterwards.

Table 12 shows that the women in the survey had 11,063 pregnancies in the 5 years prior to the survey. 9.7 pregnancies per 100 ended before the sixth month, while out of the pregnancies which reached a viable term (6 months or more), 0.8 out of every 100 were stillbirths. Overall, the number of pregnancies which did not result in a live birth was 10.9 out of every 100.

Pregnancy loss is higher for younger and older mothers. Per 100 pregnancies, 17.7 end in a foetal death in the 15-19 age group, while 25.1 per 100 end in a similar way in the 45-49 age group. The age group with the lowest level of pregnancy loss is the 25-29 age group, where only 8.7 out of every 100 pregnancies do not end with a live birth. Interestingly, these differentials are due to differences in abortion and miscarriages. Differences in stillbirth rates are minimal, although the 40-44 age group does have a slightly higher rate than that seen in other age groups (1.7 per 100 pregnancy).

Pregnancy loss is higher in urban areas and in South/Centre than in rural areas and Kurdistan region. Again, this is mainly due to differentials in the rate of loss before 6 months, and not due to differentials in stillbirth rates. A final interesting point is the relationship between pregnancy loss and education. Loss actually increases as educational level rises. Women with no education lose 9.2 per 100 pregnancies, while women with a secondary or higher education have a rate of pregnancy loss of 14.5 per 100 pregnancies.

Place of Birth

The utilization of health care, whether it is public or private, formal or non-formal, may depend on many factors. These include socio-demographic aspects, social structures, the level of education, cultural beliefs and practices, gender discrimination, the status of women, economic and political systems, environmental conditions and the disease pattern and health care system itself. A main driver for health seeking behaviour is the organization of the health care system (Baber T. Shaikh and Hatcher, 2004).

Women were asked about the place of birth or abortion/Miscarriage. Table 13 shows that 64.1% of women delivered at hospital in comparison to 34.3% at home. Hospital deliveries are higher in urban than in rural areas (70.0% and 55.1% respectively). The level of education influences the place of delivery. Home deliveries is higher among women with no education (46.8%) in comparison to hospital deliveries those women with secondary and higher level of education (76.6%). Hospital deliveries are much higher in the younger age group 15-19 with 79.0% and the rate decreases with higher age group (45-49) where home deliveries are more.

Table 13 shows that 58.3% of women with abortion or miscarriage seek care at hospitals and only 35.3% receive care at home with only 5.3% at health centres and private clinics. Women in urban areas seek care at hospitals during abortion or miscarriages. Higher rates of abortion /miscarriage received care at hospitals in Kurdistan region (66.0%) than South/Centre (57.6%).

Skilled attendance during delivery

Hygienic conditions and proper medical assistance during delivery can reduce the risk of complications and infection for both the mother and the child.

Table 14 shows that 79.7% of women were delivered by skilled attendants (doctor, Midwife or nurse) and 18.4% by traditional birth attendants (TBA's). More deliveries were attended by skilled personnel in urban than rural (85.5% and 70.5% respectively) Deliveries among the age group 45-49 are attended mainly by doctors 44.8%, and only 27.9% of deliveries among the same age group were attended by a midwife or a nurse. Noticeable differences were shown by regions. For Kurdistan, most deliveries are

attended by doctors. Deliveries among women with secondary and higher education are attended more by doctors 55.3% compared to 36.0% by midwives and nurses. These results are comparable with MICS-III which showed that 88.5% of deliveries were attended by skilled personnel with skilled attendance at 95.0% of births in urban areas, while in rural areas the skilled attendance percentage was 78.1%.

Women's Knowledge of HIV/AIDS and STIs

Women were asked if they had ever heard of an illness called AIDS, if they had heard of any other infections transmitted through sexual contact and if they have heard specifically about syphilis or gonorrhoea. Table 15 presents the responses to these questions.

Overall, 57.4% of the women answered that they have heard about AIDS. A higher percentage of divorced or separated women recalled the illness (65.5%) than the other marital groups, while only 46.1% of widowed women said that they had heard of it. The age profile indicates that those in the youngest age group know least about the illness, with only 50.4% having heard of it. The percentage increases to about 60% for the age group 20-39, and then falls again for the oldest age groups.

