

JOURNAL OF THE FACULTY OF MEDICINE BAGHDAD

CONTENTS

Basic Research

- ☆ The effect of digoxin on aspirin absorption H. Al-Juburi and B. Al-Jalil 341

Clinical Investigation and Case Report

- ☆ Pipenzepine versus cimetidine in the treatment of chronic duodenal ulcer. S. Matloub, F. Jawad and Z. Kassir. 347
- ☆ Heller's Operation. N. Elhassani 359
- ☆ Lymphoblastic lymphoma. T. Al-Saleem, M. Niimi, A. Al-Attar, F. Hilmi and N. Alash. 365
- ☆ Reaction time measurement to visual stimuli in patients suffering from cervical spondylosis S. Mossawy, A. Khalili and A. Killinchi. 475
- ☆ Chemotherapy advanced gastro-intestinal cancer. A. Al-Niimi and S. Safar. 385
- ☆ Urinary tract infection in Mosul city. A. bacteriological study. R. Ali, F. Abdulah and R. Ahmad. 391
- ☆ Lymph node aspiration biopsy cytology. (Clinical significance). H. Al-Nousairy & L. Tawfik. 397
- ☆ Fibrous Hamartoma of infancy: A case report. H. Barnouti. 409
- ☆ Typhoid fever presenting as meningism and pneumonia. F. Al-Haddad. 413
- ☆ Brain hydatid disease. Clinical and Epidemiological study of fifty patients. F. Khairy and G. Mukhlis. 417

Epidemiological Study

- ☆ Serological markers in pregnant women and perinatal transmission of hepatitis B virus in Iraq. D. Mohammed, T. Al-Hadithi, S. Al-Obaidi, A. Omer and S. Al-Balaghi. 429
- ☆ A study of mortality in Iraq 1978-1979, person variables. H. Jamil, G. Mukhlis, N. Al-Ward, E. Kassira H. Rawaf and M. Mc Carthy. 435
- ☆ A Study of Mortality in Iraq 1978-1979, place and time variables. G. Mukhlis, H. Jamil, N. Al-Ward, E. Kassira, H. Rawaf and M. McCarthy. 445
- ☆ Survey study of the intestinal parasites among different population of Arbil City. M. Kadir, A. Kader and k. Faraj. 458
- ☆ In vitro antimicrobial susceptibility of hospital and non-hospital strains of staphylococcus aureus isolated from Nasal carriers. A. Kader, S. Arf and K. Faraj. 459

J. Fac. Med. Baghdad 1987 Vol. 29 No. 4.

A STUDY OF MORTALITY IN IRAQ 1978-1979, PERSON VARIABLES

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Key Words: Cause of death, Age, Sex, Marital Status and Occupation.

دراسة الوفيات في العراق ١٩٧٨ - ١٩٧٩

المتغيرات الشخصية

الخلاصة:

تم اختيار عينه من شهادات الوفاة لسنوات ١٩٧٨ - ١٩٧٩ لهذه الدراسة وكان عددها الكلي ٣٢٦٦ شهادة. ومن خلال الدراسة توصلنا الى ان معدلات الوفيات كانت بشكل U لبعض اسباب الوفيات وبشكل J للأسباب الاخرى وكذلك عند توزيعها على الفئات العمرية. كان معدل الوفيات للذكور اعلى منه بالنسبة للإناث كما كانت نسبة الوفيات عند الأشخاص غير المتزوجين اعلى منها عند المتزوجين من اغلب الاسباب. لم يكن من الممكن التوصل الى استنتاجات حول علاقة المهنة بالوفيات وذلك بسبب التسميات والتوزيع غير الواضح بالنسبة للمهن المختلفة.

SUMMARY:

A sample of 3266 Iraqi death certificates for the years 1978 and 1979 was studied. It was concluded that the age distribution of mortality rates followed a U-shaped distribution for most of the causes of death and a J-shaped distribution for the others. Males had higher death rates for most of causes than females.

It was not possible to make conclusions as to the effect of occupation mortality due to the indistinct classification of occupations.

