ORIGINAL ARTICLE

Knowledge and awareness among medical students about maternal mortality in Pakistan

Sadia Jalil, Sidra Nausheen, Asif Zia Akhtar

Abstract

Objectives: To assess knowledge and awareness of medical students about maternal mortality in Pakistan.

Methods: A cross sectional survey of graduating medical students of Final Years MBBS was conducted in Hamdard University Hospital using a pre-tested self administered questionnaire. A total of 100 i.e 85 students and 15 house surgeons filled the questionnaire.The data was analysed on SPSS.

Results: Only 35% of medical students knew about maternal mortality ratio (MMR) of Pakistan, where as only 55 percents responded correctly about causes of high MMR. They don't have correct idea about social factors and "4 delays" responsible for mortality in our society.

Conclusion: The overall result suggests that our young graduating medical students are not aware of the health situation of Pakistan. They have no idea about basic problems in the society and community about maternal mortality and their role in improving the situation. It is now high time that community based education and training should be introduced in the curriculum so that these young doctors can be utilized in order to achieve the targets set under millennium development goal.

Key Words: Maternal mortality ratio (MMR), Maternal mortality, Community based education

Introduction:

According to WHO, a maternal death in defined as a death of women while pregnant or within 42 days of the end of the pregnancy, irrespective of the duration and the site of the pregnancy, from any cause related or aggravated by the pregnancy or its management, but not from accidental or incidental causes[1]. worldwide, nearly 600,000 women between the ages of 15 and 49 die every year as a result of complications arising from pregnancy and childbirth. The tragedy is that these women die not from disease, but during the normal, life-enhancing process of procreation. Most of these deaths could be avoided if preventive measures were taken and adequate care was available. For every woman who dies, many more suffer from serious conditions that can affect them for the rest of their lives. Maternal mortality is an indicator of disparity and inequity between men and women and its extent is a sign of women's place in society and their access to social, health and nutrition services and to economic opportunities.

Maternal mortality represents the largest and the most persistant gap in health indicators between the developed and developing countries. The maternal mortality ratio (MMR), which measures the risk of death per pregnancy, is upto 40 times higher in some African countries than the countries or Northern Europe[2]. MMR is believed to be the most sensitive indicator of woman's status in a society and of the quality and accessibility of maternal health services available to women.

In Pakistan every year, an estimated 30,000 maternal deaths occur which translates to one

Department of Obstetrics and Gynaecology, Hamdard University Hospital, Karachi
S Jalil
S Nausheen
AZ Akhtar

Correspondence:
Sadia Jalil
R-91, Block-9, KAECHS, Karachi
Tel: 021-4393366 0300-2706295

women dying every 20 minutes[3]. With this high maternal mortality figures Pakistan is a signatory to the millennium declaration 2000, which has set the goal (MDG5) to reduce the MMR to less than 140 by 2015. At present the MMR of Pakistan is 276/100,000 live birth according to PDH survey 2006-7 (excluding non-maternal death during pregnancy and 6 weeks post partum)[4]. Previously it was reported even higher i.e between 350 to 500 / 100,000 live births. This high figure is due to the fact that 40% of pregnant woman do not receive skilled prenatal care or full protection against tetanus4. Moreover almost three fourth (76.7% of the births take place at home, 31% women are assisted by skilled health provider at birth[5]. Delays in seeking medical care for obstetric complication are common.

The poor health and nutrition of women and the lack of care also compromise the health and survival of the infants and children they leave behind. It is estimated that two thirds of infant deaths, each year results largely from poor maternal health and hygiene, inadequate care, inefficient management of delivery and lack of essential care of the new born within first hour of life6. Maternal mortality is not merely a "health disadvantage", it is a "social disadvantage". Health, social and economic interventions are most effective when they are implemented simultaneously.

Medical students, young doctor (house officer) and GP's have a very important role in increasing awareness about the factor responsible for maternal mortality, prevention of anaemia, vaccination, for providing ANC at BHU and recognizing high risk pregnancies, arranging timely referrals. Health promotion by educating the family about the health, nutrition of the pregnant lady and sensitizing the family to avail medical facilities for prenatal, intra partum and post partum care.

The purpose of doing this study was to asses the knowledge among young doctors and medical students of Hamdard University Hospital regarding this important health issue.

Subject and methods:

The study was conducted at Hamdard University Hospital . A cross sectional survey of medical students of Final Years MBBS was conducted using a pre-tested self administered questionnaire. About 85 students and 15 house surgeons filled the questionnaire i.e. 100 were answered. The data was evaluated and analysed on SPSS.

