

Common causes of death in childbearing age women in AL Diwanyia governorate/Iraq

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Abstract

Background

Women in the reproductive age group comprise a dangerous part of ur population because they face a double burden of communicable and non communicable diseases in addition to high risk of pregnancy complication. Thus an expected death of women in reproductive age had big trauma to family in psychological and social level of other member in family.

Objective

- 1-To find out the unrecorded maternal death in health institution
- 2- To throw alight on most common causes of death in reproductive age groups woman

Methods

A cross sectional description type study was carried out from 1st june to 28thjune 2013 at Diwanyia city. The study enrolled data about dead women of child bearing age 12-49 year that occurred in period from January 2011 to December of 2012. Studied different types of variables age, residence, cause of death.Data were analyzed by (SPSS) like proportion.

Result

A total of 450 deaths in reproductive age group women were reported, of which 18 (4%) were maternal death while 432 (96%) were due to non maternal cause. Majority of the deaths occurred in the age group of 40 – 49 years 169 (37.6%), and the most cause of death are ischemic heart disease 97 (21.6%) follow by cancer 81(18%).

Conclusion:

Control of modern life styles such as increase in weight, proper management of pregnancy complications might be decrease death rate in child bearing age women.

Introduction

Women a corner stone in families, and have a major role in health of family member. During pregnancy, health status of women directly effect of fetus for example female that had hypertension during pregnancy may lead to born fetus with restricted growth or preterm. Later on in life behavior of female, food habit and safety of food preparation and un health education may adversely lead to

several diseases during childhood of their baby that effect growth of them. Completely healthy women during reproductive age give rise good health baby^[1].

Maternal mortality which has been included as one of the United Nation's Millennium Development Goals (MDGs) is a grave concern of the international community. The trend of mortality rate globally drop from 377000 in 1990 to 293000 in 2013^[2]

In Iraq the estimated rate of maternal mortality in 1999 was 291/100000 live

birth after this in 2006 when public survey was done found 84/100000, in 2012 estimated 74by UNICEF.^[2,3]

Death of female during pregnancy or within forty-two days after termination of pregnancy without considering the gestational age or place of pregnancy, due to any causes that in relation to or superimpose by pregnancy or due its treatment, thus not count accidental or incidental causes these deaths define as maternal mortality. Which has two type, direct cause and indirect.

The direct maternal mortality defines as death of a female that due to pregnancy complication, labor and their management.

On other hand indirect type that result from diseases present before pregnancy or develop after/or during pregnancy but these diseases not directly associated with obstetric factors where as its effect or aggravated by changes in maternal condition of pregnancy^[3].

More prevalent causes of death in maternal mortality, firstly post partum hemorrhage, un safe abortion and its complication, hypertension during pregnancy, infection in postpartum period and obstructed labor, which are account as 15%, 15%10%, 8%, 6% respectively^[2].

For enhancing of mother health, we have three headline items

- 1- Continuous review of health maternal policies and keep it coherence.
- 2- Follow a standard guideline in introduce treatment services for women.
- 3- Enhance local discover and solution of problems and motivated health services introducer^[3].

In Iraq most of pregnancies are delivered in health facilities, but in peripheral cities far from center the delivered by nurse and traditional birth

attendance. Many deaths from direct causes can be prevented if necessary, drugs, equipment and effective referral system are available, in addition to professional health provider^[4].

In general, the top causes of death in worldwide are cardiovascular diseases from 1970 till now, in spit of decrease in trend in some western countries^[5]. Whilst in developing world had increase in rate was rapidly^[6]. And about 80% from whole death by cardiovascular occur in developing countries^[7].

When female had reach menopause early than others, due to hysterectomy or natural menopause, the risk of developing heart diseases was double the normal for same age those who not began menopause^[8].

Other cause of death in women was cancer, the most common type were breast and cervical cancer, there were increase in prevalence and incidence of these cancer in developing countries, this elevated burden of diseases on these countries in concordance of infectious diseases^[9,10].

Cancer lead to early death and low survival rate mostly in low income countries because weak health infrastructure facilities and bad management of screening test lead to delay in diagnosis, thus patients come with advance stage with metastasis^[11].

Effective prevention programs for cancer specially breast cancer lie on change of modifiable risk factors which are mostly share the same risk for other diseases such as cardiovascular diseases for example reduce weight, increase sport activity and consumption of healthy diet these measure will actually be drop the incidence of cancer^[11].

