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Assessing the Role of Concerns about Health of Mother and Child in Determining Small Family Size in Khyber Pakhtunkhwa Pakistan

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Abstract: *To measure the association between the health of mother and child and reduction in family size. The study was cross-sectional. The study was conducted by the Department of Sociology, University of Peshawar, from March 2013 to June 2016. The data were collected from 384 sampled respondents through interview schedule while chi-square statistics was applied to obtain major results. The study found a significant association of small family size with the statements describing the health of mother a major concern, due to its positive effects on reduction in family size followed by giving a reasonable space between two children and going to the hospital or calling trained health lady at the time of birth despite of the financial constraints. The study found that improved health of mother and child had a significant effect on reduction in family size.*

Key Words: Small Family Size, Fertility, Maternal Health, Children Health

Introduction

The health of mother and child has been a major concern during the last two centuries. High fertility accompanied high mortality prior to the twentieth century, where the number of deaths was especially high among infants and mothers during childbearing. The introduction of new medicines and medical technologies gave special emphasis to making a dent in mother and child mortality. This resulted in an increase in infertility in the last decades of the 19th century in Europe, which almost forced them to check their family size. The same happened in the second half of the 20th century in the developing countries who, on their part, are still struggling against both the high fertility and mortality of mother and child (United Nations 2015; Bhutta, et al., 2014; Bertrand, et al., 2015; United Nations. 2015b.

Family size reflects the preferable number of children according to societal norms and ideals, while personal ideal family size reflects childbearing preference at the individual level, whereas the actual family size is the number of children already born in a family (Testa, 2012). To combat with population threat or large family size, the UN under Millennium Development Goal stated that improved maternal and child health with expanded contraceptive information, counseling and services not only improve the mother and child health but also help achieve the population control goals, especially in the poorest countries of the world (United Nations. 2015b). A UK-based NGO working on improving children's lives through better education, healthcare, and economic opportunities reported that that modern contraception has the capacity to reduce the family size even in the developing countries of the world (Darroch, J. E. et al., 2017). Because of family planning, low pregnancies in the countries like India, China, Nepal, and other Asian and African countries were found linked with higher income, improved nutrition, more access to healthcare, more female education, increased availability of skilled health personals and imparting training in basic and emergency obstetric care (Troiano 2018; Engel, 2014; Ganatra, 2016; Dreze, 2001). Same were the causes of a substantial decline in fertility from 5.3 children per woman in 1970 to 4.4 children in 1980, 3.8 in the 1990s to 3.2 in 1998 in India (Aliyu 2017). Child mortality was found low in families that were small in size. On the other hand, urbanization also influenced couples to decrease the size of their family. In fact, it is fertility that determines maternal and child mortality. The desire for more children was strong among the families having high child mortality. The couple wanted to produce more children for the replacement of those who died. Child mortality is also

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linked with industrialization, where the improved health services had a significant effect on both the death and birth rates (Aliyu, 2017; WHO. 2014; Cesare et al., 2015)

A number of other social factors such as space between children, place of birth, consultation with trained medical personals and economic status of the family are also considered important in the reduction in family size through improved maternal and child healthcare. NIPS and which called socio-economic determinates role, cannot be ignored in the dissemination and delivery of population control messages (Dreze, 2001; Aliyu, 2017). Birth spacing and infant size/weight in this scenario indicate the nature of maternal and child healthcare and mortality. An increase in birth interval positively affects on the health of both mother and child, along with a reduction in the number of births (Cesare et al., 2015; Ahmad, 2016; Ross, 2015). Moreover, in developing countries like Pakistan, poverty and socio-cultural values in rural areas, especially, still not only determine the adoption of family planning but also the maternal healthcare. Due to the low income and remoteness of the area, many of the couples rely on traditional methods of conception. Though it has been changed during the last two to three decades but babies are still born at home, and many families still consult *Dai* a midwife, or prefer to consult the female instead of a male doctor (Bhutta, et al., 2014; WHO. 2014; Cesare et al., 2015; Ahmad, 2016). Similarly, births through traditional methods are still practiced in almost 50 percent of the developing countries, which is further high in South Asia and Sub-Saharan Africa, particularly those who rely on birth attendants with little or no birth and healthcare training. This directly links both the population growth and its control with poverty, socio-economic status, socio-cultural norms, access to basic health facilities, and remoteness of the area you reside (United Nations, 2016; Ross, 2015; Kilpatrick, 2016; Aliyu, 2015; Starbird, 2016).