Women in urban areas are twice as likely as women in rural areas to have heard about the disease (66.9% and 38.5% respectively). At regional level there are no much difference ,while there is a large education gradient, with the higher the education the higher the percentage of women who have heard about AIDS. 96.0% of those who went to higher education had heard of AIDS, while only 21.8% of women with no education admitted to hearing about it.

Only 17.1% of women said that they had heard of any other infections that could be transmitted through sexual contact. Only small differences in this figure are observed by marital status or age group. Again, however, more women living in urban areas are aware of other diseases than women living in rural areas (21.2% and 8.9% respectively). Women in South/Centre are the most informed about these infections, although only 18.5% have heard of them. Women from Kurdistan are much less informed, with only 8.5% knowing about other diseases. Finally, education has the expected effect on knowledge, with a greater proportion of higher educated women knowing about other infections. However, only 53.2% of women with a university education have heard about these diseases.

The questionnaire asked specifically about syphilis or gonorrhoea, and whether the women had heard about them. Only 17.7% of women answered positively that they knew either one or the other infection. A higher proportion of divorced or separated women had heard of the illnesses than currently married, single or widowed women. Knowledge differentials are also noticeable between the different age groups. The pattern seen is the same as for the question regarding whether they have heard of AIDS, described above. Women in the youngest age group were least likely to know about the diseases than older women. Again the least knowledgeable women regarding syphilis or gonorrhoea live in Kurdistan, with only 4.7% having heard of either of them; while in South/Centre 19.7% knew about the diseases. In general, from these results it can be concluded that knowledge of specific STIs diseases is generally very low among women in reproductive age among the studied population.

Women's Knowledge of STI symptoms

Knowledge of both male and female STI symptoms is important in order that individuals can seek treatment for infection and to reduce the number of people with the different infections. Raising awareness of STI symptoms in the community is an important step in the prevention of these diseases. Respondents were asked to list the symptoms of a sexually transmitted disease for both men and women separately. Table 16 shows the results of male symptoms, while Table 17 is regarding female symptoms. The percentage of women who stated each of the symptoms is noted. Women could list as many symptoms as they like.

The two tables show extremely similar results. 47.6% and 48.1% of women either didn't know any symptoms or said that there are no symptoms for male and female STI respectively. For both genders the symptom which was mentioned by most respondents was genital discharge/dripping, with just under 30% of women stating this for both males and females. Other symptoms which are mentioned by over 10% of women are abdominal pain, a burning pain while urinating, foul discharge, genital itching and a loss of weight.

Differences by background characteristics are minimal. However, the youngest age group knew the least symptoms. Women in Kurdistan were more likely to state that they didn't know any symptoms than those in South/Centre, while education had a large effect. Lower educated women reported that they knew fewer symptoms than those who had been to secondary or higher education. All of these results highlight the profound knowledge gap among women regarding STIs.

Self-reported STI symptoms

Sexually transmitted infections are a major public health problem. During the last decade both the number of STIs has increased and the infections have become far more complex in aetiology. Women bear disproportionate consequences from gonorrhoea and Chlamydia infections because of the risk of pelvic inflammatory disease, which often leads to such adverse sequelae as infertility and ectopic pregnancy.

All women were asked if they had symptoms of an STI during the past 12 months. Respondents were specifically asked to report on a list of seven symptoms of STIs, including itching or irritation in the vaginal area with discharge, a genital sore or ulcer, a bad odour discharge, lower abdominal pain with discharge, fever with discharge, pain and burning while urinating and more frequent or difficult urination.

Table 18 shows that the higher reported symptom is pain and burning while urinating 31.1%, itching or irritation in the vaginal area with discharge 30.6%, then lower abdominal pain with discharge 23.3%, the other recorded symptoms are of lowest degree. Single women have the lowest rates of all symptoms in comparison with currently married and formerly married women, while the currently married has the highest rates of all symptoms. In general the rates increased with increasing age and there is no much difference by place of residence.

