

# How Illiteracy Affects the Health of Women and Their Children in PMC Colony F Block

Humayun Suqrat Hasan Imam, Farah Ahmed Chohan, Muhammad Murtaza, Iqra Qamar, Fatima Tuz Zahra, Ayesha Shahab, Zarnab Khalid, Wajiha Ismail

## ABSTRACT

**Background:** Maternal education has a strong correlation with maternal and child health. Higher number of years of education is linked with lower incidence of disease and better immunization status of children. **Objective:** To determine the effect of illiteracy on the health of women and their children. **Study Design:** Comparative Cross-sectional study. **Setting:** PMC Colony F Block Faisalabad. **Duration of study:** One month duration from 20<sup>th</sup> July, 2016 to 20<sup>th</sup> August, 2016. **Methodology:** Cross-sectional study was done on 30 illiterate and 30 literate females. Every woman was interviewed with a printed questionnaire after taking informed consent. Their age, educational status and number of children were recorded. The parameters used to ascertain children's health included: vaccination status, nutrition, place of birth and hygiene. Maternal health was assessed by the number of children a woman had, antenatal visits, immunization against Tetanus and Hepatitis B, use of contraception and preferred place of treatment in case of complications in pregnancy and abortion. **Results:** Assessment of data revealed that 50% of women in the area were literate and 50% illiterate. Illiterate mothers had higher number of children, less use of contraception, less frequent antenatal visits and less awareness about proper nutrition and hygiene as compared to literate women. Difference was also observed in favor of literate mothers regarding the issue of vaccination and hospital preference for treatment. **Conclusion:** There is a positive association between maternal education and her health seeking behavior in terms of use of contraception and safe delivery practices. Maternal education is also linked with improved child health.

**Keywords:** Literate, Illiterate, Contraception, Antenatal, Nutrition, Hygiene, Vaccination, Hospital.

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## INTRODUCTION

Illiteracy is one the main causes of poor maternal and child health in Pakistan.<sup>1</sup> Pakistan's Maternal Neonatal and Child (MNCH) Health Indicators lag behind those of most developing nations. Health indicators regarding MNC show that a great deal of work is required to improve the health status of these indicators. Pakistan has a Maternal Mortality Rate of 276/100,000 and Neonatal Mortality Rate of 55/1000. The births of 41% of women are assisted by TBAs (Traditional Birth Attendants). Infant Mortality Rate is 78 per 1000 live births.<sup>2</sup>

Maternal literacy is believed to be of utmost importance in the development of society. A mother is responsible for providing care to her children in the early years of their lives. This is dependent largely on her education and awareness. Research has shown a strong correlation between women's education and its effect on maternal and child health.<sup>3</sup> Higher number of years of education is linked with lower incidence of disease and better

immunization status of children.<sup>4</sup> A literate mother can implement good health practices in her home. She has better access to health care information. An educated mother is more likely to have a say in family health matters, decision making and distribution of resources.<sup>5</sup>

A considerable amount of work has been done to find out the importance of women's schooling in maternal and child health, both in Pakistan and the world. The World Fertility Survey and Demographic and Health Survey confirmed the finding that maternal schooling was independently associated with infant and child mortality.<sup>6</sup> A study carried out in Peshawar, Pakistan also concluded that there is strong and consistent correlation between maternal education and child health<sup>7</sup>. Thirty years of research data taken from Asia, Africa and Latin America has shown that maternal schooling is associated with reduction in child mortality in less developed countries.<sup>6</sup>

Establishing the link between female literacy and maternal and child health in Pakistan is also important because of the low literacy rate among females in the country. Article thirty eight of the Constitution of Pakistan states that education in Pakistan is a fundamental right of every citizen<sup>8</sup>. According to the 2011 Human Development Report of the United Nations Development Program, approximately twice as many males as females receive a secondary education in Pakistan. Public expenditures in education is only 2.7% of the GDP of the country.<sup>9</sup> The country's overall female literacy rate in 2013-14 was 47%. The Government of Pakistan was committed to achieving a reduction in infant mortality rate to <55 per thousand live births, the new born mortality rate to <40 per thousand live births and maternal mortality rate to 140 per 100,000 live births in 2015. This has not been achieved.

