SOCIOLOGICAL ANALYSIS OF MATERNAL MORTALITY RATE AND EARLY MARRIAGES OF GIRLS IN RURAL AREAS OF HYDERABAD DIVISION, SINDH

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ABSTRACT

Maternal Mortality Ratio (MMR) was at priority in Millennium Development Goals (MDGs) of United Nations till 2015. Now it is kept on priority again under second Sustainable Development Goals (SGDs) set by United Nations for 2030. There are many programmatic and social causes of maternal mortality in rural areas of Pakistan. This study explores the sociological barriers such as, early age marriages of girls. An early age marriages of girls, particularly early age deliveries is one of the key cause for maternal death. Projects of NGOs and Mother, Newborn and Child Health (MNCH) program are found less focused on the early age marriages. An exploratory study was carried out using mix methods (qualitative and quantitative), in-depth interviews with mothers and key informant interviews with local maternal health workers including lady health visitors/workers, lady doctors and traditional birth attendants were conducted. A total of 385 mothers and 45 health care professionals were interviewed from different rural areas of Hyderabad division. Semi-structured interview schedule was developed having quantitative and qualitative questions.

It was found that average married women give birth to first child with the space of 1.86 years. During interviews, 31.7% women said that maternal mortalities happened in their villages due to early age pregnancies. It can be concluded that marriages of girls/ women in proper or mature age can reduce maternal mortality rate up to 31.7%. On exploring the number of deaths due to early age deliveries it is was found that 112 women died due to that in Hyderabad division. Early pregnancies are found risky for both the women and the babies in womb. There is urgent need to raise community awareness and sensitization regarding this factor.

Keywords: Maternal Mortality, Hyderabad, MNCH, Early age pregnancies, SDGs

INTRODUCTION

This study is focused on Maternal Mortality Ratio (MMR) in rural areas of Sindh province of Pakistan and how much it is reduced through government (MNCH) program. The MMR is a priority problem for developing countries including Pakistan, it had high priority in MDGs and it is reiterated in SGDs.

The proposed study is focused on maternal mortality in rural areas of Sindh and how much it is related with community knowledge, attitude and practice regarding early age marriages of girls.

It is necessary to design approaches which can penetrate economic and socio-cultural barriers to make sure poor people can access to quality health service. Majority of women get married at younger age but difference of age at time delivery is not found of much significant (Agha, 2014).

This study aims to find out the relation between early age marriages and pregnancies and maternal mortalities. This relation between two variables is tested using chi-square method through proposing null hypothesis against research hypothesis.

REVIEW OF LITERATURE

Pakistan Demographic Health Survey 2006-2007 says that infant mortality rate in Sindh is very high, that is, nearly 81 maternal deaths per 1000 live birth. National Nutrition Survey 2011 found that 24.6 % pregnant women in Sindh had iron deficiency and/or anemia. Whereas, nearly 49.5% pregnant women have deficiency of Vitamin A and 44.6% of pregnant women were found with zinc deficiency (Yousuf *et.al.,* 2001).

A qualitative study was conducted on community perception about maternal health in Sindh. In the sample of study average age of women was nearly 28.5 years. Majority of women (89 %) were housewives, and nearly 49 % were not educated. In focus group discussion men members of community also participated, average age of men was 35 years. Majority of men (92 %) were workers in agriculture fields. Nearly 37 % of men participants were without any formal education. Majority of both women and men found with no any knowledge about critical conditions, such as, pre-eclampsia and/or eclampsia. Respondents said that all of the women do not face and blood pressure problems during pregnancy except women those already have blood pressure history. Respondents said when pregnant women feel dizziness or headache; these are the symptoms of high blood pressure. Respondents were not aware about the danger of blood pressure during pregnancy and delivery. Respondents felt that economic problems, emotional pressure, burden of work and responsibilities do cause blood pressure in pregnant women. Some of them also argued that over thinking also cause blood pressure. Early age pregnancies and poor diet also cause stress and blood pressure among women. Regarding decision making it was found that in mainly family's decisions regarding pregnancies and deliveries are taken by mother in law. All the patients said that they do not prefer to go to lady doctor in case of head ache during pregnancy rather do relay on domestic medication. It can be concluded that there is need of some community based approaches to reduce maternal mortality in rural areas of Sindh (Qureshi *et.al.,* 2016).