Unmodifiable risk factors for cancer and other noncommunicable diseases,

is difficult to control or elimination. Though breast cancer control measure depend on early detection which is remain the golden goal in prevention strategies to increase five years survival rate and limited metastasis and other cancer complication^[12,13].

Aim of study

1- to find out the unrecorded maternal death in health institution.

2- To throw alight on most common causes of death in reproductive age groups women

Method

Study design and setting

A record based descriptive cross sectional study was performed during the period from 1st July to 1st June 2013. The study enrolled data about dead women of child bearing age 12-49 year that occurred in period from January 2011 to December of 2012, from diwanyia city recorded in statistic department of teaching hospital and health office.

Selective criteria

- 1- female sex
- 2- age range from 12- 49 yrs
- 3- Residence in Diwanyiagovernorate

Data collection

The hospitals and districts in governorate were visited and register all death of women aged 12-49 yrs. in hospitals some cases that causes of death doubtful were reviewed to insure the cause of death. then categories

according to age which classified to four classes 12-19years, 20-29years, 30-39, 40-49years.

Other categories according to causes of death (which reported from death certificate), include maternal death ,cardiovascular disease, stroke, cancer (which include breast, brain, bone, kidney, blood, liver, thyroid, intestine, cervix, lung others tumor) , respiratory disease diabetes mellitus renal disease hematological disorder congenital hearts disease septicemia, meningitis, hepatics failure, brain death, burn, and others that contain suicide, road traffic accident and gun shot.

Also categories according to residence of deceased women which divided to four city and its villages Diwanyia, Afaq, Shamia, Hamza.

Lastly classified according to year of death.

Then the data were collected analysis by SPSS 20 for multiple variables represented by tables and graphs.

Results

The study enrolled data of 450 dead female in child bearing age in different health facilities with mean age were (33.56 ± 10.8), out of total there were 18(4%) women died while pregnant or during forty two days of termination of apregnancy (maternal mortality) all of them documented in health official except one case not registered in AL-Diwanyia teaching hospital discovered by review of patient s file in statistic department, as shown in table one.

Table 1: maternal mortality in two years

years	Maternal death No.(%)	Total death per year
2011	9(4.2%)	214

2012	9(3.8%)	236
Total	18	450

Table two reveal most of dead women were resident in Al-Diwanyia city (70.9%) and the rest from Afaq, Hamza, Shamia.

Table 2: distribution of dead women according to living city.

city	Frequency	Percent
Diwanyia	319	70.9
Afaq	52	11.6
Hamza	43	9.6
Shamia	36	8.0
Total	450	100.0

More death occurred in fifth decade (37.3%) followed by fourth decade 24.7%, third 23.8% and second decade 14.2%. as shown in table 3.

Table 3: distribution of dead women according to age groups.

Age group	Frequency	Percent
12-19	64	14.2
20-29	107	23.8
30-39	110	24.7
40-49	169	37.3
Total	450	100

Most of women dead by ischemic heart diseases 21.6% and second cause were cancer 18% followed by external cause like accident and gun shot 12% as shown in table 4.

Table 4: showing the causes of death.

Causes of death	No.	percent
Maternal death	18	4%
IHD	97	21.6%
Stroke	27	6%
Cancer	81	18%
DM	9	2%
Respiratory	25	5.6%
Brain death	16	3.6%
Hepatic disease	7	1.6%
CRF	46	10.2%
CHD	6	1.3%
Meningitis	12	2.7%
Septicemia	8	1.8%
Others	54	12%

Burn	44	9.8%
Total	450	

In the following table show the relationship between causes of death and age groups, like ischemic heart diseases increase with age in fifth decade were (52) while in fourth decade were (25), also same manner were seen in cancer, as in table 5.

Table 5: distribution of causes of death according to age groups.

Causes of death	Age group				Total
	12-19	20-29	30-39	40-49	
Maternal death	1	8	6	3	18
IHD	6	14	25	52	97
Stroke	0	7	3	17	27
Cancer	4	8	17	52	81
DM	0	2	2	5	9
Respiratory	5	8	6	6	25
Brain death	3	5	4	4	16
Hepatic disease	1	2	2	2	7
CRF	8	13	12	13	46
CHD	4	2	0	0	6
Meningitis	0	4	6	2	12
Septicemia	3	2	0	3	8
Others	15	14	15	10	54
Burn	14	18	12	0	44
Total	64	107	110	169	450

Breast cancer (33.3%) was more prevalent type of cancer found in these age group followed by brain and blood cancer 13.6% and 12.3% respectively as shown in table 6.