The Government of Pakistan has made extensive efforts to decrease maternal and infant mortality through a number of vertical and horizontal programs. These include the Family Planning and Primary Healthcare Program (Lady Health Workers Program) and National Maternal and Child Health Program. The 5-year Pakistan Initiative for Mothers and Newborns (PAIMAN) program includes preparation for birth, skilled attendant at birth and provision of emergency obstetric care for women. The 5-year Family Advancement for Life and Health (FALAH) project focuses on pregnancy spacing to improve the health of women and their newborn children.<sup>10</sup> Other programs include Pakistan Initiative for Mothers and Newborn, Technical Assistance for Capacity Building in Mid Wifery Information and Logistics and Family Advancement for Life and Health. Pakistan is faced with many obstacles in achieving improved maternal and child health. Lack of women to resources such as education prevents them from seeking health care. Pakistan lacks appropriate policies to improve women's education and health services. Progress towards education and improved maternal and child health indicators has been slow.<sup>11</sup>

The World Health Organization (WHO) defines maternal health as the "health of women during pregnancy, childbirth and postpartum period." One third of a million women die each year due to pregnancy related conditions.<sup>12</sup> 99% of these deaths occur in the developing countries and ¾ of these can be prevented if appropriate measures are taken.<sup>13</sup> According to Millennium Development Goal five, Maternal Mortality Ratio had to be decreased to three quarters by 2015 and universal access to high quality reproductive health was to be ensured.<sup>14</sup> Considerable research has been done to establish

the link between maternal health and the level of education of the woman. It has established a strong correlation between the use of health services by the mother and the level of her education.<sup>15</sup> A woman's literacy level has a relation with maternal mortality.<sup>16</sup> Illiteracy is a major factor affecting women during pregnancy, childbirth and the post partum period. An illiterate mother is more likely to be susceptible to adverse outcomes during this time.<sup>17</sup>

A study was carried out on 287,035 patients giving birth in 373 health care facilities in 24 countries in Asia, Africa and Latin America from 2007 to 2008 as part of WHO Global Survey on Maternal and Perinatal Health.<sup>18</sup> Results of this study revealed that women with no education at all had 2.7 times the risk of maternal mortality when compared with women of more than 12 years of education. This study suggests that educated women are more likely to obtain and comprehend information regarding good reproductive health. Education has both direct and indirect effects in determining a mother's health seeking behavior. Education increases a woman's knowledge regarding health. It allows them to assess information and increase their knowledge on health related matters even after they leave school. According to evidence, this is because a woman can add to her health knowledge through literacy skills acquired at school.

Due to the scarcity of studies regarding maternal health and education in Pakistan, a study was conducted to find out how a woman's literacy affected her health seeking behavior.<sup>19</sup> The study, conducted on 10023 women revealed that 39 percent women went for antenatal checkups for three times during their last pregnancy. 51 percent received two tetanus toxoid injections. Around 38 percent gave birth at a health care facility and 24 percent used postnatal care. The study revealed that more than 70 percent of women in Pakistan were either uneducated or had education less than primary level. This study concluded that maternal literacy and her knowledge of health played a major role in her tendency to seek maternal health care. The effect of education was more pronounced in women who had obtained higher education. It also showed that women with any level of education were more likely to seek health care during the reproductive years. Maternal literacy increases a woman's awareness, giving her a greater role in the family. This leads to an increase in her tendency to seek maternal health care.

Likewise, it has been noted that maternal education is very strongly associated with child health. South Asia has high levels of infant mortality with 34% of child deaths occurring in this region. Pakistan has an

Infant Mortality Rate of 78 deaths/1,000 live births. Children (54%) of age 12-23 months are fully vaccinated with BCG (Bacille Calmette Guerin), measles, and three doses of DPT (Diphtheria, Pertussis, Tetanus) and polio. Children whose mothers are illiterate are half as likely to be fully vaccinated as children whose mothers have more than secondary education (40 percent and 76 percent, respectively). According to the Pakistan Demographic Health Survey, the prevalence of ARI (Acute Respiratory Illness), fever and diarrhea in Pakistan is 16, 38 and 23 percent respectively. Only 38 percent of children are exclusively breast fed in the first six months of life. Bottle feeding below two years of age is widely prevalent.<sup>2</sup>

**Objective:** The objective of the study was to determine the effect of illiteracy on the health of women and their children.