In Pakistan nearly 21% population is under poverty line, though poverty has many aspects such as food insecurity and under nutrition.

Further, there are differences in socio-economic life patterns across provinces and districts. The problem of maternal health has many factors interlinked such as, poverty, growing population and poor diet. New changes in constitution such as 18th Amendment devolved powers to provincial level. Provincial government needs to improve mother and child services at grassroots level, such as at district level. Mostly the aims of maternal health and nutrition programs are interlinked and these also can be achieved through health department. A government department in general lacks a system to collect on time and quality data. Government needs to develop data systems based on modern information and technology tools (Bhutta & Hafeez, 2015).

Recent multi indicator survey in Sindh measured 33.2% births out of these 30% are estimated having weight less than 2500 grams. It is found that fertility rate in rural areas of Sindh is 5.2 per women during fertility age from 15 to 49 years. Study found that overall birth rate in urban and rural areas is 4.0 per woman. Study indicates that ratio of early child bearing is reduced in past 10 years, especially in urban areas. As per survey results nearly 20.7% married women between the ages of 45 to 49 years gave first birth before 18 years. Whereas, early child bearing ratio among women age of 20 to 24 years is reduced at level of 10 percent. Ratio of receiving antenatal care is still not satisfactory nearly 41.1% women in overall urban and rural areas received prenatal care for four times during pregnancy (Multi Indicator Cluster Survey, 2014).

RESEARCH METHODOLOGY

Research Design: Proposed study is an ethnographic in nature because it aims at community knowledge, attitude and practices regarding early age marriages of girls.

HYPOTHESIS

Ho: No relationship exists between maternal deaths and early age marriage of girls.

Ho: Early age marriages of girls are likely to effect on maternal mortality.

Interview schedule was used to collect face to face data from mothers in rural areas of Hyderabad division.

Interview Schedule Method was applied to conduct in-depth and Key Informant Interviews (Devi, 2002).

Sampling: Though the targeted respondents of study were pre-defined, such as, maternal health workers in rural areas of Hyderabad and mothers from rural communities. Therefore, non-probability purposive sampling is applied as a sampling technique (Palys, 2008).

Sample size is calculated online through Raosoft Sample Size Calculator.

Margin of error	5%
Level of confidence	95%
Population size	6,829,537
Response distribution	50%
Size of sample	**385**

PARTICIPANTS' DETAILS

District	Mothers
Badin	42
Dadu	43
Hyderabad	42
Jamshoro	43
Matiyari	42
Sujawal	43
TandoAllahyar	44
Tando Muhammad Khan	43
Thatta	43
Total	**385**

FINDINGS

TABLE-1
AGE OF WOMEN AT THE TIME OF MARRIAGE

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	13 to 22	335	87.0	87.0	87.0
	23 to 33	46	11.9	11.9	99.0
	33 to 35	4	1.0	1.0	100.0
	Total	385	100.0	100.0	

Table-1 displays age brackets of women when they got married. As per Table-1, 87.0% women under sample were married between 13 to 22 years, while 11.9% of interviewed women got married between 23 to 33 years. No any women under sample found married after age of 35 years and 1.0% married between 33 to 35 years.

TABLE-2
DESCRIPTIVE OF AGE AT THE TIME OF MARRIAGE

	N	Minimum	Maximum	Mean	Standard Deviation
Age when got married	385	13	35	19.19	3.365
Valid N (list wise)	385				

Table-2 intends to discuss the maximum, minimum and average age of women when married. It was found that average age of getting married was 19.19 years, maximum age limit was 35 years and minimum age at the time of getting married for girls was 13 years.

