

# Effects of Gender Biasness on Child Immunization in Pakistan

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**Abstract:** The study aimed to see the gender biasness in child immunization in Pakistan. Cross sectional data were taken from the DHS (Demographic and Health Survey) of Pakistan from year 2005-2006. Study has been done in department of economics Govt. College University Faisalabad from July 2013 – November 2013. Multilogistic model was applied to see the effects of gender biasness. Mother's age at first birth, gender of household head, gender of child, birth order was taken as independent variables. Child immunization was used as the dependent variable. It is concluded that the young mothers immunize their children more than the old mothers. Female child had less probability to get immunized than the male children. Male heads were less conscious to immunize their children than the female heads. It was recommended that the male and female should be treated equally. It was also suggested that the heads of family should be male.

**Keywords:** Immunization, Children, Birth Order, Family, Household Head, Gender, Mother

## 1. Introduction

It is the right of every human being to get equally access to all basic necessities of life. In Millennium Development goal females were focused to get complete rights as they deserve. In Eastern countries women are neglected<sup>1</sup>. Female children are not given equal treatment in case of health that is the basic right of all children. In Asian countries cultural traditions are main hurdle in the woman empowerment. Women are active participants of development in a country<sup>2</sup>.

EPI was started in 1974 by WHO (world health organization). It started its work formally in Pakistan in 1978. Its aim was to provide vaccine free of cost to all areas without any biasness. Its aim was to get rid of polio till 2012 but still it has not achieved its goal. EPI also started vitamin A supplement along with Polio vaccine in 1999<sup>3</sup>.

EPI has formulated some rules and regulations to achieve its objectives some of them are given below

- Immunization should be given at the age of 0-15 month.
- It has decided to complete 90% of immunization that is recommended in its objective.
- Polio should be completely eradicated from the country.

- Tetanus should be removed till 2015.
- Pertussis, Diphtheria and Tuberculosis should be reduced at minimum level<sup>4</sup>.

All policies formulated regarding health are equal for all children. Preference of boys is very common in Asian communities. In India female mortality is often increased. Female is not well fed as boys in this region<sup>5</sup>. In all underdeveloped countries the ratio of females is very high as compared to male. Gender inequality doesn't affect the people in one way while one type of inequality effected the other type. If females are neglected in getting basic health facilities then they also get a neglected behaviour in education. In Asia morbidity and mortality rate of females is very high<sup>6</sup>.

People feel blessing if they got a baby boy but the birth of a baby girl made them worried. In Eastern countries the stigma of dowry is the main cause of creating gender biasness. Gender inequality can be found in a diverse form survival inequality, natal inequality, unequal facilities ownership inequality unequal share of property and domestic

violence. If gender inequality exists in one way it will promotes the other type of gender inequality<sup>7</sup>. Most of the families consider it natural as they got this thought inheritedly. Women has to face the double burden of work both inside and outside the house<sup>8</sup>. The millennium developmental goals were formulated in 1990s and were aimed to achieve them till 2015. The third goal is focusing on the gender equality.

- Completely overcome the poverty and hunger.
- To achieve absolute education in the world.
- To empower woman and enhance gender equality.
- To overcome the child death in the world.
- To bring improvement in the mother's health.
- To reduce the vaccine preventable disease.
- To improve the environmental problems in the country.
- To maintain a global relationship<sup>9</sup>.

Immunization is the protective measure of health. To protect the child before the occurrence of disease is called as immunization. It is necessary to start this immunization soon after birth. The first injection given to the infant is BCG (Bacillus Calmette Gaurmette). In traditional areas people do not prefer it to immunize their children. In Pakistan the mortality and morbidity rate in children are high due to the resistance of families against immunization. People in rural areas are backward and the lack of education make them reluctant to immunize their children. The early fever after the injection create fear in parents to immunize their children. It also protects children from disability and infirmity<sup>10</sup>.

Pakistan is a highly populous country. Despite of all Government efforts still Polio has not been eradicated from the country. To achieve this goal former Prime Minister Banazir Bhutto started NID's (Natal Immunization Day) from 1994. It has also started supplement of vitamin A to the children in association with Polio drops. More than five million children are given the vaccine yearly. The rank of Pakistan in EPI countries is 127<sup>th</sup> out of 133. Comparatively its neighbouring country India is ranked at 118<sup>th</sup>. Newzealand is at 1<sup>st</sup> and Sweden is at 2<sup>nd</sup> rank. The number of fully immunized children has 12% increased from the year 1999<sup>11</sup>.