Results:

About 100 questionnaire were filled 85 were the Final year MBBS students and 15 were house surgeons.

Table clearly shows that only 35% of students reported correctly about the MMR of Pakistan and 65% gave wrong answers. The correct answer in our key was 276/100,000 live births. So the respondent who answered around this figure (250-350) were marked correctly. Nationally representative figures for maternal mortality ratio are unavailable because system for registering births and deaths is unreliable and incomplete. In the absence of reliable data, different estimates of MMR have been reported, with wide fluctuation between 3507 and 5008 per 100,000 live births. The latest figures of 276/100,000 livebirths are still not in text so those who answered till 350 were marked correct .

As the causes of mortality are almost same all over the world but the relative contribution of each cause varies from country to country. When causes of maternal mortality in West were asked only 12% of the students answer correctly

Table 1:

	Correct	Incorrect	Non-response
What is the MMR of Pakistan?	35%	65%	--
Is this figure high or acceptable?	100%		
Causes of maternal mortality in West	12%	75%	6%
Causes of maternal mortality in Pakistan	55%	39%	6%
Leading cause of death in Pakistan	50%	44%	6%
Social factors involved in high maternal mortality	30%	64%	6%
Role of students and young doctors in improving MMR	48%	27%	25%
Weightage of this topic in the curriculum	100%		

while 75% gave incorrect answer and 13% did not responded. The key for correct answer was thromboembolism, early pregnancy deaths, hypertension, hemorrhage. When causes of maternal mortality in Pakistan were asked 55% gave the correct answer and 39% gave incorrect while 6% did not responded. The key was hemorrhage, hypertension including eclampsia, obstructed labour, sepsis and abortion.

Regarding the leading cause of maternal mortality in Pakistan 50% marked correct answer which was haemorrhage while 44% were incorrect and 6% were non-responders.

In the end table showed social factors responsible for high maternal mortality. 30% gave the correct answer which were first 3 of "4 delays".
1st delay: delay in identifying a complication
2nd delay: delay in making a decision to seek treatment
3rd delay: delay in getting the women to the health care centre
4th delay: delay in receiving quality treatment 9

While 64% of the students just enlist poverty, malnutrition and lack of education and 6% of the students did not responded.

Regarding role of medical students and young doctors to improve this high figure of maternal mortality 48% respondent correctly while 52% did not have an idea what role they can play in this situation. The expected answers were visiting the villages, providing antenatal care, tetanus toxoid vaccination, counseling of the family and sensitization of the community for this health issue.

100% of the responders were in favour to give more weightage to this topic in curriculum as it is a big health issue.

Discussion:

This study aimed to asses

1. Knowledge of medical students appearing in final year M.B.,B.S. exam about the maternal mortality in Pakistan
2. Awareness about there role in reducing the high figure
3. Importance of this topic in the PMDC curriculum

This study provides the evidence that the overall knowledge among students was average. Regarding MMR in Pakistan estimated figure was not correct in 65% of the responders. Only 35% gave correct answer but all were of the opinion that the figure is very high as in Sub Saharan Africa and needs to controlled through effective strategies.

The causes of maternal mortality are similar all over the world, although overall rates and the relative contribution of each cause vary from country to country[10]. Knowledge about the major cause of maternal mortality in west was responded correctly by 15% only (thromboembolism, hypertension, early pregnancy cases, heamorrhage)[11]. Five major causes have been attributed to bring MMR in Pakistan. These are heamorrhage, hypertension including eclampsia, sepsis, obstructed labour ruptured uterus and abortion[12]. Our survey showed that 60% of the students have some idea about the major causes while 40% even don't know which is an eye opening situation for the trainers at under graduate level. This problem can be rectified by giving more weightage to this topic in curriculum, re-structuring the training program of gynae/Obs clinical students by making it community based and scenario based (clinical drills) rather than just teaching the theory in the lecture hall

Their training programe should incorporate the principles of risk management as developed in the spheres of psychology, aviation and high reliability organization, they should be at the core of undergraduates, post graduates and lifelong learning.[14]

The leading cause of death is heamorrhage in Pakistan which was answered by 50% of the students. As far as the post partum heamorrhage is concerned even a healthy women after having a normal vaginal delivery of a healthy child can be develop this life threatening complication which needs emergency obstetric care at that point. If

these trained health professionals will be present at BHU they can give basic first aid and can transfer the patient to proper place DHQ/tertiary care centre to reduce the first and second delays. All over Pakistan there are 57 Medical colleges both private and public sector producing around 8000 fresh graduates each year. These already trained professionals can be utilized in the community and in rural areas provided they are trained on these lines.