Table 6: show type of cancer.

Type of cancer	Frequency	percent
breast	27	33.3

lung	5	6.2
cervix	5	6.2
bone	3	3.7
brain	11	13.6
kidney	2	2.5
liver	5	6.2
blood	10	12.3
intestine	4	4.9
thyroid	1	1.2
other	8	9.9
Total	81	100.0

Discussion

Women in the reproductive age group face many type of risk to their life such as by pregnancy and associated complication and infectious and chronic disease that emerge in new modern life thus impose more prevalent of diseases^[1].

In our study 18 maternal death out 450 of total women death in two years, 9 in 2011 and 9 in 2012. All recorded cases of maternal death occurred in hospital such death reported more easily to discover and mention with complete and to little extend short of information in patients file or forensic medicine report. On other hand dying of women in child bearing age outside of hospital almost with not identifiable cause and need post mortem investigation or dissection to find cause of death, for these cases not appear in hospital health statistic for admission or discharge recorded, and only recorded in mortuary log book, thus some time give under report of maternal mortality^[4,5].

Death of women occur more in Diwanyia city which is center of governorate and 2/3 of people live there, also the concentrated of health facilities, last city in number of death which was Shamia city in spite of high

number live in it after Diwanyia city, this is because a lot number of patients seeking medical help in Najaf city in which the distant is same for Najaf and Diwanyia from Shamai and the medical facilities more specialized in Najaf and perhaps record of death in Najaf directorate.

In these study The leading causes of death among the child bearing age group female were ischemic heart diseases 21.6% cancer 18% (breast cancer was the top killer) and external force 12% like road traffic accident, these figure coincide with study by Sorlie PD and colleagues report from the American Heart Association^[14]. Other study Heron MP (National vital statistics reports 2006) said the cancer lie first followed by cardiovascular disease^[15].

In our study the death due to cancer contributed to 18% and in Tunisia reported cancers 11.6% study by Djedidi Trabelsi J and colleagues^[16].

In general breast cancer account 22% from whole cancer registered in female^[12]. In 2009 death from breast cancer reported 458000 in world about 13% of cancer dead in female. Incidence of breast cancer associated with age which is less common in young age

and only 6% of total breast cancer occurred in age less than 45 years old [12].

In this study breast cancer is the leading causes of cancer death in female, account about 33.3 % of death due to cancer

and in other studies reported 14 percent of all cancer deaths [5].

Low trend of breast cancer happened in firstly four decade of age. Then prevalence elevate continuously, low in age groups 30-39 years when reaching the age of 40-49 years record 73% this result consistent with study of Coleman MP and colleagues in 2009 [11].

Out standing evident breast cancer detect mainly in postmenopausal women, which mean incidence increase with age. For women breast cancer half of them detect in age 60 years where as 12% only are diagnosis occur in 45 years [17].

The last thing to discuss the accuracy of death certificate there were many issues consider that effect of right information and completeness of death certificate, for example health personal that introduce services, place of health services (emergency wards, CCU, ICU, labor room) and person who write death certificate not the same one who give health services for dead women [18].

Conclusion

1- inaccuracy in classification causes of death in the wards of hospital and not tick the part of pregnancy in death certificate.

2-The leading causes of death among the reproductive age group women were cardiovascular diseases and

cancer and breast cancer is the top killer of cancer death in women

Recommendation

1- Maternal deaths can be prevented by proper antenatal, natal and post natal services for pregnant women. And integrated of MCH in general hospital and in private clinic.

2- medical audit weekly for all death of women in reproductive age group occur in hospital.

4-health education program about increase burden of cardiovascular diseases and prevention measures in community.

3- social health education to encourage women to routinely breast screening, and other prevention measure such self examination.

4- enhance cancer record system and surveillance to monitor trend and identify those has risk factors, assess the role of treatment and prevention measure.

