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WOMEN EMPOWERMENT AND HOUSEHOLD WEALTH: Implication for Child Health-Care

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Abstract

It is generally presumed that women empowerment and household wealth improves health-care of the households; and it may be argued that in absence of sufficient household wealth, women empowerment cannot operate for households' health-care. The current study focuses to detangle the issue and role of women empowerment, in child health-care for varying wealth status of the households. Empirically, it is investigated by using the Pakistan Social and Living Standard Measurement survey (2011-12). Child health-care is measured by the number of vaccinations received by the child as a categorical variable. Women empowerment is measured by an index constructed by women decision making regarding purchase of basic necessities of household, medical treatment and, recreation and travel. Household wealth is measured by wealth quintiles generated from a set of household living conditions by principle component analysis. Results of the ordered logistic regression revealed that high woman empowerment in low wealth quintiles show positive impact on child health-care. It may be inferred that woman empowerment enhances probability of child health-care, irrespective of household's wealth status. There is no role of household wealth in the impact of woman empowerment on child health-care. In control variables, male sex of child, mother's education, female headship of the household, prenatal-care taken by mothers, urban locality and wealth status of the household, increase the probability of child health-care in Pakistan.

Key Words: Household Economics, Woman Autonomy, Woman Empowerment, Wealth Index, PSLM, Child Immunization, Child Health.
JEL Classification: H54, H73, I12, J13.

I. Introduction

Child health status is a yard stick for quality of life in developing economies. It affects performance and school enrollment of a child. Poor health and lack of nutrition affect adversely, the child's ability to learn. The situation of child-health is not good in many developing economies. For instance, the prevalence of anemia among children (under 5) is 61, 32, 35 and 56 per cents in Pakistan, Algeria, Azerbaijan and Bangladesh,

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respectively. Similarly, measles immunization of children (percentage of children 12 to 23 months) is 63, 95, 98 and 89 in these economies. Globally an estimated 19.4 million infants did not avail immunization facility. Around 60 per cent of them live in 10 countries, including Pakistan [World Bank (2017)], where polio cases still exist and Polio 3 vaccination is given to 85 per cent of the children [NIPS and ICF (2013)]. Only 54 per cent of children in the age group of 6 to 23 months are fully immunized and 5 per cent of them falling in the same age group do not have vaccinations, at all. [WHO (2016)].

There is a wide range of determinants in health-care of children. In many developing economies socioeconomic factors of health-care like poverty, education, and wealth status and gender discrimination have been identified by researchers. Among them mother's characteristics are more important for child health. For instance, increased number of years of mother's schooling has positive impact on child health as compared to father's years of schooling [Astone, et al. (2007), and Khan and Aslam (2017)]. Similarly, in families where women are head of the households, children are better-off, as compared to those families where men are the head of households; regardless of wealth and income (Kumar 1985). A woman with good decision-making within their households enhances the child welfare [Doan and Popkin (1993)]. Mother's health status also, positively contributes to child health-care [Khan and Raza (2014)].

Women empowerment is one of the prime factors of child health-care. It is relative in terms and incorporates the idea of gender discrimination. It depends on the concept of power, i.e., the ability to make choice. This power is implemented through decision making ability [Riley (1997), and Kabeer (1999)]. According to the empirical findings of 36 countries women's status has positive impact on child's health. Females with higher status are cared better and are able to provide high quality care to their children. Among the developing countries, South Asian children have high malnutrition rate due to three socio-economic factors; one of them is woman's status [Smith, et al. (2003)].

Investment in child health is determined by intra-household resource allocation which depends on gender discrimination in the households. Households where woman play a primary role in decision making, the proportion of resources allocated to child-care remains higher than those households where woman has lesser part in decision making [Bruce, et al., (1995)]. It is called maternal altruism as it assume that power in woman hand leads to better child health-care [Mason (1986)]. After the introduction in Section I, review of literature is discussed in Section II; and, theoretical framework and methodology is explained in Section III. Results and discussion are presented in Section IV, while conclusion and policy recommendations are given in Section V.

II. Literature Review

A variety of literature exists on women empowerment and on child health; but however in Pakistan, little work has been done on this issue. For India, Sethuraman

(2008) revealed a positive impact of women empowerment and negative impact of domestic violence on child's nutrition. Smith, et al. (2003) found affirmative impact of women empowerment on child health-care in Asia, Sub-Saharan Africa and Latin America, and Caribbean. However, for Nepal Allendorf (2007) has shown positive impact of women's land rights on child immunization and health-care but there is no significant effect of women empowerment on both components of child's health.

Literature on child health also demonstrated that wealth status of a household affects nutrition, health-care and health status of children. Alam, et al. (2010) found the household wealth as a significant determinant of child immunization in Pakistan. Kamiya (2011) exposed a positive impact of wealth and negative impact of domestic violence on child health and nutrition in Lao. Abuya, et al. (2011) showed a positive impact of wealth on child immunization and nutrition, in Kenya. Ukwuani and Suchindran (2003) discovered a negative effect of mother's work and positive effect of household's wealth on child nutrition, in Nigeria. Similar results were reported by Wamani, et al. (2004), Frost, et al. (2005), and Khan and Raza (2014); for Uganda, Bolivia and Bangladesh, respectively. Khan and Aslam (2017) revealed that household wealth along with social institutions (ethnicity) and the regions (provinces and capital) have significant effect on child immunization in Pakistan.