PMDC can make it mandatory to have one month job in rural areas to get M.B.,B.S. certificate. They can be a good help in counseling at the community level regarding health education utilization of medical facilities, awareness about the female health, antenatal care. They can do data collection of the villages and rural area.

Regarding the social factors responsible for this high MMR only 30% give the correct answer while 70% were of the opinion that malnutrition poverty and ignorance is the cause. They have addressed very basic issues which are global problem but have not focused on the "4-delays" and risk factors of the delays causing maternal mortality. This was because of the fact that they never visited the community and community based education is never included in the curriculum.

Poverty is a global issue, literacy rate can't be raised to a great extent. Country's over all economic wealth is not in itself the most important determinant of maternal mortality. There are various examples of countries with modest levels of GNP have achieved low maternal mortality by establishing community based maternal health came system comprising prenatal, delivery and post partum came and a system of referral to a high level of care in the event of obstetric complication example is Brazil, China, Malaysia and Bangladesh[13].

Reducing maternal mortality requires coordinated, long-term efforts. Actions are needed within families and communities, in society as a whole, in health systems, and at the level of national legislation and policy. Further, interactions among the intervention in these areas are critical to reducing maternal mortality and to building and supporting momentum for change. Protocols and statutes aimed at providing both routine maternal care and referral facilities for obstetric complications at each level of the health system need to be developed. Responsibilities at each level for supervision, deployment of healthcare personnel, remuneration, and reporting procedures must be defined nationally. Development and promotion of education and training curricula are important, as is the setting of national norms and standards to govern the selection of trainees, trainers, and supervisors.

The role of the health sector in reducing maternal mortality is to ensure the availability of good-quality essential services to all women during pregnancy and childbirth. With a minimum of good care most women will complete their pregnancies uneventfully; without it, women frequently suffer avoidable complications, which are sometimes life-threatening and often have long-lasting consequences. There is a growing understanding that, while certain pregnancy complications can be prevented, a large proportion that occur, particularly around the time of birth, can be neither prevented nor predicted. Clearly, the presence of trained professional is crucial for the early detection and appropriate, timely management of such complications.

To achieve this within limited resources these students and young doctors are an important cadre of health professionals, therefore the curriculum should lay emphasis on community based clinically oriented teaching as also was the same opinion by 100% of the students.

Limitation of our study was small sample size. Such surveys are required on a larger scale to assess the knowledge and perception of youth about health care situation of their country and progress towards MDG goals.

References:

1. International statistical classification of diseases and related health problems. Tenth revision. Geneva, World Health Organization. Vol.1: tabular list. 1992. Vol.2; instruction manual 1993.
2. Abou Zahr, C. and T.Ward Law. 2004. Maternal mortality in

2000: Estimates developed ob WHO, UNICEF and UNFPA. Geneva, Switzerland: World Health Organization.
3. Sadiqua J, Imtiaz K, Asma Q, Fariyal F;Safe motherhood in Pakistan. Int J of Gyneo and Obs 2008; 102: 179-185.
4. Pakistan Demographic and Health Survey (2006-07)
5. The state of the world's children UNICEF 2007
6. Perinatal mortality; a listing of available information. Geneva. WHO, 1996 (in published documents WHO/FRH/MSM/96.7, available on request from reproductive health and research, World Health Organization, 1211 Geneva 27, Switzerland).
7. Bhutta S, sadiqua J. Safe motherhood . A situation analysis and recommendations for evidence based approaches. Maternal and child health In Pakistan .Karachi ; Oxford University Press; 2004.
8. Government of Pakistan,Ministry of Population Welfare. Population growth and its implications : NIPS ;2005
9. www.unicef.org
10. James Dante an evidence base text for MRCOG.
11. Lewis G. (ed) why mothers die 1997-1999. The fifth report on confidential enquiries into maternal death
12. Sadiqa N. Jaffery PDHS survey 2006-07
13. Bhutta Z A, et al .Countdown to 2015 decade report (2000-10). Lancet 2010: 375; 2032-44.
14. RCOG Guidelines. Clinical risk management for obstetricians and Gynaecologist, published in January 2001