INTRODUCTION:

The improvement of the health of the community is the aim of all health

services. Measurements of health are needed to quantify its improvement. As these measurements are not currently available, people tend to measure health by its converse; i.e. diseases and death⁽¹⁾. Measurement of disease is a difficult task to achieve because not all diseases are registered, notified or recorded. What information we have on morbidity is only the tip of the iceberg. For this reason people seem to be more interested in morbidity data⁽²⁾.

Mortality measures such as crude death rates, age specific death rates, cause specific death rates, maternal and infant mortality rates are used to study the health status of different communities, to have international comparisons and to follow changes in the health status of communities over long periods of time⁽³⁾.

Death certificates are the official documents where mortality data is stored and they are often utilized for the extraction of information about mortality both for vital statistics and for research purposes. In spite of the inaccuracy of information recorded on the death certificates and the discrepancies between these and autopsy results which range between 29-58% disagreement, death certificates remain an important source of mortality data⁽⁴⁾.

The work published by Hammoud, E.I.⁽⁵⁾, in the World Health Statistics report, 1977 has stimulated us to approach this area as in most of the tables that he presented, our country was not represented, possibly due to incomplete or unreliable information.

The aim of this study is to review death certificates for the Republic of Iraq for the years 1978 and 1979 as in relation to some demographic variables. As far as we know this is the first attempt in Iraq to study this area.

MATERIALS AND METHODS:

The source of mortality data is the death certificates that are filled by doctors, coded by statistical clerks and stored by the Ministry of Health.

In addition to information about the deceased, such as name, date of birth, age, sex, occupation, race, date of death, place of death, ..etc., the death certificate also gives information about the cause of death. The death certificates are then coded according to the International Statistical Classification of Diseases, Injuries and Causes of Death (ICD) which is revised every 10 years.

The death certificates for the years 1978 and 1979 were studied after permission given to the research team by the Ministry of Health. The sample studied was selected by choosing one in every thirty-three certificates. The following variables were recorded for each certificate and used in the analysis. month and year of death, cause of death, age (years), sex, and marital status, i.e. married versus single as no further classification of single people to unmarried, divorced, separated or widowed was stated on the certificate.

Occupation: we have faced some difficulty in regard to the classification of cases according to occupations as there is no definite system that is agreed upon yet in our country to derive social class membership according to occupation. therefore we have coded the occupational groups as it was mentioned in the death certificate.

The total sample size was 3266 certificates distributed as 1748 in 1978 and 1518 in 1979 respectively.

Where the denominators were available we have calculated mortality rates, but when we had no denominators only frequencies and percentages were used.

RESULTS:

Table 1 shows the age specific mortality rates for each cause of death per 100 000 population.

Table 2 shows the cause-specific death rates by sex per 100 000 population for Iraq (1978 and 1979). It also shows the mortality sex ratio (MSR) which is used as an index of sex differentials and is defined as the ratio (%) of male to female mortality rates⁽⁵⁾.

Table 3 shows the distribution of different causes of death according to marital status and there were differences between married people and single people.

Table 4 shows the percentage distribution of the causes of death according to occupation.

DISCUSSION:

According to our knowledge, this is the first study of its kind in Iraq. We aimed to study the distribution of the different causes of death and their relationship to demographic variables.

Table 1. Cause specific death rates according to age groups per 100 000 populations.

Cause of death	Age Groups (years)					Total
	< 1	2-14	15-44	45-64	65 +	
Infections & parasitic	385	11	14	5	74	33
Neoplasia	4	5	13	48	131	22
Nervous & sense	76	5	4	7	29	9
Circulatory	66	11	29	379	1866	133
Respiratory	541	15	6	26	58	34
Digestive	343	8	6	4	58	25
Genitourinary	17	3	5	19	32	7
Congenital anomalies	83	1	0.3	-	-	4
Perinatal conditions	354	0.6	-	-	-	14
Ill-defined	191	23	29	227	1430	113
Injury and poisoning	35	28	36	41	54	34
Total	2094	112	142	880	3738	427

Table 2. Cause specific death rates by sex per 100 00 population for Iraq (1978-1979) and mortality sex ratio for each cause.

