

Assessment of Availability of Essential Human Resource for Health for EmONC Services in Public Sector of Pakistan

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ABSTRACT

Objective: To assess availability and establish the current situation of essential human resource shortage for provision of emergency obstetric and newborn care in public sector health facilities.

Study Design: Observational / descriptive / cross sectional study.

Place and Duration of Study: This study was conducted at the Department of Public Health, Contech School of Public Health, Lahore from January 2013 to December 2013.

Materials and Methods: A robust surveys were conducted by stratified sampling technique by taking 100% samples. 20% sample of basic health units was taken to assess the availability of essential human resource for health to meet the progress of Millennium Development Goal 4 and 5.

Results: Situation of availability of essential human resources at district and tehsil level for provision of maternal and newborn health services was found only 33% at district head quarter hospitals and 1% at tehsil headquarter hospitals. This is an escorting cause of not reducing maternal and child mortality as per target.

Conclusion: Study results suggest accelerated provision of essential human resource for health to provide emergency obstetric and newborn care to reduce maternal and neonatal mortality in the country.

Key Words: Mortality, maternal, newborn, child, health facilities, Human resource for Health

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INTRODUCTION

Global shortage of health workforce has been unanimously considered as one of the key constraints in providing essential health services leading to poor performance of health system to deliver effective and evidence based interventions. This crisis is more pronounced in developing countries as Pakistan is among 57 countries globally that are facing acute shortage of health workforce. Since the adaptation of Millennium Development Goals (MDGs) in year 2000, global health community has focused on reducing Maternal, Newborn, and Child (MNC) mortality through a sequence of initiatives taken for MNC Health in 2005.^{2,3} Despite these efforts, there has been inadequate progress in reducing the number of global MNC deaths.

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This led to serious efforts by the United Nations Secretary General through the initiative of Every Woman Every Child in 2010 and the following constitution of the Commission on accountability for Women & Children's Health.⁴ A study to assess the global trends in MNC mortality in 2010 comprehensively reported that there had been slow, but important, declines of -1.3% per year in the mortality ratio since 1990.⁵ Some estimates reported even larger rates of decline from -1.9% to -3.1%.^{6,7} Acute inadequate number of health workforce was found as most significant factor for not achieving MDGs 4 & 5 by many countries.⁸ If strategic discussion regarding accelerating mortality declines were properly informed, including establishing target of maternal, neonatal and child health, the latest observe and check the progress levels and trends in MNC mortality are essential.⁹

In Pakistan, tracking of maternal mortality has been more difficult as compared to track child mortality.¹⁰ Misclassification of maternal deaths is one of the major challenges in the country; a considerable important error in sampling depend on recall survey because of small number of reported maternal deaths; large measurement demonstrate with repeated overlapping. Variation in the demographic assessment of reproductive-aged mortality also reported from all causes particularly in 1990s. A need of models to synthesize data from multiple studies or generate estimates where data are scanty.^{11,12,13} At times, a note

able differences between global modeling efforts highlight the effect of each of the methodical steps used to assess maternal mortality.¹⁴ Political awareness is increasing regarding Millennium Development Goal (MDG) 5 targets.^{15,16} Donor agencies, national & global health partners, and national program managers are expressing distress by the wide uncertainty or inexactness of meaning in language and variance of estimates from different analysts.¹⁷

Pakistan Demographic and Health Survey (PDHS) 2012-2013 states the Maternal Mortality Ratio (MMR) of Pakistan is 276 deaths per 100,000 live births, under-five mortality (U5MR) is 89 deaths per 1,000 live births and infant mortality rate (IMR) is 74 deaths per 1,000 live births. Over 60 percent of deaths under-five years occur during the neonatal period (55 per 1,000 live births). Almost three-quarters of mothers (73 percent) consult a skilled health provider at least once for antenatal care¹⁸, while Nicholas *et al* (2013) reported 400.6 (233.0 to 560.8) in his article.¹⁹

Rationale: There is conclusive evidence that increased availability of skilled health workers can improve maternal and neonatal outcomes. Pakistan is far behind the MDGs targets as per commitment. Therefore this study was planned to find out the causes by assessing MNCH services being provided by the public sector in primary and secondary health care facilities of Pakistan.