Material and Methods

The present study was conducted to find out the association between the health of mother and child and family size in District Peshawar. A cross-sectional research design was applied to examine the phenomena. District Peshawar was selected as the universe of the study to get an overall picture of the population control issue from a study population containing all the conditions, groups, and situations leading to change in the family size. Also, both the rural and urban population in the district was more or less equal, and the residents had knowledge and access to all the institutions and technologies designed to adopt family planning in Pakistan. Moreover, it also contained many groups who did not have knowledge and access to these services in spite of living near the provincial capital Peshawar. District Peshawar consisted of 234,434 households according to the 1998 population census. A 119,515 of the total households belonged to the urban areas compared to 114,919 in rural areas of the district (Government of Pakistan. 1999). However, three communities each from the rural and urban localities of District Peshawar were selected randomly for the present study. They represented the district in multiple ways, such as one each from the west, center, and east of Peshawar city and rural areas of the District. An attempt was also made to find out the family size of the people speaking Pushto and Hindko languages. Moreover, one can also compare a relatively wealthier and diverse socio-economic group in the western part of Peshawar city with the comparatively low and homogeneous group in the central and eastern part of the city.

To examine the role of improvement in maternal and child healthcare in the reduction of family size in the study area, a number of sampling methods were considered; however, the systematic sampling method was adopted by keeping in view of the lack of the availability of sampling frame. For that, sampling intervals for each of the selected villages were determined on the basis of its total population and sample size. Choosing sample size was the other major concentration of the study. The sample size is usually determined on the basis of non-statistical and statistical considerations. The former calls for a sample size feasible to the available resources such as time, money, and data collection team keeping in view of the population size, whereas the latter emphasize on the level of precision, confidence level, degree of variation, and dispersing of population (Gratton, 2014). Keeping in view of several variables identified to examine the decline in fertility, a sample size of 384 respondents was finally decided on the basis of the simplified procedure designed by (Sekaran 2003). Proportionate allocation method was applied to determine the sample size from each of the selected area belonging to rural and urban localities in District Peshawar. After the reviewing of all the relevant information from secondary sources, primary data were collected through a pretested questionnaire/interview schedule by a team of investigators under the supervision of the researcher. Roundabout four months were spent on data collection. Results were obtained by using SPSS at uni and bi-variate levels. The uni-variate analysis comprised of the distribution made on the basis of

frequency and percentages whereas bi-variate analysis was conducted to measure the association between dependent i.e. family size and independent variables i.e. contraceptive use. Analysis in this respect was made through Chi-Square and Fisher Exact tests.

Results

This section describes the results obtained after the analysis of data. It starts with the description of the independent variable i-e health of mother and child, and ends with describing the association between dependent and independent variables.

Health of Mother and Child

Following are the results regarding the perception of sampled respondents about the health of mother and child.

Results

Table-1 states that 86.7 percent of the respondents called mother health a matter of concern nowadays. A 90.6 and 93.2 agreed that the health of mother and child is positively associated with small family size and a reasonable space between two children is good for the health of both mother and child respectively. In connection with the various measures adopted during pregnancy, the table further says that in those families where children born at home were 34.6 percent only whereas 63.8 percent negated it. Similarly, those consulted *Dai* or trained lady health workers were 35.7 percent again. On the other hand, those who went to the hospital were 74.2 percent. A 58.3 percent of the total also stated that they cannot afford the expenses on the health of mother and child, while those who were against the examination by male doctors during the pregnancy were again 30.4 percent only. Same was found by UN (2015a), Bhutta et al. (2014), Bertrand et al. (2015), UN (2015), Darroch et al. (2017), Troiano et al. (2018), Di Cesare et al. (2015), WHO (2014) and Ahmad et al. (2016).

