

Socio-demographic characteristics of maternal deaths in Basrah or the period (2013-2017)

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ABSTRACT

Introduction and Background: In Iraq, and due to the decades of wars and sanctions that affected people's accessibility to the health care services, maternal death was among the main health problems over the years. Thus, studying the factors influencing this important problem is a mandatory step for a better evidence based intervention in controlling the problem.

Objective: To analyze the socio-demographic factors that influence maternal deaths in Basrah during the period 2013-2017.

Methodology design: The study is an observational retrospective one included information collected from the medical records, death certificate and forensic medicine reports in addition to interviewing the family as needed. A total of 201 deaths were included in the study.

Results: The study shows that maternal death rate in Basrah increased sharply during 2016 compared to that of 2013 with a highest rate in Shat Al-Arab and Al-Mudiana districts. Then, a sharp decrease was noticed in 2017 compared to 2016. Maternal mortality rates were found to be increasing with increasing women's age with the highest rate among women above 40 years old. But no big difference between maternal death rates in urban and rural areas. (88.1%) of the study women died in hospital while 11.9% of them died outside the hospital

Conclusions and recommendations: Maternal death is still a problem in Basrah in spite of the decline that occurred between (2016-2017) compared to the rates in 2013. Strengthening of maternal mortality monitoring system across all districts of Basrah governorate in addition to improving the quality of registering all pregnancy related information are the main recommendations of the study.

Key words: Maternal mortality, Socio-demographic, Basrah.

دراسة الخصائص الاجتماعية والديموغرافية لوفيات الأمهات في البصرة للفترة (٢٠١٣-٢٠١٧)

المقدمة: في العراق، ونتيجة لعقود من الحروب والعقوبات التي أثرت على حصول الناس على خدمات الرعاية الصحية، كانت وفيات الأمهات من بين المشاكل الصحية الرئيسية على مر السنين. لذا، فإن دراسة العوامل المؤثرة على هذه المشكلة هي خطوة مهمة لتقديم أفضل الطرق للمساهمة في السيطرة على المشكلة.

الهدف: تحليل العوامل الاجتماعية والديموغرافية المؤثرة على وفيات الأمهات في البصرة خلال الفترة ٢٠١٣-٢٠١٧.

المنهجية: تضمنت الدراسة معلومات تم جمعها من السجلات الطبية وشهادات الوفاة وتقارير الطب الشرعي بالإضافة إلى إجراء مقابلات مع العائلة حسب الحاجة. شملت الدراسة ٢٠١ حالة وفاة.

النتائج: أظهرت الدراسة أن معدل وفيات الأمهات في البصرة قد ارتفع بشكل حاد خلال عام ٢٠١٦ مقارنة بتلك المسجلة لعام ٢٠١٣ مع أعلى معدلات في منطقتي شط العرب والمدينة. ثم لوحظ انخفاض حاد في معدل وفيات الأمهات خلال عام ٢٠١٧ مقارنة بعام ٢٠١٦. كما وجدت الدراسة أن معدلات الوفيات تتزايد مع زيادة عمر المرأة مع تسجيل أعلى معدل بين النساء فوق سن الأربعين ولم يظهر فرق كبير بين معدلات وفيات الأمهات في المناطق الحضرية والريفية.

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الاستنتاجات والتوصيات: لا تزال وفيات الأمهات مشكلة في البصرة على الرغم من انخفاض معدلاتها بين عامي ٢٠١٦ و ٢٠١٧ مقارنة بالمعدلات في عام ٢٠١٣. وقد أوصت الدراسة بتقوية و تعزيز نظام مراقبة وفيات الأمهات في جميع قطاعات محافظات البصرة بالإضافة إلى تحسين جودة توثيق كافة المعلومات المتعلقة بالحمل و الولادة و ما بعدها.

الكلمات المفتاحية: وفيات الأمهات ، الاجتماعية والديموغرافية ، البصرة

INTRODUCTION

Maternal death as defined by the World Health Organization is the “death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes”.[1] It is estimated that 830 women in child bearing age dies everyday because of pregnancy related causes that can actually be prevented during their life. Almost all of these deaths are registered in developing countries.[2] Latest evidences show that there is an overall worldwide decrease in mortality rate throughout the recent years. However, still many contries - especially developing ones- did not approach their target for the numbers set by the Global Millennium Development Goals. Inorder to achieve that, more researches should be done to know the the socio-demographic factors that influence maternal deaths in each area to aid prioritization of the available resources and facilitate achieving the goals in decreasing maternal deaths in each country.[3] Other evidences show that on national levels, each country has in-country differences in the rates of maternal death especially in those with different levels of income and education. Families in rural areas are found to be with higher rates of maternal deaths compared to urban areas because of inaccessibility to better health care services in addition to other socio economic factors influencing the care they receive during pregnancy, delivery and perperium.[1,4] Knowing exactly what are the socioeconomic factors that influence maternal death, is an important factor in planning the necessary interventions in controlling the problem,