## METHODOLOGY

**Study Design:** Cross Sectional Study

**Study Population:** The study was conducted on females residing in PMC Colony F Block Faisalabad.

**Place of Study:** PMC Colony F Block Faisalabad

**Duration of Study:** Study was conducted on women living in PMC Colony F Block from 20<sup>th</sup> July 2016 to 20<sup>th</sup> August 2016.

**Sampling Size:** 60 women (30 literate, 30 illiterate) were selected during our period of study.

**Sampling Technique:** Non probability sampling was done because of short time and financial constraints.

**Data Collection Procedure:** The population had both literate and illiterate females. Interviews were conducted with pre-developed questionnaire after taking informed consent.

**Data Analysis Procedure:** Data collected was fed into the computer software and analyzed using SPSS frequency tables.

**Inclusion criteria:** Married, literate and illiterate women

**Exclusion criteria:** Unmarried

**Ethical Issues:** There was no ethical problem in conducting the research. The women were very cooperative in replying to our questionnaire and we faced no problem in collection of data.

## RESULTS

The results of our study showed that among illiterate women, 60% had 4 or more children, 27% used contraception, 100% opted for an unskilled Dai for abortion, 47% had ante-natal checkups, 20% had complications during pregnancy, 73% were aware of balanced diet for their infants, 13% completed the course of tetanus vaccination while 33% had no

vaccination at all, 60% received vaccination for Hep B, 7% had their children not vaccinated; 33% had incomplete vaccinations; 60% had fully vaccinated, 73% were found not washing their children's bottles before use and 27% had no awareness about preventable infectious diseases.

**Table 1: Number of children**

Number of Children	Literate women (%)	Illiterate women (%)
0-3	87	40
4 or more	13	60

**Table 2: Frequency of hospital visits for antenatal checkups**

Antenatal visits	Literate women (%)	Illiterate women (%)
Once	0	13
Twice	27	7
Throughout Pregnancy	73	47
Not At All	0	33

**Table 3: Women ensuring provision of balanced diet to their family**

Provision of balanced diet	Literate women (%)	Illiterate women (%)
Yes	100	60
No	0	40

**Table 4: Women receiving tetanus vaccine during pregnancy**

Tetanus Vaccine	Literate women (%)	Illiterate women (%)
No	0	33
Twice	40	53
Full Course	60	13

**Table 5: EPI Vaccination in children**

Children Vaccinated	Literate women (%)	Illiterate women (%)
Fully	80	60
Not Completely	20	33
Not At All	0	7

**Table 6: Frequency of infectious gastroenteritis, respiratory or skin infections**

Infectious Diseases	Literate (%)	Illiterate (%)
Yes	67	80
No	33	20

## DISCUSSION

Maternal literacy is an important contributor of improved child health. This is because women who attend school are proficient in language which enhances their communication skills regarding health. They can comprehend public health messages and interact with health care providers. Mothers in their teenage have children with the worst health outcomes and children of mothers who have their first birth in their early 20s are also at risk of poor health outcomes compared to first time mothers in their late 20s.<sup>20</sup> In accord with the literature findings<sup>21-24</sup>, educated mothers are more likely to get their children vaccinated than illiterate mothers.