TABLE-3
AGE OF WOMEN AT THE TIME OF 1ST DELIVERY

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	13 to 22	277	71.9	71.9	71.9
	23 to 33	104	27.0	27.0	99.0
	33 to 35	4	1.0	1.0	100.0
	Total	385	100.0	100.0	

Table-3 depicts age of women at the time of first delivery. As displayed in Table-3, 71.9% women faced first delivery in between 12 to 22 years, while 27.0% women found facing first delivery between 23 to 33 years. Whereas, 1.0% women said that at the time first delivery they were between 33 to 35 years.

TABLE-4
DESCRIPTIVE OF AGE AT THE TIME OF 1ST DELIVERY

	N	Minimum	Maximum	Mean	Standard Deviation
Age while first delivery	385	14	35	21.05	3.584
Valid N (list wise)	385				

Table-4 displays maximum, minimum and average age of women when faced first delivery. It was found that average age at the time of first delivery was 21.05 years, maximum age limit was 35 years and minimum age at the time of getting married for girls was 14 years. Very low space between the year of getting married and year of first delivery is found within cases under study. Only late marriages of girls can solve the issue of risk to life in case of delivery in early age.

TABLE-5
PROBLEMS FACED BY WOMEN DUE EARLY AGE PREGNANCY

		Responses		Percent of Cases
		N	Percent	
Problems early pregnancy	Abdominal pain	121	17.9%	45.3%
	Uterus problem	116	17.2%	43.4%
	Primary Postpartum Hemorrhage (PPH)	124	18.4%	46.4%
	Blood pressure problem	142	21.0%	53.2%
	Hypertension	83	12.3%	31.1%
	Postpartum depression	89	13.2%	33.3%
	Total	**675**	**100.0%**	**252.8%**

a. Dichotomy group tabulated at value 1.

Table-5 explains what types of frequent problems faced by women in early age pregnancy and delivery. High proportion of women (45.3%) said they felt abdominal pain, 43.4% said they faced uterus problem and 46.4% women were very critical because they faced primary postpartum hemorrhage (PPH). Whereas, majority of women (53.2%) faced high blood pressure, 31.1% women said they were under hypertension, and 33.3% were those who were diagnosed under postpartum depression.

TABLE-6
IS EARLY AGE PREGNANCY/ DELIVERY RISKY FOR LIFE?

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	No	48	12.5	12.5	12.5
	Yes	337	87.5	87.5	100.0
	Total	385	100.0	100.0	

Table-6 tells the story of experience of first pregnancy as told by respondents. As mentioned in table 87.5% women were of the view that early pregnancy and delivery is dangerous to the life of mother. However, 12.5% respondents told that they do not see any life taking risk in early pregnancy and delivery.

TABLE-7
WOMEN DIED WHILE DELIVERY IN EARLY AGE

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	No	263	68.3	68.3	68.3
	Yes	122	31.7	31.7	100.0
	Total	385	100.0	100.0	

Table-7 explores the number of maternal deaths in early age deliveries. As per Table-6, 68.3% women said that no any maternal mortality is completely caused by early age delivery in their village. While, 31.7% respondents said that in their village women died because of giving birth in early age. From above figures we may understand that while controlling early age marriages we can reduce at least 31.7% maternal deaths.

TABLE-8
NUMBER OF WOMEN DIED DUE TO EARLY AGE DELIVERY

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	1	67	17.4	17.4	17.4
	2	18	4.7	4.7	22.1
	3	3	.8	.8	22.9
	DK	34	8.8	8.8	31.7
	NA	263	68.3	68.3	100.0
	Total	385	100.0	100.0	

Table-8 explores how many women died due to early age deliveries in rural areas of Hyderabad, Sindh. Here 68.3% witness deaths due to early age pregnancy are excluded, 8.8% respondents did not remember the exact number of deaths, 17.4% witnessed one death, 4.7% witnessed 2 deaths and 0.8% witnessed 3 causalities. Thus, 112 deaths were reported by respondents due to early age delivery from rural areas of Hyderabad, Sindh.

