Does Maternal Health Targets is an Obstacle to Millennium Development Goals in Rural Pakistan

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Abstract Different Millennium Development Goals (MDGs) indicators were studied in Mardan district of Khyber Pakhtunkhwa at the grass root level. In Tehsail Mardan three union councils were purposively selected, i.e. Khazana Dheri, Chamtar and Manga as a stratum having a complete rural background. A total of 60 respondents (20 from each village) was selected randomly, due to the time and money limitations. Primary data were analyzed by using descriptive statistics and non parametric tests for obtaining the desired results. Findings revealed that mother's age significantly not varies while there is a significant association in the numbers of deliveries. The majority having live birth and were not attended by any technical personnel. Children were not immunized against EPI and knowledge of malaria and DM were high and for prevention antimalarial medicines and other materils, healthy diet with less sugar and oil, walk/exercise on a regular basis were used. Prevention of early marriages, providing after marriage, birth consultancy services and immunization of children against different contagious diseases is important.

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1. Introduction

Millennium Development Goals (MDGs) originated from the United Nations (UN) millennium declaration. The declaration asserted that every individual has the right to dignity, freedom, equality, a basic standard of living that includes freedom from hunger, violence and encourages tolerance and solidarity. These goals are ambitious, reflecting the urgent need for faster progress on development; every poor country has to prepare a national strategy that addresses these issues. They need to assess whether and how the goals can be achieved within the target period may have to redefine policy priorities; every national development strategy should formulate national policies to attain these goals (Chakravarty and Majumder, 2008). In this context identification of new actions, research and resources may be necessary to reach the MDGs in the developed as well as at the developing and underdeveloped world. These can be seen as a fundamental promotion of human well-being from a multidimensional perspective and the principles enfolded in these goals, share the concept of human well-being underlying the human development index.

Human development is a process of enlarging people's choices. In principle, these choices can be infinite and change over time. But at all levels of development, the three essential ones are for people to lead a long and healthy life, to acquire knowledge and to have access to resources needed for a decent standard of living. If these essential choices are not available, many other opportunities remain inaccessible (UNDP, 2010). It is mentioned in the literature that in the developing world the rural areas are more disadvantageous regions underlining the health care facilities. In health sector more inequalities prevail in the share of the lower and upper quintiles in government expenditures on health care facilities (Akram and Khan, 2007). With the continuing rapid evolution, adoption and relegation of ideas, policies and practices in development, worlds have continued to change and in this context the MDGs has become prominent in development policy for bringing actual changes in the lives of the people (World Bank, 2010).

The Human Development Index (HDI) is widely recognized measure of well being during the last couple of decades. The index has attracted enormous interest in discussions of development, both in policy and academic circles as well as in the broader community interested in development issues. The index simply measures the development as an average of achievements in health, education and income, linked to the basic message that development is about much more than growth and income (Klugman et al., 2011). To compare the development in the modern context the HDI is used for its measurement and it includes reeducation in extreme poverty and hunger,

achievement of universal primary education, promotion of gender equality and empowerment of women, reduction in child mortality, improvement in maternal health, including reducing maternal mortality by three–quarters, prevent the spread of HIV/AIDS, malaria and other diseases, ensure environmental sustainability and to develop a global partnership for development.

Studies examining the impact of social spending on social indicators have produced mixed results. Based on cross-sectional data for developing countries (Baldacci et al., 2003) reported for a positive effect of social spending on social indicators and was also supported by the findings of (Gupta et al., 2003). Also Schultz, (1999) pointed that education and health are interlinked in their contribution to growth. Higher levels of education increase public awareness and the capacity of families to address their own health needs and better health enhances the effective and sustained use of the knowledge and skills that individuals acquire through education.

The MDGs are a global agenda of actions for human development. Inter-countries comparison of progress on MDGs targets from different South Asian countries confirms that there seems little possibility of meeting the MDGs. This is probably due to resource constraints and diversion of resources away from health to meet the pressing expenditures of energy, floods, food and security over the last few years which had a significant impact on the delivery of health services. By looking into this phenomena I the developing world the study in hand is designed with the following objectives.