Anaemia

Anaemia is a widespread public health problem with major consequences for human health as well as social and economic development. For women of childbearing age, anaemia is defined as a haemoglobin concentration below 12g/dl. For pregnant and lactating women this level is 11 g/dl (WHO, 1972).

The 2006/07 IFHS included direct measurement of haemoglobin levels among all women of reproductive age. For haemoglobin testing the HemoCue haemoglobin system was used. All women age 15-49 were asked to consent for the haemoglobin testing for anaemia. Overall, 90.6% consented to the test (table not shown).

Prevalence of anaemia among all women

Table 19 shows that the mean haemoglobin level among women not currently pregnant or lactating is 12.2 g/dl.

There is negligible variation by age groups or place of residence. Women in Kurdistan have a higher mean level than in the South/Centre, with Kurdistan having a level of 12.7g/dl, while in the rest of the country the mean level is 12.1g/dl.

The prevalence of anaemia is 35.5 % among this group. Anaemia levels are above 40% for those aged 40-49, while those aged 15-19 have a prevalence of 34.9 %. However, the main difference in anaemia levels is between regions. In South/Centre the percentage of women with anaemia is 38.0 %, while in Kurdistan is much lower, with only 21.9% having anaemia.

Prevalence of anaemia among currently pregnant and lactating women

The level of anaemia in women who were currently pregnant or breastfeeding is displayed in Table 19. The total prevalence of anaemia in currently pregnant women is 37.9%. The mean haemoglobin level is 11.3g/dl. There is higher prevalence of anaemia among the younger age group of 15-19 and 25-29 cohort, with 40.7% and 42.9% respectively. Women in rural areas have higher prevalence of anaemia 40.8% than women in urban areas 36.0%. Anaemia in the south/centre region 38.2% is higher than in Kurdistan region 34.1 %.

Anaemia among currently breastfeeding mothers were 25.8%, the mean haemoglobin level is 11.7g/dl, women in the age group of 40-49 have the highest prevalence of anaemia, in Kurdistan region there is the lowest prevalence of anaemia in the country 15.1%, while in the south/centre region, the highest prevalence of anaemia is found.

Domestic Violence

In recent years there has been an increasing concern about violence against women in general and domestic violence in particular, in both developed and developing countries (WHO, 2002). Not only has domestic violence against women been acknowledged worldwide as a violation of the basic human rights of women, but an increasing amount of research highlights the health burdens, intergenerational effects, and demographic consequences of such violence (Garcia-Moreno et al., 2005).

Collection of data on domestic violence is challenging due to a culture of silence that surrounds the topic. Asking about violence, especially in households where the

perpetrator may be present at the time of interview, also carries the risk of further violence. The IFHS therefore adhered to rigorous ethical and safety standards related to the investigation of domestic violence.

It was possible to obtain privacy in 95.6% of the interviews conducted. In the remaining 4.4% of the interviews privacy could not be secured (Table not shown).

These results document the prevalence of different forms of domestic violence, estimated from responses given by currently married women aged 15-49. The types of violence discussed include physical and emotional violence by a spouse and violence during pregnancy.

Controlling Behaviour

Married women were first asked general questions about the nature of their relationship with their husband, including questions regarding how frequently he spends time with her, whether he consults her on household matters, whether he is affectionate, and whether he respects her wishes. They were then asked a series of questions on their husbands controlling behaviour, including items about meeting friends, jealousy and trust with money.

Table 20 displays the results of controlling behaviour by husbands. It shows that 83.1% of women report at least one form of marital control. Highly prevalent controlling behaviours are a husband being jealous or angry (51.0%), a husband insisting on knowing where the woman is at all times (63.3%) and insisting on the woman asking his permission to seek health care (66.9%). Other controlling behaviours are less common, with about 15% of women reporting that their husband limits contact with friends, with family or does not trust the women with money. Regional variations are important, with lower reported controlling behaviour in Kurdistan than in the South/Centre. Marital control over knowing the whereabouts of the woman, allowance to seek health care and levels of jealousy are much lower in Kurdistan (36.0%, 39.9% and 20.4% respectively) than in the South/Centre (67.2%, 70.8% and 55.3% respectively). Conversely, women in Kurdistan experience higher spousal control than those in the South/Centre region regarding seeing family and over trust with money.