Mother makes choice for child health-care and his/her diet, nutrition, medical-care and preventive measures for diseases. It is argued that limited income and wealth are major constraint for mother's choice regarding child health-care. For implementation of her choice there is a need of resources. It confers that to affect child health-care there lies a wealth factor, which is an essential for woman empowerment. It is hypothesized that woman empowerment acts only when a household has sufficient wealth. The focus of the current study is to see whether women empowerment is solely sufficient for good health-care of children or it also needs household wealth. For this purpose, interaction terms of women empowerment and household wealth are created. To the best knowledge of the authors, none of the earlier studies have used such type of interaction terms for child health-care analysis. Therefore, the core objective of this study is to see the impact of interaction of women empowerment and household wealth on child health-care, in Pakistan.

III. Theoretical Framework and Methodology

There are several behavioral models which may be applied for analyzing the health-care behavior. For example, Grossman (1972) theory of demand for health, Andersen and Newman (1973) model for health-care behavior; McCarthy and Maine (1992) framework of individual, household, community and health system factors for use of health services; and Donabedian (1998) model for quality of health-care. Grossman (1972) model explains the determinants of health capital which an individual possesses and mainly discussed the demand-side determinants of health-care. Anderson

and Newman model covers the dimensions of health-care like type of health service system and, individual and societal determinants of health care utilization behavior. Donabedian model explains both, the demand and supply sides determinants of health-care. It mainly covers the customer's relation with health-care institutions and his/her satisfaction level achieved by visiting health care institutions.

1. Theoretical Model

This study adopts the Anderson and Newman (1973) model to see the determinants of child health-care, particularly focusing on interaction of women empowerment and household wealth. The model assumes that a sequence of conditions determine the level of health-care given to an individual; which depends on three factors, i.e., predisposing, enabling and status of illness. The predisposing process assumes that some individuals have a higher propensity to use health services than the others, where it is predicted by demographic characteristics, social structure and beliefs. Enabling component is measured by family resources such as income, community resources, health insurance services and resources of family for health-care. The community resources differentiate individuals which are not comparable with the concept of equitable distribution of health service; for example, rural population receives less service than the urban counterpart because of the long distance they have to travel to reach health-care points. The third component is the illness level of an individual to instigate and uses health-care services more than the other individuals. The selection of variables for the current analysis follows all three components of Anderson and Newman model.

2. Source of Data

The (survey 2011-12) of Pakistan Social and Living Standard Measurement (PSLM) was used to estimate the impact of inter-action of women empowerment and household wealth on child health-care. It is an extraordinary survey in many ways and is used in various policy formulations; including Medium Term Development Framework (MTDF), Poverty Reduction Strategy Paper (PRSP) and the United Nations Millennium Development Goals (MDGs). Information of 15,807 households from all provinces of Pakistan is also provided in it. This study is concerned with empirical analysis of interaction of women empowerment and household wealth with child health-care (proxied by child vaccination status). The functional form of analysis is given as:

*Child vaccination status = f (child's birth order, gender of child, mother's education, women empowerment, prenatal health-care, father's education, gender of head of household, occupation of the head of household household locality, wealth index, women empowerment * wealth index).* (1)

TABLE 1

Operational Definition of Variables

Variables	Definitions
Dependent Variables	
CH_VAC (child's vaccination status).	Index of vaccination as limited variable ranging from 1 to 5: 1=no vaccination, 2=poor vaccination, 3=moderate vaccination, 4=good vaccination, 5=full vaccination.
Independent Variables	
CH_BO (child's birth-order)	Child's birth-order as a continuous variable.
CH_GEN (gender of child)	0=male, 1=female.
M_EDU (mother's education)	No. of years of education as a continuous variable.
W_EMP (woman empowerment)	Women empowerment index ranges from 1 to 4: 1=no empowerment, 2=low empowerment, 3=moderate empowerment, 4=high empowerment.
PRE_HC (prenatal health-care)	Prenatal health-care received=1, otherwise=0.
F_EDU (father's education)	No. of years of education as a continuous variable.
GEN_HH (gender of household head)	0=male, 1=female.
OCC_HH (occupation of household head)	Categorical variable: self-employed non-agriculture=1, paid-employee=2, self-employed agriculture=3.
LOC (household locality)	0 = rural 1 = urban.
WIND (wealth index)	1=poorest, 2=poor, 3=middle income, 4=rich, 5=richest.
W_EMP*WIND (woman empowerment in wealth quintiles)	Interaction of woman empowerment and wealth quintiles (both are in categorical form).

Source: Authors Estimation by norm.