Death rate is very much helpful in accessing the development of country. It can be reduced only by controlling the disease before its occurrence. Mother's immunization against tetanus during pregnancy is also an important factor in the immunization of children. Mother's who got immunization can get better awareness about immunization in children<sup>12</sup>.

Previous research showed that the parental education, mother's age, sex of household head, awareness has significant impact on child immunization. Political efforts are Government intervention are very important for the achievement of full immunization<sup>13</sup>.

The removal of gender biasness will achieve many developmental goals in country. In India gender biasness is very common<sup>11</sup>. Comparatively in Bangladesh there was more gender equity<sup>12</sup>. In Malawi and Indonesia there was no gender biasness<sup>12,13</sup>. The objective of this study is to see the gender biasness in child immunization in Pakistan.

## 2. Materials and Methods

This study has been conducted in department of economics G.C. University Faisalabad. Study period was July 2013 to November 2013. Data has been taken from (DHS) Demographic and Health Survey of Pakistan (2007- 2008). Immunization was taken as dependent variable. It was consisted in three categories (1) Fully Immunized (2) Not immunized (3) Partial immunized. As the dependent variable was in three categories so the multilogistic model was applied here. There were four independent variables (1) Age at 1<sup>st</sup> birth (2) Birth order (3) Gender of child (4) Gender of household head. Children below 5-years were considered as eligible for the survey while the others were neglected. For dependent variables all injections that were recommended by EPI (Extended Programme on Immunization) in immunization schedule were included. The dependent variable was constructed by taking the following injections/vaccines into considerations: (1) BCG, (2) Polio1 (3) DPT2, (4) Polio2, (5) DPT3, (6) Polio 3, (7) Measles, (8) Polio 0, (9) HBV1, (10) HBV 2 and (11) HBV3.

Independent variables were in categorical form. Mother's age at first birth was categorized as (1) 12-19 (2) 20-25 (3) 26-32 (4) above 32, birth order (1) 1<sup>st</sup> (2) 2<sup>nd</sup>-3<sup>rd</sup> (3) 4<sup>th</sup>

Gender of child, (1) male (2) female, Gender of household head that was also categorized as (1) male (2) female

$$Y_{(a,b)i} = \ln \frac{\Pr(Y = a, b)}{\Pr(Y = c)} = \alpha_{a,b} + \sum_{j=1}^J \beta_{(a,b)j} (Z)_{ij}$$

$$= \alpha + \beta_1(GC) + \beta_2(GHH) + \beta_3(BO) + \beta_4(Age \text{ 1st birth})$$

## 3. Results and Discussions

### 3.1. Frequency of Variables

Percentage of all variables according to their frequency were given below

Table 3.1. Frequency Distribution of Variables.

Description	Category	Percentage
Gender of child	Female	53.2
	Male	46.8
Gender of household head	Male	92.2
	Female	7.8
Birth Order	1 <sup>st</sup>	21.5
	2 <sup>nd</sup> -3 <sup>rd</sup>	17.6
	4 <sup>th</sup> -5 <sup>th</sup>	29.4
	Others	31.5
	12-19	46.2
Age at 1 <sup>st</sup> birth	20-25	42.2
	26-32	10.5
	Above	1.1

Table 3.1. explained that the percentage of male and female children were 53.2% and 46.8%. The ratio of male birth was high in that specific year. The percentage of male household head were 92.2 % and female were 7.8 %. Pakistan was a traditional country so there were found a male dominant society. Most of the families were considered their

males as the head of the family. Females got less dominance. Males were controlling and deciding the rules and regulations of their family. In data the no of children whose birth order was 1<sup>st</sup> 21.5%, the children from 2<sup>nd</sup>-3<sup>rd</sup> 17.6% children from 4<sup>th</sup>-5<sup>th</sup> 29.4 % and the above were 31.5%. Birth order shows that most of the families were having more than five children. People did not think about their economic status and without any planning became ready to give birth to more and more children. Mother's age was also an important factor that were affecting the gender biasness in child immunization the percentage of mothers whose age were between 12-19 was 46.2% the mothers from 20-25 were about 42.2% the mothers from 26-32 were 10.5% and the above were 1.1%. Traditionally Pakistan was a male dominant country so people tried to marry their daughters soon. As they have to arrange dowry for them to satisfy their in laws. Girls were get marry as soon as they grown up. So the ratio of young mothers was very high in Pakistan.