especially if the causes are multifactorial and interrelated.[5] Among those factors, woman’s age is a big influencing factor.[6] For example, woman’s death during early young age is due to the physical incomplete growth of their pelvis while among those at older age group, accumulative risk of having pregnancy related complications is more prominent cause of their death. Another influencing factor is maternal education, which was proved in many international studies and gave an evidence that lower level of maternal education is associated with higher rates of maternal mortality. [7] In Iraq, and due to the decades of wars and sunctions that affected people’s accessibility to the health care services, maternal death was among the main health problems over the years. Thus, studying the factors influencing this important problem is a mandatory step for a better evidence based intervention in its control. According to the Iraqi MoH strategy for Maternal and Child care program in Basrah Health Directorate, death registration system is monitored continuously by a focal point in each hospital in the Basrah governorate. An immediate notification about any death during pregnancy, labor, or perperium is mandatory to the central maternal death committee in Basrah Health Directorate which investigate and review causes of each maternal death in Basrah.[8] Then, each case of maternal death has to be reviewed and analysed first by the local/district medical and gynecological committee at the hospital. Then a second review has to be done at the level of the main Health directorate by the joint committee of Basrah health authorities and the medical college at the governorate. The “per-case” review is performed to ensure that each maternal death was analysed by experts to

define its cause of death and any associated factors and consequently to set a future recommendation to avoid such a problem.

Objective:

To analyze the socio-demographic factors that influence maternal deaths in Basrah during the period 2013-2017.

METHODOLOGY

The study is an observational retrospective one included all of the mothers fulfilling the definition criteria of maternal death according to Iraqi ministry of health (MoH) during the period 2013- 2017. Information was collected from the medical records(from all hospitals in Basrah), death certificate and forensic medicine reports in addition to interviewing the family as needed especially when missing information was found in the medical records. Data were analysed using Microsoft Excel 2010. Frequencies and percentages of the included variables were calculated including maternal age-specific and area-specific mortality rates per 100,000 live births. Death rates according to the place of residence, place of delivery and place of women's death were also calculated. In addition to women's education level and job. A total of 201 deaths were included in the study. Maternal mortality rates were computed per 100,000 live births.

RESULTS

(Table-1), shows that maternal death rate in Basrah increased sharply during 2016 compared to that of 2013. Then, a sharp decrease was noticed in 2017 compared to 2016.

Table1. Maternal Mortality rates per 100000 live birth during (2013-2017) in Basrah

Year	Number of deaths	Total live births	Death rate per 100,000 live birth
2013	37	102351	36.15
2014	42	106779	39.33
2015	40	101635	39.36
2016	56	100259	55.8
2017	26	90266	28.80
Total	201	501290	40.09

The present study found that the risk of death increase with increasing women's age with the highest rate among women above 45 years old and above (217 per 100000 live birth) and the lowest rate (15.2 per 100000 live) among women aged between 15-19 years. (Figure-1)

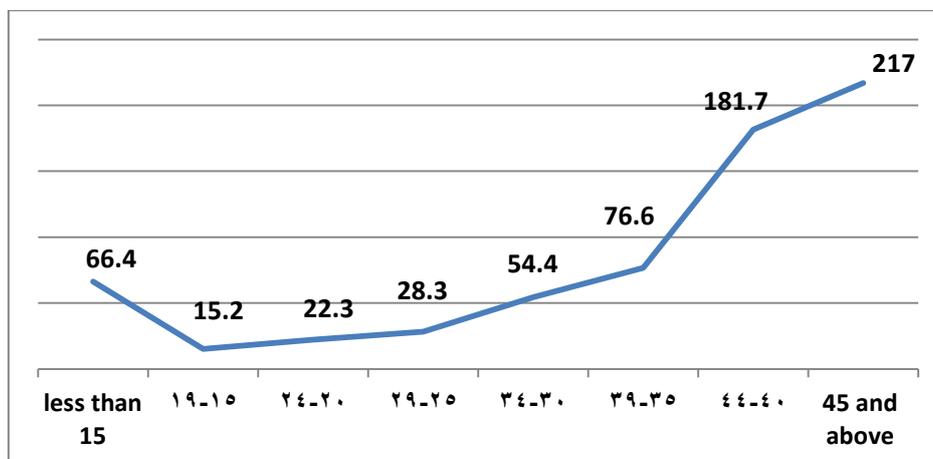


Fig 1. Age specific maternal death rates in Basrah (2013-2017)

More than half of maternal deaths (53.3%) were found by the present study to be in urban areas; while the highest percentage of maternal death (40%) was among women with primary

education level and most of the deaths (90.2%) were registered to be among house wives (Figure 2, 3, 4).