Cause of death	Total	Male	Female	MSR
Infections & parasitic	33	34	32	106
Neoplasia	22	24	19	126
Nervous and sense	9	8	9	89
Circulatory	133	134	132	102
Respiratory	34	35	34	103
Digestive	25	25	25	100
Genitourinary	7	8	6	133
Congenital anomalies	4	6	2	300
Perinatal conditions	14	1	11	155
Ill-defined	112	116	114	102
Injury and poisoning	34	39	29	135
All causes	427	438	415	106

Table 3. Causes of death by marital status (column percent) Iraq 1978-1979.

Causes of death diseases & disorders	Marital status	
	Single	Married
Infectins and parasitic	13(6.2)	80(4.7)
Neoplasia	10(4.7)	125(7.3)
Nervous and sense	7(3.3)	19(1.1)
Circulatory	67(31.8)	741(43.3)
Respiratory	9(4.3)	42(2.5)
Digestive	6(2.8)	50(2.5)
Genitourinary	3(1.4)	34(2.0)
Congenital anomalies	1(0.5)	2(1.0)
Ill-defined conditions	48(22.8)	516(30.2)
Injury and poisoning	47(22.3)	102(6.0)
Total (100%)	211	1711

N.B. - Under 14 years were excluded.

- unknown were excluded (364)

Age is one of the important factors in relation to mortality and almost all diseases show marked variations with age⁽⁶⁾. This was noticed in our study as there were some differences in the distribution of the causes of death according to age.

Table 1 shows that some causes of death had followed a U-shaped distribution and that others had followed a J-shaped distribution; i.e. predominant in the older age groups. These distributions show the effect of successive cohorts of people, those in older age groups may reflect health problems that they have acquired several decades ago⁽⁷⁾.

Sex is another important determinant of mortality with a marked inequality between sexes. Male mortality exceeds female mortality in nearly all age groups⁽⁶⁾. There seems to be a higher genetic and environmental predisposition of the male sex to mortality than the female sex⁽⁵⁾. Our study has demonstrated this observation for all deaths together as well as most of the specific causes of death.

Table 4. Causes of death in different occupational groups (column per cent) Iraq - 1978-1979.

Causes of death (diseases and disorders)	1	2	3*	4	5*	6*	7	8	N.K.	Total	
Infections and parasitic	(4.5)	(5.4)	(5.4)	(5.8)	(8.3)	(2.3)	(1.8)	(5.0)	(5.8)	251	(7.7)
Neoplasms	(6.1)	(9.4)	(1.3)	(7.4)	(8.3)	(3.8)	(3.8)	(6.7)	(4.2)	164	(5.0)
Nervous and sense	(1.5)	(2.5)	(4.4)	(0.3)	(3.1)	(1.1)	(1.1)	(0.6)	(1.3)	66	(2.0)
Circulatory	(30.3)	(38.3)	(4.9)	(40.2)	(13.5)	(44.8)	(44.9)	(45.4)	(36.7)	1016	(31.1)
Respiratory	(4.5)	(1.8)	(22.4)	(1.9)	(6.3)	(3.4)	(1.8)	(2.8)	(3.9)	263	(8.1)
Digestive	(4.5)	(5.1)	(13.9)	(1.9)	(4.2)	(3.4)	(2.3)	(1.6)	(1.9)	191	(5.9)
Genitourinary	(6.1)	(2.5)	(1.3)	(1.3)	(4.2)	(2.3)	(0.4)	(1.9)	(1.9)	54	(1.7)
Congenital anomalies	-	(0.4)	(3.1)	-	-	-	(0.4)	-	-	31	(1.0)
Perinatal conditions	-	-	(11.9)	(0.3)	-	-	(0.2)	-	-	108	(3.3)
Ill-defined conditions	(21.2)	(22.0)	(11.9)	(36.9)	(19.8)	(26.3)	(42.9)	(29.2)	(28.9)	864	(26.5)
Injury and poisoning	(21.2)	(12.6)	(8.5)	(3.9)	(32.3)	(2.3)	(0.4)	(0.5)	(15.8)	258	(7.9)
Total (100%)	66	277	890	311	96	87	554	674	311	3266	

1- Clerical work and military, 2- Labourer, 3- Child, 4- Farmer, 5- Student, 6- Retired, 7- Self employed, 8- Housewife & unemployed, N.K.- Not known.
* Groups 3,5 and 6 are not occupational groups. They were classified as such because there was no information regarding their father's or previous occupation.