MATERIALS AND METHODS

We took universal sample of the District Head Quarter Hospitals (DHQs), Tehsil Head Quarter Hospitals (THQs) and Rural Health Centers (RHCs) and 20% Basic Health Units (BHUs) for survey, province wise detailed data is given in Table 1.

Prepared a questionnaire containing questions regarding 6/6 preventive MCH services at BHUs, 24/7 Basic MCH services at RHCs and 24/7 comprehensive MCH services at THQs & DHQs being provided in public

sector. The health facilities were assessed according to MNC package and services components of EmONC.

MNCH Services

Comprehensive EmONC services: In addition to basic services, following comprehensive EmONC services are mandatory to be provided 24/7 at District and Tehsil level hospitals, ensuring essential HR i.e. one Gynecologist, one Anesthetist, one Pediatrician and one Blood Transfusion Officer (BTO) available round the clock:

- Surgery (C-section), Blood transfusion, New-born resuscitation & incubation

Basic EmONC Services: Following seven basic EmONC services are mandatory to be provided 24/7 at RHCs, ensuring availability of essential HR i.e. one WMO & one LHV:

- antibiotic administration, utero-tonic (e.g. oxytocin) administration, anticonvulsant (i.e. magnesium sulphate) administration, Manual removal of placenta, Remove retained products of conception (e.g. manual vacuum extraction and D&C), Perform assisted vaginal delivery (vacuum extraction, forceps), Basic neonatal resuscitation (with bag & Mask)

Preventive MNCH Services: Preventive MNCH Services are mandatory to be provided 8/6 at BHUs, ensuring availability of essential HR i.e. one Medical Officer (MO) and one LHV for Antenatal check-up, Urine test for pregnancy, sugar & protein, Blood test for Hb, malaria, family planning services (at least 3 methods), TT immunization, Nutrition counseling, NVD, EPI vaccination and Growth monitoring.

RESULTS

A total of 2,018 (33.5%) primary and secondary health

Table No.1: Province wise and type of facility wise total and surveyed number of health facilities in Pakistan

Name of Province/Region	Number of Health Facilities by type					
	DHQH	THQH/CHs	RHC	BHU	Total	
Azad Jammu & Kashmir	Total HFs	6	12	34	208	260
	Surveyed HFs	6	12	34	40	92
Baluchistan	Total HFs	27	10	82	549	668
	Surveyed HFs	27	10	82	111	230
FATA	Total HFs	4	14	9	174	201
	Surveyed HFs	4	14	9	28	55
Gilgit Baltistan	Total HFs	5	27	2	15	49
	Surveyed HFs	5	27	2	7	41
Khyber Pakhtunkhwa	Total HFs	21	77	90	822	1,010
	Surveyed HFs	21	77	90	162	350
Punjab	Total HFs	34	84	291	2,454	2,863
	Surveyed HFs	34	84	291	493	902
Sindh	Total HFs	11	56	130	774	970
	Surveyed HFs	11	56	130	151	348
Pakistan	Total HFs	108	280	638	4996	6021
	Surveyed HFs	108	280	638	992	2018
Percentage surveyed		100	100	100	19.9	33.5

Table No.2: 2Showing the percentage facilities where essential HR available and percentage of services provided

Name of Area	%age of facilities where essential HR is available District Head Quarter Hospitals	%age of facilities where essential HR is available Tehsil Head Quarter Hospitals	%age of facilities where essential HR is available Rural Health Centers	%age of facilities where essential HR is available Basic Health Units
Azad Jammu & Kashmir	100	8	41	70
Baluchistan	22	0	20	69
FATA	0	0	22	79
Gilgit Baltistan	40	0	0	71
Khyber Pakhtunkhwa	24	0	38	89
Punjab	44	7	66	94
Sindh	18	5	62	83
Pakistan	33	3	36	79

Table No.3: Showing MMR/ number of maternal deaths/ annualized rate of change in maternal mortality ratio (%) of World and Pakistan for the year 1990, 2003 and 2013