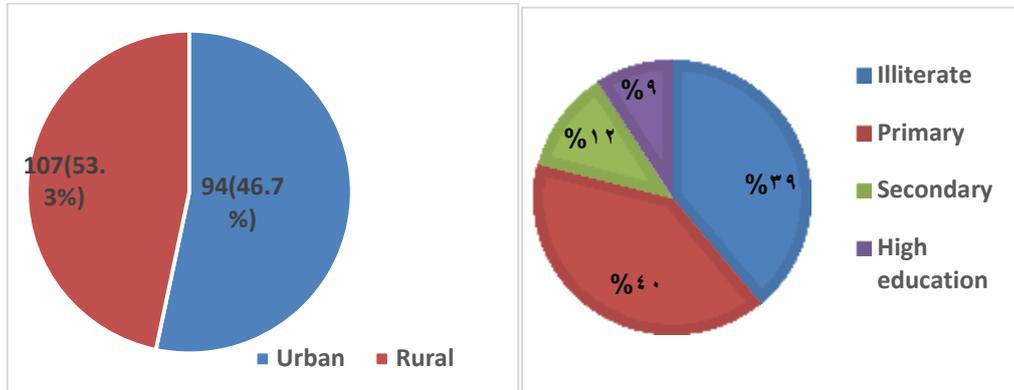


Fig (2, 3). Maternal deaths according to the place of residence and Education level

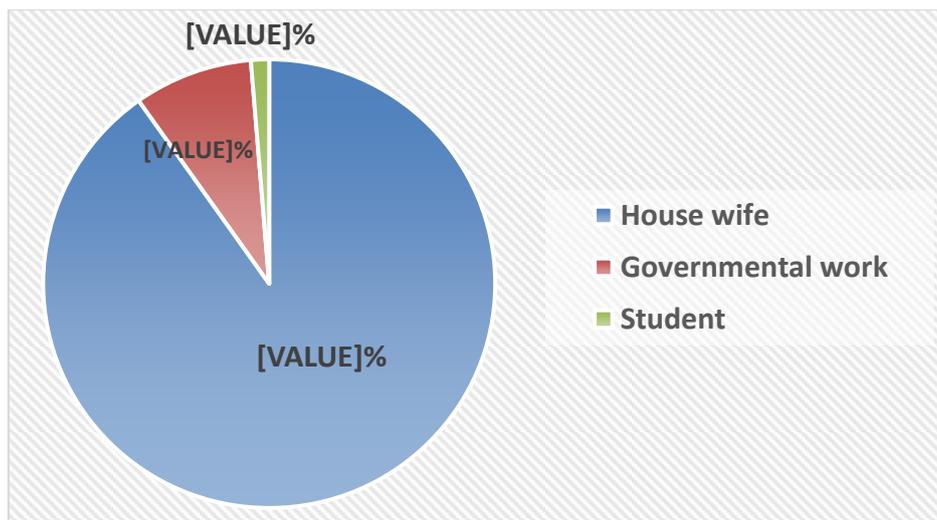


Fig 4. Maternal deaths according to her job

Figure 5, shows that the highest rate of deaths (63.6/100000 live birth) is in Shat Al-Arab district followed by Al-Mudiana (53.7/100000

live birth), while the lowest rate was found in Al-Qurna (17.4/100000 live birth).