2500

As for marital status death rates for most of the specific diseases and from all causes combined have generally been found to vary from lowest to highest in the following order; married, single, widowed and divorced⁽⁸⁾. Although we have no classification of the status of single people in our study, single people still had higher percentages of mortality due to the causes demonstrated in table 3. Better health of married people could be attributed to the psychological and physical support provided by the spouse⁽⁸⁾. This statement could be misleading because people who are ill or invalid find it difficult to get married and therefore selection may play a role in this aspect. Single people have a restless life-style less concern for self and later detection of illness⁽⁹⁾.

De Jong⁽⁹⁾ had also mentioned that death rates in the 15-64 year age group divorced males were from 2-6 times higher for every major cause of death than those of married males, especially for coronary heart disease and cancer. In our series we could not calculate rates because we had no denominators, but the percentages of death due to circulatory diseases and neoplasia were less for single than married men.

As for the effect of occupation on mortality rates, we could not demonstrate a reliable effect because the different occupations were not clearly groups and there was some overlapping of the groups which makes it quite difficult to make conclusions and inferences. Furthermore we had no denominators.

Lastly, we have compared some of our results to those of a neighbouring country (Kuwait, 1982) and those of a developed country (USA, 1980)⁽¹⁰⁾. The comparison is shown in Table 5. We can see from the table that we had more deaths due to infections and parasitic diseases and illdefined conditions than the other two countries. For malignant neoplasms, we had the smallest death rates, and we have ranked second to the U.S.A. for death from circulatory diseases.

For all cause of death combined, we have also ranked second to the U.S.A. with a crude death rate of 427 per 100 000 populations.

Comparing the results of our study to national Iraqi figures that were published in the same reference⁽¹⁰⁾, we have seen that the published figure for infant mortality rate 1980-1985 was 72 per 1000 live births whereas our study reveals a figure of 20.94 per 1000 infants (child under 1 year of age). The infant mortality rate for Iraq for the early 1980s was given by UNICEF as to per 1000

Table 5. Age-specific death rates for selected causes of death for USA (1980)*, Kuwait (1982)* and Iraq (1978-1979) per 100 000 population.**

Cause of death	Age groups (years)					
	<1	2-14	15-44	45-64	65+	All ages
Infectious & parasites						
USA	19.3	1.6	1.6	8.7	46.2	7.6
Kuwait	309.6	6.4	3.5	22.5	276.1	18.5
Iraq	385	11.0	14.0	50.0	74.0	33.0
Malignant Neoplasias						
USA	3.1	4.4	22.7	307.8	1057.9	183.3
Kuwait	5.5	7.3	15.9	198.8	896.8	34.2
Iraq	4.0	5.0	13.0	48.0	131.0	22.0
Circulatory						
USA	28.8	2.3	23.8	399.5	3529.5	437.2
Kuwait	36.9	2.1	26.4	470.4	3338.7	81.4
Iraq	66.0	11.0	29.0	379.0	1866.0	133.0
Ill-defined						
USA	168.5	1.3	3.3	8.3	52.2	12
Kuwait	81.1	2.1	3.3	3.4	50.2	5.0
Iraq	191.0	23.0	29.0	227.0	1430.0	113.0
All cases						
USA	1260.3	47.1	158.7	964.5	5840.2	875.8
Kuwait	2281.7	84.7	115.1	986.9	8444.8	319.0
Iraq	2094.0	112.0	142.0	880.0	3738.0	427.0

☆ World Health Statistics Annual WHO 1984.

live births⁽¹¹⁾.

The crude death rate was given as 10.7 per 1000 population⁽¹⁰⁾ whereas our study revealed a CDR of 4.27 per 1000 population. We cannot explain these differences except on the basis of sampling error.

RECOMMENDATIONS:

It should be made very clear to medical students that the filling of death certificates is a vital and an important part of their work as future doctors. This should be part of their training as medical students.

A unified system for the classification of occupation in Iraq and the

determination of social class membership according to occupation should be established.

Transferring of data on the death certificate to microfilm or computer file and storing it cannot be overemphasized.

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