2. Objecives of the Study

1. To study the different MDGs indicators in the rural Mardan related to the status and development of women.
2. To study the differences in these indicators among the selected villages of the area.
3. To suggest recommendations on the basis of the study findings for future policy formulation about the

different indicators of MDGs in the developing world, generally and particularly with the rural Mardan.

3. Methods and Materials

Mardan district of Khyber Paktunkhwa was selected as a study of the universe. District Mardan comprised of two Tehsail, i.e. Mardan and Takhtbhai. For present study only one Tehsail i.e. Mardan was selected. From this three union councils were purposively selected, i.e. Khazana Dheri, Chamtar and Manga as a stratum having a complete rural background and from the stratum three different sub-stratum of villages namely Gund Abad, Shah Kalay and Muslim Abad were selected for the collection of data and analysis. The area was selected on the analogy that there were a lot of problems associated to the maternal health and thus affecting the targets of the millennium development goals. Respondents were the head of households having age between 25-60 years as a unit of analysis. A total of 60 respondents (20 from each village) was selected randomly, due to the time and money limitations. The pre-tested questionnaires were used for the collection of data and was filled by faced to faced interview with the respondents. The collected primary data was analyzed by using descriptive statistics and non parametric tests for obtaining the desired results.

4. Results and Discussions

Mother and child health has been one of the priority areas of public health in Pakistan. Pakistan has shown a modest improvement in this segment, but the infant and child mortality rates are still very high as compared to the other countries in the region. The study brief discusses about the mother's age, deliveries ended and live births in the last three years, birth attended by the technical and non technical person, children of different age immunized against different diseases and different contagious diseases affecting the children's health at the early age. The discussion starts from the mother's age in the households.

Table 1. Mother age in the study area

Village name	Mother age in years			
	15-25	26-35	36-45	Total
Shah Kalay	13{65%} (12.00) [0.08]	7{35%}(7.00) [0.00]	0 {00%} (1.00) [1.00]	20
Gund Abad	10{50%} (12.00) [0.33]	8{40%} (7.00) [0.14]	2{10%} (1.00) [1.00]	20
Muslim Abad	13 {65%} (12.00) [0.08]	6{30%} (7.00) [0.14]	1{05%} (1.00) [0.00]	20
Totals	36{60%}	21{35%}	3{05%}	60

- A figure without parenthesis is the frequency, {Percent distribution}, (expected cell totals), [Chi-square statistic for each cell].
- Chi-square statistic at 5% level of significance is 2.7857 and p-value is 0.594301.
  Source: Field Survey, 2014.

4.1. Mother Age

Paying due attention to the health of girls and women today is an investment not just for the present but also for future generations. Women's health matters not only to women themselves. It is also crucial to the health of the children they will bear. This implies addressing the underlying social and economic determinants of women's health including education, which directly benefits women and is important for the survival, growth and development of their children. Mother age plays an important role in the

health related aspects of the newborn. Teenage mothers are at increased risk of delivering their babies prematurely, while older moms are more likely to give birth via Caesarean section. The data in Table 1 present information regarding the mother ages. The age of the mother was divided into a class interval of 15-25, 26-35 and 36-45. It is evident from the data that in village Shah Kalay and Muslim Abad more than 65% of the population having mother, age 15-25 while in village Gund Abad 50% mother's age is 15-25. Mother's age in all villages 30% of the respondents reported for having age limits 26-35 and 10% in all villages class limits are 36-45. This

implies that in sample area there are the early marriages practiced which having a negative consequence for the mother's health. It is clear from the overall significant value and single value of every distribution of the chi-square that the percent distribution of the respondent's mother's age doesn't vary among the selected villages of the study area.