Table 1. Health of Mother and Child

S. No	Health of Mother and Child	Yes	No	Uncertain	Total
1.	The health of mother is a matter of concern now-a-days	333(86.7)	45(11.7)	6(1.6)	384(100)
2.	The health of mother and child is positively associated with small family size	348(90.6)	25(6.5)	11(2.9)	384(100)
3.	A reasonable space between two children is good for the health of both mother and child	358(93.2)	19(4.9)	7(1.8)	384(100)
4.	Children are born at home in your family	133(34.6)	245(63.8)	6(1.6)	384(100)
5.	You consult *Dai* at the time of birth	137(35.7)	237(61.7)	10(2.6)	384(100)
6.	You go to the hospital at the time of birth	285(74.2)	90(23.4)	9(2.3)	384(100)
7.	You cannot afford the expenses on the health of mother and child	140(36.5)	224(58.3)	20(5.2)	384(100)
8.	Females in your family are allowed to be examined by a male doctor during pregnancy	132(34.4)	225(58.6)	27(7.0)	384(100)

Source: Field Survey 2015

Health of Mother and Child and Small Family Size

Following are the results regarding the association between the dependent variable, the small family size, with the independent variable, the health of mother and child.

Results

The health of mother and child plays an important role in the adoption of family planning methods particularly during and after pregnancy. Table-2 reports a significant association of small family size with different statements describing the health of mother and child. They include health of the mother is a matter of concern nowadays (0.000) because the health of mother and child is positively associated with family size (0.001). Same are the findings of UN (2016), Bhutta et al. (2014), Engel et al. (2014), Dreze and Murthi. (2001), Bertrand et al. (2015), UN (2015), Darroch et al (2017), Troiano et al. (2018), Ahmad, 2016, Di Cesare (2015) and Ross et al. (2015).

Regarding the care to the health of mother and child, the table-2 again reports a significant association of small family size with independent

variable statements that you consult *Dai* at the time of birth (0.002) and you go to the hospital at the time of birth (0.012) and reasonable space between two children is good for the health of both mother and child (0.000) despite of the fact that you cannot afford the expenses on the health of mother and child (0.000). Those statements found non-significant included children are born at home in your family (0.138) and females in your family are not allowed to be examined by a male doctor during pregnancy (0.242). The same was reported by Ahmad, 2016, Di Cesare et al. (2015), Ross et al. (2015), and Aliyu et al. (2015).

Discussion

After the analysis of data and interpretation of results, the present section discusses the results drawn from the analyzed data in the following two paragraphs. It started with the discussion about independent variables and followed by the discussion about the association between dependent and independent variables.

Results report a positive trend towards mother and child healthcare. It was found as a matter of concern of the respondents in the study area where most of them called it positively associated with small family size. A very large majority were not only believing in the reasonable space between the two children but went to the hospital during the pregnancy and feeling not shame even consulting a male doctor or called dai at least at the time of birth despite of the fact that the majority could afford the expenses on treatment. Similarly, only one third of the total had birth at home.

Furthermore, a strong trend towards the health of mother and child is witnessed in the study area. One of the main outcomes of this concern was the decrease in family size, as the respondents believed that the improved health of mother and child is possible only when you reduce the family size. Instead of birth at home, they went to the hospital or consulted trained health worker or *Dai* during and after pregnancy despite having financial problems. A reasonable space between the two children was the other major consideration. This reveals the strong role of major institutions such as media, family, increased education, urbanization, and modernization towards reduction in family size through improved mother and child health.