Place	Maternal mortality ratio (Per 100 000 live births)			Number of maternal deaths			Annualized rate of change in Maternal mortality ratio (%)		
	1990	2003	2013	1990	2003	2013	1990–2003	2003–13	1990–2013
World	283.2 (258.6 to 306.9)	273.4 (251.1 to 296.6)	209.1 (186.3 to 233.9)	376 034 (343 483 to 407 574)	361 706 (332 230 to 392 393)	292 982 (261 017 to 327 932)	0.3% (-1.1 to 0.6)	-2.7% (-3.9 to -1.5)	-1.3% (-1.9 to -0.8)
Pakistan	423.9 (317.2 to 521.6)	486.5 (360.7 to 595.6)	400.6 (233.0 to 560.8)	18 673 (13 973 to 22 976)	20 875 (15 475 to 25 557)	17 876 (10 397 to 25 026)	1.1% (-1.6 to F3.7)	-2.1% (-7.7 to 2.4)	-0.3% (-2.9 to 1.8)

care facilities were surveyed to establish the existing situation of HRH shortage for essential EmONC services. Universal sample of DHQs, THQs and RHCs were taken, while 19.9% BHU were randomly surveyed (Table.1), to assess and entail the two main variables.

- Availability of essential human resource.
- Provision of MNCH services.

Distribution of the percentage of facilities where essential HR available and percentage of services provided is given in table 2.

Total Health Facilities in Pakistan

Availability was determined to be 4%, 33%, 53% and 86% at THQs, DHQs, RHCs and BHUs respectively. It is construed that essential HR at THQs and DHQs is not as desirable, which needs special consideration of authorities because it is the main impediment to achieve MDG goals (4 & 5) 2015.

DISCUSSION

In global scenario, a fairly optimistic forecast for maternal deaths is 184, 100 (95% UI 133 600–244 700) in 2030. 53 countries including Pakistan will still have MMRs of more than 100. Global MMR decreased from 283.2 (258.6 to 306.9) in 1990 to 209.1 (186.3 to 233.9) in 2013 with annualized rate of change 1.3% of MMR from 1990 to 2013, in comparison to Pakistan MMR in 1990 was reported to be 423.9 (317.2 to 521.6) and 400.6(233.0 to 560.8)in 2013 with annualized rate of change 0.3% of MMR from 1990 to 2013²⁰ (Table 3). According to this data published in lancet May 2013,

situation is not satisfactory and major cause of this maternal situation seems lack of essential HR at district and tehsil level hospitals.

In 2013, 26 countries accounted for 80% of child deaths worldwide including Pakistan. Globally there are nine countries with slower than expected decrease including Pakistan.²⁰

Refined data showed the association between essential HR and mortality, worldwide mortality has decreased by -1.3% per year from 1990-2013. In spite of decrease in the number of deaths from 1990 to 2013, only few countries achieved the MDG target by 2015. It has been noted that pattern in Pakistan showed, very low annual rate of change in maternal mortality ratio (%), identifying non-availability of essential HR in provision of comprehensive and basic EmONC services at district and tehsil levels as the one of the cause. Determination for progress to decrease the mortality in the next 15–20 years in Pakistan have been deemed technically feasible by providing required staff. A gloomy situation at the hospitals regarding the essential HR and the services provided by them drags us further away from attaining the set targets & goals for the maternal, neonatal & child health. In our assessment, only 33% of DHQ and 3% THQ hospitals in Pakistan had essential HR. Situation at the level of RHC hospitals showed that 36% had essential HR in Pakistan, situation in Punjab and Sindh is comparatively is better(66 and 62% respectively).

While taking BHUs in consideration in Pakistan, the situation seems satisfactory and found essential HR in 79% BHUs. Situation of HR in BHUs in all provinces found in the range of 69% (Baluchistan) to 94% (Punjab).

CONCLUSION

There is acute shortage of essential human resource for health at secondary level health facilities especially in THQ hospitals. DHQ hospitals are also not adequately staffed for Comprehensive EmONC services provision, being a major impediment of not achieving MDGs 4 & 5 in Pakistan.

Recommendation: There is a need to provide skilled human resource at secondary level health facilities (THQ and DHQ hospital) for prompt EmONC services for future SDGs achievement.