### 3.2. Results for Partial Child Immunization in Pakistan

Table 3.2. explained the results for partial child immunization in Pakistan. It was shown that the mothers who were between 12-19 had 1.114 more probability to immunize their children than the old mothers. The mothers whose age was between 20-26 had 1.067 more likelihood to immunize their children than the mothers whose age were above 32. The mothers whose age were between 26-32 had .728 less chances to immunize their children than the mothers whose age were above 32. The first born children had .836 less chances to get immunization than the children whose birth order was more than five. The children whose birth order was 2<sup>nd</sup> -3<sup>rd</sup> had 1.112 more chances to get immunization than the children whose birth order was more than five. The female head of the family had .645 less probability to immunize their children than the male heads of the family. The female children had .978 less likelihood to get immunization than the male children.

Table 3.2. Results of Multilogistic Regression.

Dependent Variable	Coefficient	Sig	Odd ratio
Constant	3.862	.000	
A_1 <sup>st</sup> 1	.176	.612	1.114
A_1 <sup>st</sup> 2	.074	.823	1.067
A_1 <sup>st</sup> 3	.302	.401	.728
A_1 <sup>st</sup> 4	0		
BO 1	.155	.113	.836
BO 2	.106	.332	1.112
BO 3	.071	.459	1.063
BO 4	0		
HG0	.431	.015	.645
HG1	0		
CG 0	.031	.660	.978
CG 1	0		

### 3.3. Results for Full Child Immunization in Pakistan

Table 3.3. explained that the female children had .921 less chances to get immunization than the male children. Similarly a study conducted at India concluded that the

gender discrimination was more in India<sup>11</sup>. Comparatively another study that was done in UK Pearce, et al (2008) found that the females were not the victims of gender biasness<sup>14</sup>. In contrast to my study a study that was done in Nigeria found no gender discrimination<sup>15</sup>. Another study in four districts of Sindh, Pakistan concluded that the female children were getting more immunization than the male children in Pakistan<sup>16</sup>. The mothers who were between the 12-19 had .074 more chances to immunize their children than the old mothers. The mothers whose age were between 20-26 had .956 less chances to immunize their children than the mothers whose age were above 32. The mothers whose age were between 26-32 had .780 less chances to immunize their children than the old mothers above 32. Similarly another study found that the younger mothers had less chances to immunize their children than the old mothers<sup>13</sup>. Another study concluded that the mother's age was a significant variable affecting the child immunization. The female household heads had .618 less chances to immunize their children than the male heads of the family<sup>18</sup>. Another study evaluated that the families whose head were male had less chances to immunize their children than the female heads<sup>19</sup>. The children whose birth order was 1<sup>st</sup> had .618 less chances to immunize their children than the children whose birth order was more than 5<sup>th</sup>. The children whose birth order was between 2<sup>nd</sup> -3<sup>rd</sup> had .051 more chance to get immunization than the children whose birth order was more than 5<sup>th</sup>. The children whose birth order was between 4<sup>th</sup> to 5<sup>th</sup> had .029 more chances to immunize their children than the children whose no. was more than 5<sup>th</sup>. Another study concluded that the elder children had more chances to get immunization than the younger children of their family<sup>15</sup>. Another study found that the birth order was a significant variable that were affecting child immunization<sup>20</sup>.

Table 3.3. Results of Multilogistic Regression.

Dependent Variable	Coefficient	Sig	Odd ratio
Constant	3.802	.000	
A_1 <sup>st</sup> 1	.071	.857	1.074
A_1 <sup>st</sup> 2	.045	.909	.956
A_1 <sup>st</sup> 3	.248	.543	.780
A_1 <sup>st</sup> 4	0		
BO 1	.066	.573	.937
BO 2	.054	.663	1.051
BO 3	.029	.785	1.029
BO 4	0		
HG0	.481	.010	.618
HG1	0		
CG 0	.082	.315	.921
CG 1	0		

## 4. Conclusion and Recommendation

It was concluded that the young females immunize their male children more than the others. The young girls were energetic and active. They were mentally sharper than the old females. They have opportunities through media to get awareness about the child immunization. While during their social relationship they exchange their knowledge and views

with their family and friends. All these sources made them more conscious about the health of their children. The families whose heads were female immunized their children more than the male heads of the family. Male children got more immunization than the female children. Male were considered as the bread winners of the family. Due to that male children were treated specially. The birth of a male child brought happiness. At the same time if there was a birth of female child people became sad in most rural areas. It was suggested that male and female children should be treated equally there should be no gender biasness in any case. Females had to further brought up the nation so they required more health care. Young mothers immunize more their children so it was suggested that the girls should be married early as a healthy mother can make her child more healthy than the old mother. In the traditional culture of Pakistan the first children were neglected when they diseased then parents started to give attention. At early stage people did not know about the care of children. Awareness should be given to both male and female before marriage. So they should be conscious about the health of their children. Female heads reduced the caring of their children so the head of family should be the male. Females should give attention to their children that should be their first priority.

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