Younger women are the most likely to be restricted on most of the measures of control. This decreases steadily with age. For example, 74.5% of those aged 15-24 report having to ask permission to seek health care, compared to 60.3% of those aged 40-49. Education does not have a large effect on control, and differences by rural and urban residence are minimal. However it is notable that more women in rural areas report having to ask permission to attend a health facility (72.4%) than urban women (64.1%).

Emotional Violence

Women were also asked about emotional violence, measured by humiliation by the husband in front of others, insulting behaviour and threats of divorce, amongst other questions.

Table 20 shows the percentage of currently married women experiencing emotional (or psychological) violence. In total 33.4% of women report at least one form of emotional violence. The acts of emotional violence reported by the greatest number of women are belittling or insulting her (22.3%), humiliating her in front of others (21.7%), and scaring or intimidating her (18.3%). The youngest age group report the lowest levels of emotional violence, with 29.2% of 15 to 24 year olds reporting at least one act of emotional violence. The age group with the highest percentage of women who report some emotional violence is the oldest age group, with 36.8% reporting at least one act.

Much lower levels of emotional violence are found in Kurdistan than in South/Centre. 17.6% of currently married women reporting any act in Kurdistan, while 35.7% report any act in the South/Centre of the country. This pattern between the regions is replicated across all the questions. Women with a higher educational level are least likely to experience an emotionally violent act, although differences among the educational levels are small.

Physical Violence

The women were asked to report on a series of physically violent acts, and how often these had occurred during the previous 12 months.

The percentage of wives who suffer from physical violence is presented in Table 20. Overall, 21.2% of women experience physical violence. There are few differences in the percentage by age, education or residence, although there are marked differences between Kurdistan and the South/Centre. 22.7% of women report at least one form of physical abuse in the South/Centre in contrast with less than half of this percentage, 10.9%, in Kurdistan.

Mental health status

In each household, one adult (aged 18 or over, male or female) was randomly selected to complete a self-reporting questionnaire (SRQ) to assess their mental health status. Respondents were asked 20 questions on specific health events in the last 30 days.

Table 21 presents the percentage of positive answers to each of the items on the SRQ and the mental health score by region, sex and age group. It shows that over half of the respondents had felt nervous, tense or worried in the previous 30 days. A large proportion of the respondents also indicate that they are easily tired, often have headaches and also feel tired all the time. 3.5% of respondents stated that they had thought of ending their own life, while 7.8% had thought that they were a worthless person at some point in the month before the survey.

There are differences by region. For the items on the SRQ which were most prevalent, the South/Centre has a higher proportion of positive answers than Kurdistan. However, the situation is reversed for the items that fewer people agreed with. For example, in the

South/Central region 16.7% agrees with the statement that they cry more than usual. In Kurdistan the percentage of people who agree with this statement is 22.1%.

The percentage of females who agree with each statement is almost always higher than the percentage of males who agree. In some cases this difference is extreme. For example, only 17.8% of men said that they are easily frightened, in contrast to 37.0% of females. There are also differences by age, with the oldest age group (50 years and older) having a higher agreement percentage for each of the questions.

Overall 35.5% of the respondents had a mental health score of 7 or more. This population can be considered as having significant psychological distress and "potential psychiatric cases. There is a gender difference with regard to the SRQ score, with females scoring higher than males. 40.4% of females scored 7 or more on the SRQ, compared to 30.4% of males. Score was also higher as age group increased. Indeed, almost a half (49.9%) of 50 and older individuals are in this category, compared with 35.1% of 30-49 year olds and 27.3% of 18-29 year olds. There is a negligible difference between the scores by region.

Household Health expenditure

The head of the household was asked about all health expenditures during the previous 30 days that required out-of-pocket payments. These included all types of health-related expenses incurred at the time the household received the service, such as consultation fees, the purchase of medications and hospital bills, amongst other types of spending.