The UNICEF (United Nations International Children Emergency Fund) Nepal Survey showed that maternal education was associated with improved child health outcomes.<sup>25</sup> Result of one study showed that maternal education could improve a child's nutritional status by improving health knowledge and use of health services.<sup>26</sup> A study conducted in China concluded that maternal literacy played an important role in the health of adopted children even after controlling socioeconomic variables. It was suggested to be caused by the crucial role of the mother in post natal nurturing.<sup>27</sup> A study conducted in Peshawar, Pakistan in 2008 on 400 mothers concluded that there was a strong and constant relation between maternal literacy and child health. The study established that increasing maternal education could result in a significant reduction in childhood morbidity and mortality.<sup>7</sup> It also showed that children born to educated mothers had better nutritional status in terms of weight and height. Maternal literacy and age have been determined as important confounders for child development. A study carried out in Nigeria showed that there was a strong relationship between maternal literacy and the frequency of malnutrition and stunting in the children. It concluded that maternal education had to be increased in order to empower women and impart them with the correct knowledge of nutrition.<sup>28</sup>

The results of numerous studies have established a positive correlation between a woman's education and its effect on her own health seeking behavior and her children's health. Educated women have fewer children when compared with uneducated women. Also, a decrease in fertility rate is observed with increasing years of education.<sup>29</sup> Education also has an effect on contraceptive use.<sup>30</sup>

Our research also found similar results with 60% of illiterate women having 4 or more children. This percentage was found to be 13% in the literate group. 27% of the illiterate women used

contraceptive methods for proper spacing in their children compared to 67% of the educated women. The probability that a woman consults a skilled health care provider for antenatal checkups increases with her level of education with the antenatal care utilization becoming universal in women who have received secondary or higher education.<sup>2</sup> The present study agrees with this finding as 73% of educated women received antenatal care throughout pregnancy compared with 47% of the illiterate. The other facets of maternal health care like safe delivery and vaccination against tetanus also show similar results in the two groups.<sup>19</sup> Our study found that 53% of uneducated women favored their homes for delivery compared with only 7% in the educated group. Similarly, 13% of the illiterate women did not receive tetanus vaccination at all. All women in the literate group received the vaccination; with 60% receiving the full course. One research has established a strong and positive effect of mother's education on a child's weight-for-age and weight-for-age which shows malnutrition and wasting. This effect was mediated by a mother's knowledge about nutrition.<sup>26</sup> The current study also showed that a lesser percentage of illiterate women had knowledge about balanced diet as compared to the educated group with even lesser percentage ensuring the provision of balanced diet to their family. Research has also gathered evidence that maternal literacy is an important factor determining infant and child mortality.<sup>22</sup>

Results of various studies carried in Pakistan and abroad show that there is a strong link between a mother's level of education and awareness and her children's health. A literate mother is more likely to get her children vaccinated.<sup>7</sup> In accord with the literature findings, our research also showed that the frequency of infectious diseases was higher among the illiterate, with less awareness of the diseases being preventable. 7% of women in the illiterate group did not get their children vaccinated at all. This percentage was zero in the educated women. A higher percentage of women among the literate chose to get their children fully vaccinated as compared to the illiterate.

Our study showed that the awareness of the importance of breast feeding was equal among the two groups but 13% of the literate women did not breast feed their children at all. The proportion of women choosing to exclusively breast feed was also higher among the illiterate group. However, a lesser percentage of illiterate women knew the problems associated with bottle milk. 73% of illiterate women were found not washing their children's bottles before use. 100% of the educated women washed

the bottles. We also found that the percentage of women taking their children to a doctor when they were sick was equal in both groups. All women who were surveyed believed that education and better access to health care information would lead to improvement in their own health as well as the health of their children.

Although a lot of work has been done to establish the link between maternal education and its effect on the health of mother and child, the pathway through which education acts to bring about this improvement remains unclear. One possible explanation is as follows: A girl becomes proficient in reading and academic language as she gains education at a school. This improves her health communication skills, thus enabling her to acquire resources for her children's health. An educated woman is more assertive and thus likely to seek maternal health care.<sup>6</sup>

### Limitation of Study

The results of our research cannot be taken to a broader level as we used non probability sampling and small sample size owing to financial and time constraints. However using probability sampling and larger sample size results would be more appreciable.

### CONCLUSION

There is a positive association between maternal education and health seeking behavior among literate women as compared to illiterate women in terms of use of contraception and safe delivery practices. Maternal education is also linked with improved child health especially regarding vaccination status and infectious diseases which may lead to child mortality.

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