4.2. Deliveries Ended in Last 3 Years

The MDGs have been vitally important in maintaining a focus on development and in setting benchmarks in many competing claims on the world's attention. The existence of a separate goal of maternal health draws attention to the lack of progress in this area, and has attracted both political and financial support for accelerating change. The addition of the target of universal access to reproductive health has helped broaden the scope of the goal. The situation is complex due to the way women's issues are handled both within and between governments and international organizations, with multiple initiatives competing for resources. Childbirth is often a joyful time and can have a positive impact on a woman's life and psychological state. It can have a detrimental effect on her emotional well being. The number of deliveries determined the women's health status in the households. Continuous deliveries without any interval by a woman affect the neonatal health and also lead to the complication health problems for the mothers. The data in Table 2 depicts that the number of deliveries ended in last 3 years. The number of deliveries in the last 3 years was divided into no deliveries and 1-2 deliveries. The data in the table shows that in village Shah Kalay 70% of the population have no deliveries ended in the last 3 years while only 30% have 1-2 deliveries ended. This shows that the majority of the people is newly married and having no children yet and still have not opted for the child birth now. There is a significant association in the numbers of deliveries in the last three years in households in the area.

Table 2. Total numbers of deliveries ended in last 3 years

Village name	Number of deliveries ended in last 3 years		
	No deliveries ended	1-2 deliveries ended	Total
Shah Kalay	14 {70%}(12.00) [0.33]	6 {30%} (8.00) [0.50]	20
Gund Abad	7 {35%} (12.00) [2.08]	13 {65%} (8.00) [3.12]	20
Muslim Abad	15 {75%} (12.00) [0.75]	5 {25%} (8.00) [1.12]	20
Column Totals	36{60%}	24{40%}	60

- A figure without parenthesis is the frequency, {Percent distribution}, (expected cell totals), [Chi-square statistic for each cell].
- Chi-square statistic at 5% level of significance is 7.9167 and a P value is 0.019095.
  Source: Field Survey, 2014.

4.3. Live Births in Last 3 Years

Women's ability to plan the number and timing of the children they bear has greatly reduced the health risks associated with pregnancy. The data in Table 3 present information regarding the number of live births in last 3 years. The number of live births in the last 3 years was classified into no births, 1-2 and 3-4. It is evident from the data in the table that in village Shah Kalay 25% of the respondents have no live births while 65% having live births. Similarly, in village Gund Abad and Muslim Abad more than 55% of the people have 1-2 live births and less than 40% have no births yet which shows that there is the high birth rate in the villages.

Table 3. Respondents distribution of number of live births in last 3 years

Village name	Numbers of live births in last three years (2011-2013)			
	No Birth	1-2 birth	3-4 birth	Total
Shah Kalay	5* {25%} (6.67) [0.42]	13 {65%} (11.67) [0.15]	2 {10%} (1.67) [0.07]	20
Gund Abad	8 {40%} (6.67) [0.27]	11 {55%}(11.67) [0.04]	1 {05%} (1.67) [0.27]	20
Muslim Abad	7 {35%} (6.67) [0.02]	11 {55%} (11.67) [0.04]	2 {10%} (1.67) [0.07]	20
Total	20{33%}	35 {58%}	5{09%}	60

- A figure without parenthesis is the frequency, {Percent distribution}, (expected cell totals), [Chi-square statistic for each cell].
- Chi-square statistic at 5% level of significance is 1.3286 and a P value is 0.85651.
  Source: Field Survey, 2014.

4.4. Births Attended by Technical Personnel

Antenatal care is important for the life of the new born as well as the mothers. There are different practitioners in the rural area of the developing world who are attending the birth of the new born. These are TBAs, TTBAs and skilled personnel. Traditional birth attendants (TBAs) have been a subject of discussion on the provision of maternal and newborn health care, especially in developing countries where there is a lack of infrastructure and trained health personnel. In any society, the role of the TBA often reflects the culture and the social organization. They attend for the majority of deliveries in rural areas of developing countries. The causes of the poor health outcome for pregnant women and children are many, but the most important reason is the severe shortage of trained and skilled health workers. The data in Table 4 presents information regarding the birth attended by skilled personnel, by TTBAs and births attended by TBAs. Furthermore, birth attended is classified into not attended by any skilled person, 1-2 and 3 and above. It is evident from the table that in almost all villages 75% of births are not attended by any skilled personnel and especially in village Gund Abad. This is due to so many problems includes the unwillingness of professional health personnel to accept positions in rural areas because of lack of tools and facilities to perform their job and of an inadequate social environment and also that there is a lack of awareness and the majority of the people are farmers and not aware of any maternal health care policy, so the MDGs targets of maternal care are not achieved. As this