Table 2. Association between Health of Mother and Child and Small Family Size

S. No	Health of Mother and Child	Small Family Size			Chi-square P=value
		Yes	No	Uncertain	
1.	The health of mother is a matter of concern now-a-days				
	Yes	215 (56.0)	76 (19.8)	42 (10.9)	$x^2=$ 22.731 (p=0.000)
	No	19 (4.9)	22 (5.7)	4 (1.0)	
	Uncertain	1 (0.3)	2 (0.5)	3 (0.8)	
2.	The health of mother and child is positively associated with small family size.				
	Yes	222 (2.6)	89 (2.1)	37 (1.8)	$x^2=$ 19.663 (p=0.001)
	No	3 (2.6)	3 (2.1)	5 (1.8)	
	Uncertain	3 (0.8)	3 (0.8)	5 (1.3)	
3.	A reasonable space between two children is good for the health of mother and child.				
	Yes	226 (58.9)	94 (24.5)	38 (9.9)	$x^2=$ 24.890 (p=0.000)
	No	5 (1.3)	5 (1.3)	9 (2.3)	
	Uncertain	4 (1.0)	1 (0.3)	2 (0.5)	
4.	Children are born at home in your family.				
	Yes	86 (22.4)	29 (7.6)	18 (4.7)	$x^2=$ 6.962 (p=0.138)
	No	148 (38.5)	68 (17.7)	29 (7.6)	
	Uncertain	1 (0.3)	3 (0.8)	2 (0.5)	
5.	You consult *Dai* at the time of birth.				
	Yes	81 (21.1)	35 (9.1)	21 (5.5)	$x^2=$ 16.588 (p=0.002)
	No	152 (39.6)	62 (16.1)	23 (6.0)	
	Uncertain	2 (0.5)	3 (0.8)	5 (1.3)	
6.	You go to hospital at the time of birth.				
	Yes	172 (44.8)	83 (21.6)	30 (7.8)	$x^2=$ 12.868 (p=0.012)
	No	60 (15.6)	13 (3.4)	17 (4.4)	
	Uncertain	3 (0.8)	4 (1.0)	2 (0.5)	
7.	You cannot afford the expenses on the health of mother and child				
	Yes	99 (25.8)	30 (7.8)	11 (2.9)	$x^2=$ 23.095

	No	131 (34.1)	63 (16.4)	30 (7.8)	(p=0.000)
	Uncertain	5 (1.3)	7 (1.8)	8 (2.1)	
8.	Females in your family are allowed to be examined by male doctor during pregnancy.				
	Yes	84 (21.9)	33 (8.6)	15 (3.9)	$x^2 =$ 5.479
	No	140 (36.5)	57 (14.8)	28 (7.3)	(p=0.242)
	Uncertain	11 (2.9)	10 (2.6)	6 (1.6)	

Source: Field Survey 2015

Conclusion

The study found health of mother and child as a matter of great concern for most of the people in the study area to the extent where they linked it with a reduction in family size by placing a reasonable space between the two children. A positive trend towards going to the hospital or calling trained health lady at the time of birth further proves their orientation concerning the adoption of improved health practices. On the other hand, those having a birth at home or were not allowing females examined by male doctors were small in number.

Recommendations

- The study recommends that the health of mother and child is still a major problem and needs to be addressed on a priority basis with more vigor, attention, and political, financial, and social support of all the concerned agencies at government and non-government levels.
- In a country like Pakistan, one can get better results if mother and child health is linked with family size to reduce high population growth in the country.
- A special attention is needed to discourage the childbirth at home, which was still practiced in the study area.
- Availability and access to medicines and medical survive especially in rural areas, can play a big role in addressing the health issues in general and the health and mortality of mother and child.
- Availability of medicines and medical services in government hospitals and dispensaries can help the low income and lack of access population in meeting health problems, including the health of mother and child in connection with a reduction in family size particularly.

Conflict of Interest/Limitation of the Study

The present study is limited to only 3 communities, each from the rural and urban areas of District Peshawar, Khyber Pakhtunkhwa. In order to get relevant, significant, and creative information regarding family size, the data were collected from households that had at least one married couple at their reproductive age and got married at least five years back at the time of data collection.

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