TABLE-9
CROSS TABULATION OF AGE OF MARRIAGE AND QUALIFICATION

		Qualification				Total
		Metric	Middle	Primary	Uneducated	
Age when got married	13	0	0	0	4	4
	14	0	2	0	2	4
	15	0	2	7	14	23
	16	0	4	11	32	47
	17	0	1	13	29	43
	18	0	4	14	49	67
	19	0	9	6	33	48
	20	2	7	6	36	51
	21	0	0	5	15	20
	22	2	6	5	15	28
	23	0	6	0	10	16
	24	2	0	1	10	13
	25	0	0	0	6	6
	26	0	1	0	3	4
	28	0	0	0	2	2
	30	0	0	0	3	3
	32	2	0	0	2	4
	35	0	0	0	2	2
Total		**8**	**42**	**68**	**267**	**385**

Table-9 is generated using cross tabulation formula it aims to compare the relation between two variables. It was found that most of the girls who get married in early age (<18 years) are low qualified or uneducated. It was found that 81 girls were not educated at all, 31 were educated up to primary and 9 were up to middle class. From the Table-9, it is assumed that focusing on girls' education can reduce the early age marriages of girls.

TABLE-10
IS EARLY AGE DELIVERY RISK TO LIFE * ANY WOMEN DIED WHILE DELIVERY IN EARLY AGE, CROSS TABULATION

			Any women died due to early marriage/ pregnancy		Total
			No	Yes	
Is early marriage/ pregnancy risk to life	No	Count	9	39	48
		Expected	24.3	23.7	48.0
	Yes	Count	186	151	337
		Expected	170.7	166.3	337.0
Total		Count	195	190	385
		Expected	195.0	190.0	385.0

Table-10 is a contingency table that explains the figures of two questions against each other. If we see there are two questions in Table and responses are dichotomous. One question asks about if the early marriage/ pregnancy is risk to life of women. There are two responses in rows, number of women checked "No" and number of women checked "Yes". Against responses of that question the responses of other question are given in columns. That question explores that if the early age marriage/ pregnancy is risk to the life of women then any woman died in village due to early age marriage/ pregnancy. If we see the expected count and actual count of women those said "Yes" the woman died due to marriage/pregnancy in early age. Expected count of women deaths due to early age marriage/pregnancy is low as compared to actual count. Therefore, it can be concluded that there is a relationship between early marriages of girls and maternal mortality. Thus, research hypothesis is accepted.

TABLE-11
CHI-SQUARE TESTS

	Value	Df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	22.324[a]	1	.000		
Continuity Correction[b]	20.890	1	.000		
Likelihood Ratio	23.791	1	.000		
Fisher's Exact Test				.000	.000
N of Valid Cases	385				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 23.69.

Significance value 0.05 is higher than P value .008, computed value 22.324 is larger than the tabulated value (3.841), so null hypothesis is rejected.

As per measurement of chi-square value (22.324) on 1 degree of H_a: is accepted and H_o: is rejected. Chi-square test of independence has shown that there is relationship between variables "Early marriages of girls and maternal mortality".

CONCLUSION

Majority of girls get married in early age and deliver first babies in early age. There is very little gap between age of getting married and first pregnancy. So, it can be concluded that late marriages can reduce maternal

mortality ratio. It is found that girls who married in early age were low qualified or uneducated. So, it can be concluded in reverse that educating girls' can delay their marriages which will result in late delivery and in consequences we may reduce maternal mortalities due to early age deliveries. It can also be concluded that early age marriages are causing maternal mortality because of the tendency to reproduce early after married. Thus, the space between getting married and having children will control the mortality rate.

Logically study supports the social, biomedical and feminist models of women health. Because, after understanding of findings we may conclude that to reduce the maternal mortality rate it is also important to examine emotional and psychological aspect of women health.

Concept of social determinants theory of maternal health is supported by the findings of study. This study has found the clear link between girls' education and early age marriages.

RECOMMENDATIONS

- There is a need to develop an integrated model of development to solve the problem, with participation of communities, NGOs and government departments.
- There is need to promote community sensitization regarding maternal health problems associated with early age marriage of girls.
- There is need to promote girls' education in order to reduce early age marriages of girls.
- There is need to explore further about why there is little gap between getting married and first pregnancy and how it can be minimized at community level.

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