situation leads to increase the chances of complication of birth delivery process and hence contributed to maternal mortality. The number of births attended by 1-2 skilled technical person is only 25%. The data in the table further show that the TTBAs only attended 32% of the number of deliveries ranging 1-3 and above and the number of not attended case ratio is 68%. TBAs only attended 40% of the number of deliveries ranging 1-3 and above, and the number of not attended case ratio is 60%. The table as a whole explains that in the area majority of the birth are not attended by any technical personnel.

Table 4. Respondents distribution on the birth attendant status

Village Name	Birth attended person in the last year (skilled and unskilled)							
	attended by unskilled personnel		Attended by TTBAs			Attended by TBAs		
	No birth attended	1-2 numbers of births attended	No birth attended	1-2 numbers of births attended	3 and above numbers of births attended	No birth attended	1-2 numbers of births attended	3 and above of births
Shah Kalay	15*{75%} (15.00) [0.00]	5 {25%} (5.00) [0.00]	14{70%} (13.67) [0.01]	5{25%} (5.33) [0.02]	1{05%}(1.00) [0.00]	12{60%}(12.00)[0.00]	6{30%} (6.00)[0.00]	2{10%} (2.00)[0.00]
Gund Abad	16{80%} (15.00) [0.07]	4{20%} (5.00) [0.20]	15{75%} (13.67) [0.13]	5{25%}(5.33) [0.02]	0{00%}(1.00) [1.00]	13{65%} (12.00)[0.08]	5{25%} (6.00)[0.17]	2{10%} (2.00)[0.00]
Muslim Abad	14{70%} (15.00) [0.07]	6 {30%} (5.00) [0.20]	12 {60%} (13.67) [0.20]	6{30%} (5.33) [0.08]	2{10%} (1.00) [1.00]	11{55%} (12.00)[0.08]	7{35%} (6.00)[0.17]	2{10%} (2.00)[0.00]
Total	45{75%}	15{25%}	41{68%}	16{27%}	3{05%}	36{60%}	18{30%}	6{10%}
	Chi-square= 0.5333, p-value= 0.765928.		Chi-square = 2.4665. P-Value= 0.650651			Chi-square= 0.5. P-Value =0. 973501.		

- A figure without parenthesis is the frequency, {Percent distribution}, (expected cell totals), [Chi-square statistic for each cell].
  Source: Field Survey, 2014.

4.5. Live Born Children under 5 Years of Age

Six causes of death account for 73% of the 10.4 million deaths among children under the age of five years worldwide. In these acute respiratory infections, mainly pneumonia (17%), diarrheal diseases (17%), prematurity and low birth weight (11%), neonatal infections such as sepsis (9%), birth asphyxia and trauma (8%) and malaria (7%). The data in Table 5 presents information regarding children less than 5 years of age. The children under 5 years of age were divided into no child born, 1-2 and 3-4. The table shows that in village Muslim Abad 55% of the people have no children less than 5 years of age. While in Shah Kalay the ratio is 25%. The village Gund Abad have 15% ratio, while 65% having 1-2 number of children having the under 5 years of age. The data in the table also shows that 1-4 numbers of children under 5 years of age is 68%.