References

- 1-Wilmoth J, Mathers C, Say L, Mills S. Maternal deaths drop by one-third from 1990 to 2008: a United Nations analysis. *Bulletin of the World Health Organization* 2010;88:718-718A.
- 2-SunderLal, Adarsh, PankajTextbook of Community Medicine, Preventive and Social Medicine..2nd ed. 2009. Published by CBS Publishers and Distributors.Daryaganj, New Delhi 110 002, India.
- 3-Marmot M. Fair Society, Healthy Lives: Strategic Review of Health Inequalities in England Post 2010.
- 4-World Health Organization.Beyond the numbers.Reviewing maternal deaths and complications to make pregnancy safer. Geneva: WHO; 2004.

- 5-Zakariah AY, Alexander S, van Roosmalen J, Kwawukume EY: Maternal mortality in the Greater Accra region in Ghana: assessing completeness of registration and data quality. *Acta Obstet Gynecol Scand* 2006, 85:1436-41
- 6- Bellamy L, Casas J, Hingorani AD, Williams DJ. Pre-eclampsia and risk of cardiovascular disease and cancer in later life: systematic review and meta-analysis. *BMJ*. 2007;335(7627):974.
- 7-Bateman B, Bansil P, Hernandez-Diaz S, Mhyre JM, Callaghan WM, Kuklina E. Prevalence, trends, and outcomes of chronic hypertension: a nationwide sample of delivery admissions. *AJOG*. 2011;1.e1-1.e8
- 8-Finegold, JA; Asaria, P; Francis, DP . "Mortality from ischaemic heart disease by country, region, and age: Statistics from World Health Organisation and United Nations." *International journal of cardiology* :2012 Dec 4: **168** (2): 934–945.
- 9-Yusuf S, Hawken S, Ounpuu S. "Effect of potentially modifiable risk factors associated with myocardial infarction in 52 countries (the INTERHEART study): case-control study". 2004: *Lancet* **364** (9438): 937–52.
- 10-Ignarro, LJ; Balestrieri, ML, Napoli, C. "Nutrition, physical activity, and cardiovascular disease: an update." *Cardiovascular research*. (2007). **73** (2): 326–40.
- 11-Coleman MP, Quaresma M, Berrino F, Lutz JM, De Angelis R, Capocaccia R, Baili P, Rachet B, Gatta G, Hakulinen T. Cancer survival in five continents: a worldwide population-based study (CONCORD). *Lancet Oncol*, 9,2008: 730–56.
- 12-Anderson BO . Guideline implementation for breast healthcare in low-income and middle-income countries: overview of the Breast Health Global Initiative Global Summit 2007. *Cancer*, 113, 2221–43.
- 13-Parisa P, Kandiah M, Abdul Rahman H, MohdZulkefli NA. (2006). Barriers to breast cancer screening among Asian women: a mini literature review. *Asian Pac J Cancer Prev* **7**, 2006, 509–514.
- 14-Sorlie PD, Stein J, Turan TN, Virani SS, Wong ND, Woo D, Turner MB; on behalf of the American Heart Association Statistics Committee and Stroke Statistics Subcommittee. Heart disease and stroke statistics—2013 update: a report from the American Heart Association. *Circulation*. 2013; 127:e6-e245.
- 15-Heron MP, Hoyert DL, Murphy SL, Xu JQ, Kochanek KD, Tejada-Vera B. Deaths: Final Data for 2006. National vital statistics reports; vol 57 no 14. Hyattsville, Maryland: National Center for Health Statistics
- 16-Djedidi Trabelsi J, YaichKammoun S, AbderraoufKarray M, Feki H, Kassis M, DamakJ. The causes of death of the women of childbearing age at the hospitals of Sfax, Universite de Sfax, Sfax, Tunisie. 2007.
- 17-Harper S, Lynch J, Meersman SC, Breen N, Davis WW, Reichman MC. Trends in area-socioeconomic and race-ethnic disparities in breast cancer incidence, stage at diagnosis, screening, mortality, and survival among women ages 50 years and over (1987-2005). *Cancer Epidemiol Biomarkers Prev*. 2009;18(1):121-31.
- 19-Bouvier-Colle MH, Varnoux N, Costes P, Hatton F: Reasons for the underreporting of maternal mortality in France, as indicated by a survey of all deaths among women of childbearing age. *Int J Epidemiol* 1991, 20:717-21.