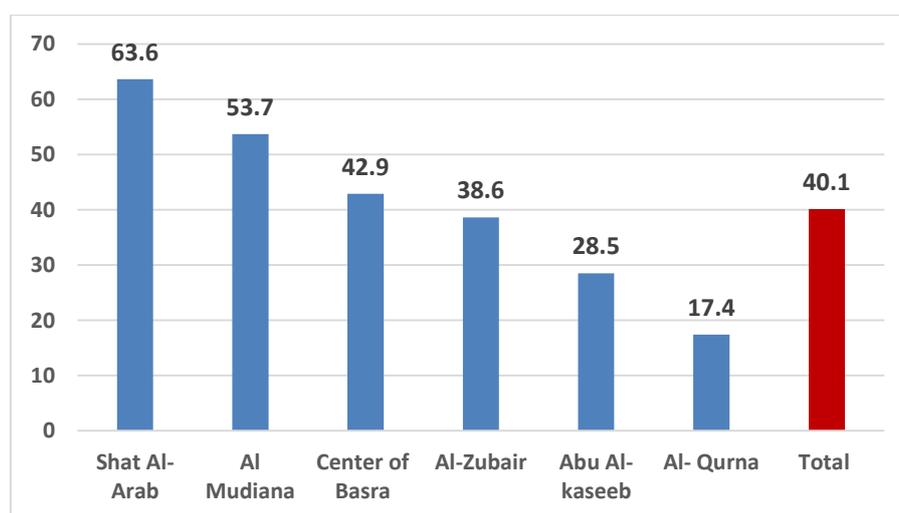


Fig 5. Area (district) Specific maternal deaths per 100,000 live births

According to the place of delivery, (Table-2), shows that among the 141 women who delivered (with exclusion of 60 women who did not delivered and died during pregnancy), maternal death rate was 28.8/100000 live births at hospitals compared to 22,7 / 100000

live births at home. In addition, the study shows that (88%) of the study women died in hospital while 12% of them died outside the hospital (at home, in the ambulance, during a private transportation).

Table 2. Maternal death rate according to the place of delivery.

Year	At hospital			At home		
	Total deliveries	Total deaths	Death Rate (100000 LB)	Total deliveries	Total deaths	Death Rate (100000 LB)
2013	90213	24	26.6	12138	3	24.7
2014	94641	31	32.8	12138	4	33.0
2015	92220	23	24.9	9415	2	21.2
2016	90311	32	35.4	9948	3	30.2
2017	80946	19	23.5	9320	0	0.0
	448331	129 (88% of deaths)	28.8	52959	12 (12% of deaths)	22.7

n= 141 (60 did not delivered and dead during pregnancy)

DISCUSSION

According to the annual statistical report of Iraqi MoH, Basrah has high maternal mortality rate in 2016 (55/100,000 live births) which was higher than the national rate (40/100,000^[9,10]). Then, the rate was sharply declined in 2017 (as found by the present study) which is lower than the national rate. The result is similar to that which was done in Texas during 2006-2015 to study the trends in which there was an increase from 18.6/100,000 live births in 2010 to 38.7 /100,000 live births in 2012 followed by a decline to 32.5/100,000 live births in 2015.^[11] The sharp decline in maternal death rates that was found by the present study could be explained by the measures taken by Basrah Health Directorate to improve the quality of intra and post natal care provided to the women. These measures included increasing the number of Obstetric / gynecologists in rural areas, improving the performance of nursing staff at the maternal wards of the hospitals in addition to improving the referral system. However, Basrah has high maternal mortality rate, which is lower than other developing countries. Evidences provided that maternal mortality ratio in developing countries in 2015 is 239 per 100,000 live birth versus 12 per 100,000 live birth in developed countries.^[1] Extreme young and old mother are more risky for maternal death and complication of pregnancy that lead to death. The study shows a “J-shape curve” for age specific death rate with the highest rate for the women with 40 years and more. This result is similar to those of a study done by the WHO in 144 countries to assess maternal mortality in adolescents compared with women of other ages,^[12] and in another study done in 38 countries to analyze new findings for maternal mortality age patterns.^[3] In Sweden, age was found to be the major biological determinant of maternal mortality rate, with a higher risk of death for pregnant women younger than 20 years.^[13] The present study found a little difference between maternal death rates in

urban and rural areas. This is different from the WHO results stating the death rates are usually higher in poor areas of the rural areas due to poverty and lack of access to health services.^[1] In addition, and according to the WFP report in 2012, Shat Al-Arab and Al-Mudaina districts are considered to have the highest poverty indicators in Basrah.^[14] Maternal death rates decrease with increasing education level. The result is in coherence with the results of a cross sectional global survey done by the WHO in 2011 on assessing the the relationship between maternal education and their mortality rates.^[7] Death rates was also found to be higher among housewives compared to those who are working or students. This might be explained by the fact that working mothers have higher education and more chance to be educated about pregnancy care and its associated risks. This result is similar to a study done in Nigeria which reveals that more women who are unemployed (40.6%) died from maternal causes than those who were employed (8.7%).^[15] Regarding the place of delivery, our study reveals that maternal deaths for women delivered at hospitals are more than those delivered outside the hospitals. This could be explained by the risk of association between hospital delivery and scaecarian sections.

CONCLUSIONS AND RECOMMENDATIONS:

Maternal death is still a problem in Basrah in spite of the decline that occurred between 2016-2017 compared to the rates in 2013. The highest rates were found in Shat Al-Arab and Al-Mudiana districts. Level of education, woman's age, job of the mother and place of delivery are among the main socio-demographic risk factors influencing maternal death in Basrah. Strengthening maternal mortality monitoring across all districts of Basrah in addition to improving the quality of registering all pregnancy related information are the main recommendations of the study.

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