Table 5. Respondents distribution of the children under 5 years of age

Village name	Numbers of children under 5 years of age			
	No children	1-2 children	3-4 children	Total
Shah Kalay	5{25%}(6.33) [0.28]	12{60%} (11.33) [0.04]	3{15%} (2.33) [0.19]	20
Gund Abad	3{15%} (6.33) [1.75]	13{65%} (11.33) [0.25]	4{20%} (2.33) [1.19]	20
Muslim Abad	11{55%} (6.33) [3.44]	9{45%} (11.33) [0.48]	0{00%} (2.33) [2.33]	20
Total	19{32%}	34{57%}	7{11%}	60

- A figure without parenthesis is the frequency, {Percent distribution}, (expected cell totals), [Chi-square statistic for each cell].
- Chi-square statistic at 5% level of significance is 9.9527 and p-value is 0.041232.
  Source: Field Survey, 2014.

4.6. Children Less than 5 Years of Age in Months

The data in Table 6 presents information regarding the number of children under 5 years of age. The number of children under 5 years of age were divided into different categories, i.e. children from 1-12 months, 13-24, 25-36 and children under 1 year who received one dose of measles. Further, it is classified into no child, 1-2 and 3 and above. It is evident from the table that the 98% people have no child in 12-23 months and 83% people have no child under 1 year who have not received one dose of measles. The table shows that the people of the area are newly married also it shows that government must launch a program to ensure the dose of measles for the children less than 1 year of age.

Table 6. Distribution of sample respondents having under 5 years age children

Name of Village	No. of children under in a household age months							
	1 -12 months of age			13-24 months of age		25 -36 months age		
	No children	1-2	3 and above	No children	1-2	No children	1-2	3 and above
Shah Kalay	09 {45%}	09 {45%}	02 {10%}	20 {100%}	00 {00%}	08 {40%}	10 {30%}	02 {10%}
Gund Abad	09 {45%}	10 {50%}	01 {05%}	20 {100%}	00 {00%}	05 {25%}	14 {70%}	01 {05%}
Muslim Abad	10 {15%}	07 {35%}	03 {15%}	19 {95%}	01 {05%}	07 {35%}	13 {65%}	00 {00%}
Total	28 {47%}	26 {43%}	06 {10%}	59 {98%}	01 {02%}	20 {33%}	37 {62%}	03 {05%}

- A figure without parenthesis is the frequency, {Percent distribution},
  Source: Field Survey, 2014.

4.7. Children of Different Age Immunized against Different Diseases

The data in Table 7 presents information regarding the number of children less than 5 years of age. The number of children less than 5 years of age were divided into different categories, i.e. children from 12-23 months immunized against EPI, children from 1-12 months fully immunized against EPI and children suffered from diarrhea in last 12 months. Further, it is classified into not immunized, 1-2 and 3 and above. It is evident from the data in the table that 87% of the children in all villages were not immunized against EPI, while 80% of children from 1-12 months were not fully immunized against EPI, 98% of the children were not suffering from diarrhea.

Table 7. Respondents distribution of children under 5 years of age

Village name	No. Of children under 5 (in months) immunized							
	1-12 immunized against EPI			12-23 immunized against EPI			Suffered diarrhea in last 12 months	
	Not immu. {%}	1-2 {%}	3 and above {%}	Not immunized {%}	1-2 {%}	3 and above {%}	Not suff. {%}	1-2 {%}
Shah Kalay	16 {80}	03{15}	01{05}	15{75}	05{25}	00{00}	19{95}	01{05}
Gund Abad	18{90}	02{10}	00{00}	16{80}	03{15}	01{05}	20{100}	00{00}
Muslim Abad	18{90}	01{05}	01{05}	17{85}	02{10}	01{05}	20{100}	00{00}
Total	52{87}	06{10}	02{03}	48{08}	10{17}	02{03}	59{98}	01{02}

- A figure without parenthesis is the frequency, {Percent distribution}
  Source: Field Survey, 2014.

4.8. Malaria Disease

Malaria eradication is one of the important points in MDG. Malaria is one of the major diseases in Pakistan and all around the world. Women are the most vulnerable to malaria in Pakistan because in most rural area's livestock are reared by the women and the dung cakes and dairy products are processed by women so they are vulnerable to mosquitoes which are the main reason of malaria. The data in Table 8 depicts that in all villages 13% of the people don't know about malaria and 87 % of people know about this disease. It is necessary for government and other social sectors to aware more and more people about this disease because if people don't know about a disease so then how one can prevent from it. The ways to prevent the malaria disease, it was reported by 17% of the respondents for use of antimalarial medicines, 63% of the respondents for appropriate prevention measures from mosquitoes, 27% use of mortein, while 15% don't know how to prevent from malaria.