In Table 22 average household spending on health in the last 30 days before the interview was 60,000 ID (US\$46) which was 13.2 percent of household monthly expenditure, and 24.6 percent of household capacity to pay. Out of pocket health payment is higher in urban areas than in rural residences, with 65,000 ID (US\$ 50) spent in urban areas, compared with 49,000ID (US\$38) in rural areas. In Kurdistan the average household spending on health was 93,000 ID (US\$72) which was 14.8 percent of household monthly expenditure and 21.5 percent of household capacity to pay, the highest health payment per month 130,000ID(US\$100) was in Kurdistan urban region. In the South-Centre average household spending on health was 54,000 ID which was 13 percent of household monthly expenditure and 24.9 percent of household capacity to pay. Health payment in the South-Centre rural areas is 48,000ID (US\$37), which is as half as that paid by Kurdistan urban residents and is the lowest health payment incurred in all Iraq.

Large differences are seen in expenditure between poor and non-poor households. non-poor households spent more on health services in absolute terms, Poor households only spend 18,000 ID (US\$14) on healthcare, while non-poor spend, on average, 72,000 ID (US\$55); However compared to their capacity to pay non-poor households spent 23.8 percent compared to 27.5 percent for poor households.

Impoverishment occurs when a household becomes poor due to a health payment. This process occurred in 7.6% of all households in the survey; about 10% of the non poor will be impoverished by health payment; the poor could not be impoverished because they were already poor before health payments. More house holds in rural areas are impoverished by health payment 9.2% compared with those living in urban areas 6.8%.

In Kurdistan the non-poor spent considerably more on health services in absolute terms 101,000 ID/month (US\$78) compared to 15,000 ID/month (US\$12) for the poor; however compared to their capacity to pay there was not much difference between the two groups. In Kurdistan, rural households were more likely to face impoverishment due to health payment 8% compared to 5.9% for urban households. (Figures not shown in the table)

In the South/Centre region non-poor household spent more in absolute terms, 65,000 ID (US\$50) per month, on health services compared to 17,000 ID/month (US\$13) for poor households. However for poor households this was 28 percent of their capacity to pay compared to 24 percent for non-poor households (Figures not shown in the table). Households in rural areas were more likely to be impoverished 9.6% by health payment than those living in urban areas 7.1%.

Catastrophic expenditure

Catastrophic expenditure occurs when health payments equal or exceed 10% of a household's capacity to pay. This happened in over a fifth of the households in the survey (22.6%) as shown in table 22. The percentage of poor households that made a catastrophic health payment was higher than the non-poor (30.2% and 20.4% respectively). Households residing in rural areas were more likely to face catastrophic expenditure than those in urban areas; these types of payment were 27.7% in rural areas compared with 20.1% in urban areas. This percentage was again higher in rural areas than urban areas in the South-Centre region, while in Kurdistan region there was no difference in catastrophic health payment between the rural and urban households. (Results not shown)

Also noticed in Table 22, as mean households' expenditures increases by 10% (from 371 to 408 in local currency), share of out of pocket spending on health increases by more than four folds (7.8% to 31.9%), and share of out of pocket spending on health from non-subsistence spending by 300% (14.7% to 58.7%). This implies all households in different income groups are exposed to catastrophic health expenditure. "Rich" are not protected. More over the results indicate that catastrophic payments for health are, unfortunately, common in all the regions of Iraq. Almost one quarter of the households in the survey faced financial hardship due to health payments. As a result, many poor households may choose to not seek care rather than become impoverished (Creese and Kuznets, 1997).

Payment for Health Services

Households were asked about the financial sources that they used in order to pay for health services. Potential sources were current income, savings, selling items and borrowing money from friends, family or from elsewhere. Households could state that multiple sources were used to pay for health services. Table 23 shows that overall 86.1% of households said that their current income was used to pay for health. However, about one third 29.8% said that they had to borrow the money from relatives, friends or from other sources, while 7.6% depend on selling items and 5.5% of households used savings to pay for health services. In Kurdistan region 78.5% of households depend on current income to pay for health, and 24.9% borrowed from relatives or friends, 12.3% used savings and 5.4% depend on selling items. In the South/Centre 87.4% of households depend on current income to pay for health services, and 30.7% borrow from relatives or friends, 8% sold items and 4.4% used savings.