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REFERENCES

1. Global atlas of the health workforce. Geneva, World Health Organization (<http://www.who.int/globalatlas>, accessed 20 March 2016).
2. Shiffman J, Smith S. Generation of political priority for global health initiatives: a framework and case study of maternal mortality. *Lancet* 2007; 370:1370–79.
3. Bustreo F, Requejo JH, Meriadi M, Prasern C, Songane F. From safe motherhood, newborn, and child survival partnerships to the continuum of care and accountability: Moving first forward to 2015. *Int J Gynecol Obstet* 2012; 119:S6–S8.
4. UN Commission on Information and Accountability for Women's and Children's Health <http://www.everywomaneverychild.org/accountability/coia> (Accessed on 18-11-2015)
5. Hogan MC, Foreman KJ, Naghavi M, et al. Maternal mortality for 181 countries, 1980–2008: a systematic analysis of progress towards Millennium Development Goal 5. *Lancet* 2010; 375:1609–23.
6. Marrying too young. UNFPA. 2012. www.unfpa.org/webdav/site/global/shared/documents/publications/2012/ (Accessed on 18-11-2015)
7. Lozano R, Wang H, Foreman KJ, et al. Progress towards Millennium Development Goals 4 and 5 on maternal and child mortality: an updated systematic analysis. *Lancet* 2011; 378:1139–65.
8. Lewin S, Munabi-Babigumira S, Glenton C, Daniels K, Bosch-Capblanch X, van Wyk BE, Jensen J, Johansen M, Aja GN, et al. Lay health workers in primary and community health care for maternal and child health and the management of infectious diseases. *Cochrane Database Syst Rev* 2010;3(3).
9. Bhutta ZA, Chopra M, Axelson H, et al. Countdown to 2015 decade report (2000–10): taking stock of maternal, newborn, and child survival. *Lancet* 2010; 375: 2032–44.
10. Hounton S, De Bernis L, Hussein J, et al. Towards elimination of maternal deaths: maternal deaths surveillance and response. *Reprod Health* 2013; 2:10:1.
11. Leone T. Measuring differential maternal mortality using census data in developing countries. *Popul Space Place* 2013; published online, 8 Jul 2013. DOI:10.1002/psp.1802
12. ¹Helleringer S, Diouf G, Kanté AM, et al. Misclassification of pregnancy-related deaths in adult mortality surveys: case study in Senegal. *Trop Med Int Health* 2013; 18:27–34
13. Cross S, Bull JS, Graham WJ. What you count is what you target: the implications of maternal death classification for tracking progress towards reducing maternal mortality in developing countries. *Bull World Health Organ* 2010; 88: 147–53.
14. Lawson GW, Keirse MJ. Reflections on the Maternal Mortality Millennium Goal. *Birth* 2013; 40: 96–102
15. Shiffman J, Smith S. Generation of political priority for global health initiatives: a framework and case study of maternal mortality. *Lancet* 2007; 370: 1370–9.
16. Mangham LJ, Hanson K. Scaling up in international health: what are the key issues? *Health Policy Plan* 2010; 25: 85–96
17. Hounton S, De Bernis L, Hussein J, et al. Towards elimination of maternal deaths: maternal deaths surveillance and response. *Reprod Health* 2013; 10:1.
18. Pakistan Demographic and Health Survey, Islamabad 2012–2013.
19. Nicholas J, Amelia B, Megan S, et al. Global, regional, and national levels and causes of maternal mortality during 1990–2013: a systematic analysis for the Global Burden of Disease Study 2013. *Lancet* 2013. [http://dx.doi.org/10.1016/S0140-6736\(14\)60696-6](http://dx.doi.org/10.1016/S0140-6736(14)60696-6)
20. Haidong W, Chelsea A, Matthew M, et al. Global, regional, and national levels of neonatal, infant, and under-5 mortality during 1990–2013: a systematic analysis for the Global Burden of Disease Study 2013. *Lancet* 2013. [http://dx.doi.org/10.1016/S0140-6736\(14\)60497-9](http://dx.doi.org/10.1016/S0140-6736(14)60497-9).