Table 8. Respondents distribution about malaria

Village name	Respondent's knowledge about Malaria					
	Having knowledge {%}	Having no knowledge {%}	If yes, then prevent measures			
			Use of anti-malarial medicines {%}	Prevention measures from mosquitoes {%}	Use of Mortein/ mosquito repellent {%}	Don't know {%}	Total
Shah Kalay	19 {95}	01{05}	03{16}	13 {68}	04{21}	01{05}	19
Gund Abad	20 {100}	00{00}	05{25}	05 {25}	10{50}	00{00}	20
Muslim Abad	13{65}	07{35}	01{08}	12 {92}	00{00}	07{54}	13
Total	52 {87}	08{13}	09{17}	33 {63}	14{27}	08{15}	52

- A figure without parenthesis is the frequency, {Percent distribution},
  Source: Field Survey, 2014.

4.9. Diabetes Mellitus Disease

Diabetes has strong links with poor nutrition, infectious disease and many aspects of social and human development. This effect targets included in the MDGs set and adopted by the global health community with a deadline for meeting specific goals by 2015. Many countries are still behind in their progress towards achieving the MDGs. Diabetes affects individuals with lower socioeconomic status, as well as disproportionately affecting low- and middle-income countries, where the prevalence of diabetes increasing and the burden of infectious diseases remains high. This 'double burden' of infectious and non-communicable diseases is undermining efforts to reduce poverty and achieve the MDGs in many countries. From that data in a Table 9 it is a good sign that almost in all villages 97% people know about DM. The ways to prevent DM, it was reported by 86% of the respondents for healthy diet with less sugar and oil, 14% of the respondents for walk /exercise on a regular basis, while only 3% don't know about how to prevent from DM.

Table 9. Respondent distribution about DM

Village name	Respondent's knowledge about DM				
	Know {%}	Don't Know {%}	If yes, then how one can prevent from DM		
			A {%}	B {%}	C {%}
Shah Kalay	19 {95}	01{05}	17{89}	02{11}	01 {05}
Gund Abad	20{100}	00{00}	18{90}	02{10}	00 {00}
Muslim Abad	19{95}	01{05}	15{79}	04 {21}	01 {05}
Total	58{97}	02{03}	50{86}	08 {14}	02 {05}

- **A**=Healthy diet with less sugar and oil, **B**=Walk /exercise on a regular basis, **C**= don't know
- A figure without parenthesis is the frequency, {Percent distribution}
  Source: Field Survey, 2014.

5. Conclusion and Recommendations

The percent of the population has no deliveries ended in last 3 years. In the area 55% of the people have 1-2 live births and less than 40% have no births yet which shows that there is the high birth rate in the villages. The ratio of births not attended by any skilled personnel is 75%, while the number of births attended by 1-2 skilled/technical personnel is only 25%. The percentage of respondents having children less than 5 years of age is 55. The percent of children not immunized against EPI 87%. Children not suffered from diarrhea in the last 30 days are 98%. Women are particularly vulnerable to HIV infection, due to a combination of biological factors, lack of access to information and services, and social norms and values that undermine their ability to protect themselves.

On the basis of the study findings the following recommendations are forwarded for future policy formulation about the targets of the MDGs in specific to the rural areas of Mardan, other rural areas of the province and Pakistan and the whole developing countries having similar socioeconomic characteristic.

1. There is a need of birth control at the household's level, and this can be achieved by taking into confidence the household head/local elders about the different interventions made by the government and NGOs in the area.
2. There is a need for more skillful persons having specialty in the maternal health care.
3. Efforts should be made for the immunization of children of less than 2 years about the different contagious diseases for building a useful and productive nation for tomorrow challenges.

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