In all Iraq, selling items to pay for healthcare is more common in rural areas than in urban areas, with 12.2% taking this course of action in rural areas compared with 5.3% in urban areas. In Kurdistan region selling items is twice as much in rural areas 9% compared with urban areas 4.4%; in the South/Centre rural areas nearly double the percentage 12.6% of households sell items than in urban areas 5.5%.

Hospitalization increases the demands on households' finances and as a result more households are forced to borrow money to meet the expenses. As shown in table 23, if there has been a member of the household in hospital, 45.5% have borrowed money. This compares with 22.1% for households without a member being in hospital. Households in Kurdistan region are less likely to borrow to cover the expenses of hospitalization 40.4% than households in the South/Centre region 46.3%.

Structure of Out of Pocket Costs

Table 24 displays the structure of out of pocket health payments, whether they are for inpatient, outpatient, traditional or other health services. For all Iraq nearly half of the payments 46.6% were for outpatient care, while 28.1% was for inpatient care. Only 1.9% was for traditional or alternative healers. In Kurdistan region 42.6% of the health payments were for outpatient care, while 22.1% was for inpatient care. Higher percentages for inpatient and outpatient care were found in the South/Centre region (29.8% and 47.8% respectively.)

Households who made a catastrophic health payment were more likely to have had to pay for inpatient care than households who did not. Only 8.9% of households who did not make a catastrophic payment paid for inpatient care, compared with 42% of those who did make such payment. This indicates that one of the main reasons for a catastrophic payment is an inpatient stay in hospital. This trend is reversed in Kurdistan region, where inpatient care causes less catastrophic health payment by the households 29.5% than for outpatient care 36.6%. In the South/Centre region both inpatient and outpatient care causes catastrophic health payment by the households (45.8% and 39.6% respectively).

Through out the country poorer households were more likely to pay for outpatient care than inpatient care, with only 10.2% of poor households paying for inpatient care, compared with 29.4% of non-poor households. In Kurdistan region 10.8% of the households made catastrophic health payment for inpatient care compared with 10.4% in the South-Centre region.

Mortality

Mortality data were collected both at household and individual levels. At the household level, information on all deaths which occurred in the household from June 2001 to the time of the survey was gathered. The household respondents were first asked whether the household experienced any death during this period and if yes, the number of persons died was ascertained. For each deceased person, information on sex, age at death, month and year of death, place of death, whether medical attention was sought prior to death and the main cause of death were collected. The survey instrument used a list of 23 probable causes of death and provided an option for other causes that were not captured in the list. No probing by the interviewer was used to identify the cause of death. This information will allow the estimation of over all and cause-specific mortality rates by age and sex and for different time periods.

At the individual level, data on both childhood and adult mortality were collected
Childhood mortality: questions about the overall number of children ever born, living, and dead, which yield the proportion, who have died at the time of the survey, were asked to all ever-married women. This information coupled with the age of the mother, and some measures of shape of the fertility and suitable model life table, the age at death and the time location of the estimate can be inferred. It is important to remember, however, that these estimates are rough averages, for each age group of mothers; the children will have been born over a wide time interval and died over a wide range of ages. Thus the indirect estimates cannot be expected to pick any sudden upsurge or sharp drop in mortality. Also indirect mortality estimates for younger women are known to be upwardly biased, and usually ignored.

A short truncated pregnancy history module was administered to all ever-married women aged 15-49 who had at least one pregnancy since June 2001. Information on pregnancy outcome, current survival status, sex and date of birth of live birth, gestation age of pregnancies that ended in non live birth, and place and personnel assisted with delivery or birth or abortion were collected. Also a question was asked on whether the abortion was assisted or not to distinguish between spontaneous and induced abortion.

Sibling history module was administered to all women aged 15-49 with independent-sibship to collect data on adult mortality including maternal. Each respondent was first asked to give the total number of her mother's live births, the number born before and after her. Then the respondent was asked to provide information on all children born to her mother, starting with the first born, and whether or not each of her siblings was still alive at the time of the survey. For each living sibling, information on current age was collected; for deceased siblings, age at death and year of death or years since death were collected. In order to determine if the death was maternity-related the respondent was asked about sisters who died at the age of 12 years or older and were married at the time of death, "Was [Name of sister] pregnant when she died?" and if not "Did [name] die during childbirth?" If death was neither during pregnancy nor during childbirth, another question was asked: "Did [name] die during six weeks after termination of pregnancy or childbirth?" To ascertain whether the death was pregnancy-related or not for those sisters who died during pregnancy, another question was asked: "Did [name] die because of pregnancy or childbirth complications".

Childhood mortality-indirect

Indirect estimates of infant and under-five year mortality rates per 1,000 live birth (1q0, and 5q0) using the "the West-model life table", are presented in Table 25, for all Iraq and

by region. Ignoring the first row, the table gives mortality rates for a 12-year period (1993-2005). For all Iraq, mortality rates were higher at the beginning of the analysis period and started to decline, until around the year 2002, and then started to increase again to levels closer to the mid-1990s. This declining pattern is observed in both regions. Mortality levels are higher in Kurdistan than in South/centre region. The rising trend of mortality post 2002 continued in the south centre region but drop again in Kurdistan as shown in table 25.

Early childhood mortality-direct

The 5-years truncated pregnancy history allows the calculation of direct early childhood (neonatal, post-neonatal and infant) mortality rates per 1,000 live births for the period 2003-2005. However, due to incomplete exposure, the under five mortality can not be calculated. Therefore, the results of these three childhood indices are presented in Table 26. The results of this short 3-years period have confirmed the rising trend of mortality post 2002 which was observed in the indirect rates discussed above. The drop in mortality rates in 2004 and a rise again in 2005 could be a genuine phenomena, as situation seemed to improve around 2004 and tend to get worse towards the end of 2004 and thereafter. As both results show, infant mortality rates in Kurdistan tends to be higher than in south centre until 2003, however, in 2005 the situation have been reversed, with infant mortality stand around 44 per 1,000 live birth in south/centre and 26 per 1,000 for Kurdistan compared to 32 and 45 in 2003.

Adult mortality

Age and sex specific adult mortality rates for the last 15 years before the survey, overall and by five years period are presented in Table 27. The results show that, the overall adult male mortality rates during this period had more than doubled from 1.23 to 2.7 per 1,000 person years, while the corresponding figures for females had slightly increased (30%). During the last 5 years, males aged 15 -49 experienced high mortality rates than females in the same age group with nearly a 3-folds increase (2.70 vs. 0.96 per 1,000 person years). These disproportionate male-female rates could be attributed to the current security situation in Iraq which prevailed after the 2003 war.

For both sexes, mortality rates increased with age. The period and age specific mortality rates showed an interesting pattern, during the period 10-14 years. The age specific rates tend to be higher among males than females, during the next period (5-9), the rates are broadly similar, and in the most recent period (0-4) rates are excessively higher among males.

Maternal Mortality

Maternal mortality indices {rate, ratio, and proportion maternal death among female adult death (PMD)}, for the last 15 years preceding the survey are presented in Table 28. There are only 42 maternal deaths reported during this period by the sampled women. This figure amount to a maternal mortality rate of 0.12 per 1,000 woman-years. With estimated general fertility rates of 0.137 per woman, this give rise to a maternal mortality ratio of 84 per 100,000 live births. Maternal mortality ratio during the last 5 years estimated to be 47 per 100,000 live births, a level that is similar to most Iraq neighbouring countries. For the same time period (i.e. 0-4), one in every 15 adult female death could be attributed to maternal deaths.

Household mortality

Table 29 shows that the overall crude household mortality rates, for all Iraq, by regions. The mortality rates were also presented by violence or non-violence-related causes. The average overall crude mortality rates for all Iraq is 4.97 per 1,000 person years. The estimated rate for the South/Centre region is 50% higher than for Kurdistan region (5.21 and 3.43 per 1,000 person years, respectively).

Violence contributed one death to every eight deaths, and was mainly reported in South/centre (0.70 and 0.05 per 1,000 person years respectively) with 14 folds difference between the two regions.

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