3. Construction of Variables

Majority of the variables are self-explanatory and have been used in the analysis (as given in the survey) but some of them have been created and needs explanation.

a) Child Health-Care

Child health-care is measured by immunization status which is calculated by number of vaccinations, a child receives. In Pakistan twelve times child vaccinations is recommended by the World Health Organization (WHO) which are available to households; free of cost, as they are funded by the government of Pakistan. These vaccinations make children fully immunized. The vaccines contains: one dose of Bacilli Calvette-Guerin (BCG), three doses of Diphtheria-Pertusis-Tetanus (DBT), four doses of polio-vaccine, one dose of measles vaccine and three doses of hepatitis. PSLM 2011-12 contains information on immunization of children (under 5 years) for all these vaccinations. Additive indexing technique is used to generate vaccination status of children and the value of index ranging from 0 to 12. To make it a categorical variable, one is assigned to no vaccination where additive index value is zero; 2 to poor vaccination status where as additive index value is 1 to 4; 3 to moderate vaccination status where additive index values is 5 to 8; 4 to good vaccination status where additive index value is 9 to 11; and 5 to full vaccination status where children receive all twelve vaccinations and additive index value is 12.

b) Woman Empowerment

Different measures of women empowerment are followed in the literature. Allendorf (2007) measured the women empowerment for Nepal, discussing on: (i) large household purchases, (ii) woman health-care, (iii) daily needs of household purchases, and (iv) visits to family, friends and relatives. Haque, et al., (2011) estimated women empowerment for Bangladesh by decision-making power on three dimensions, i.e., economic decision-making, freedom of movement and household decision-making. Varghese (2011) calculated women empowerment for Oman by three indices, i.e., economic empowerment, household empowerment and social empowerment; and then aggregated the index of women empowerment (economic empowerment was measured by economic decision making, household empowerment by household decision making and social empowerment by social mobility). Mehmud, et. Al. (2012) utilized the dimensions of women empowerment like self-esteemed, household decision-making, control on material resources and social mobility. Sado, et al. (2014) assessed women empowerment on two aspects, i.e., decision-making power, woman participation in household decisions, attitude towards domestic violence, and women's attitude towards wife beating.

This study has develops women empowerment index from the household decision-making, regarding purchase of basic necessities of household members, medical treatment and, recreation and travel. To construct women empowerment index, decision making power of woman is taken from the PSLM survey questions, i.e., who takes decision in your household about: (i) purchase of food, (ii) purchase of clothing and foot-wears, (iii) medical treatment, and (iv) recreation and travel. Response to these four questions was given in seven options, i.e., (1) woman herself; (2) head/father of the household (alone), (3) head/father in consultation with his/her spouse, (4) head/father in consultation with woman concerned, (5) head/father and spouse of head in consultation with the woman concerned, (6) head/father and other male members, and (7) other combination of persons in the household.

Response to the above seven questions are further categorized into four empowerment categories. Response 2, 6 and 7 (each) is assigned the empowerment value one (no empowerment), response option 3 is assigned value 2 (low empowerment), response option 4 and 5 (each) is assigned value 3 (moderate empowerment), and response option one is assigned the empowerment value 4 (high empowerment). In this way the value ranges from 4 to 16 for four questions and four categories of response options. The value is divided by four to have an average which represents the women empowerment index. Therefore, women empowerment index ranges to 1 (no empowerment), 2 (lower empowerment), 3 (moderate empowerment), and 4 (high empowerment). Thus, it is hypothesized that woman empowerment increases child health-care.

c) Wealth Index

The socioeconomic and financial status of household is represented by household income, expenditures, assets (earning and non-earning) and wealth. In the literature, wealth index is used to analyze the health-care, health status and nutritional status of households, due to large number of inequalities in household income, health outcome and use of health services [Rutstein (2000)]. It represents better distribution of health services to household members as compared to income or expenditure index [Rutstein and Kiersten (2004)]. Demographic and Health Surveys (DHS) undertaken in more than 60 countries are mainly concerned with health and nutrition outcome and have utilized wealth index rather than income and expenditure to relate it with child and woman health and nutrition. However, in constructing the wealth index some studies have used ownership of land [Filmer and Pritchett (2001)], ownership of animal and type of dwelling [Schellenberg, et. al. (2003)], education level of household head, demographic conditions and occupation of head of household [Cortinovis, et al. (1993)] as proxies of socioeconomic status of the household. Following Rutstein and Kiersten (2004) this study has used the wealth index as proxy of socioeconomic status of the household. In PSLM survey 2011-12 the information on dwelling type, number of rooms, electricity connection, gas connection, telephone connection, source of drinking water, type of toi-

let and connection of the household with drainage / sewerage system has been given. This information is used to construct wealth index by Principal Component Analysis.

Commonly, cut-off points for classification of households into quintiles are: lowest 40 per cent is poor, highest 20 per cent is rich, and remaining 40 per cent is middle class [Filmer and Pritchett (2001). Following Gwatkin (2000), this study classified households into five quintiles, i.e., poorest, poor, middle, rich and richest income classes.

d) Interaction of Women Empowerment and Household Wealth

The interaction terms of women empowerment and wealth index have been created and included as explanatory variables to see the impact of women empowerment in different wealth quintiles on child health-care. It is hypothesized that women having empowerment in comparatively poor wealth quintiles are unable to improve the child health-care as compared to women having the same level of empowerment in comparatively rich wealth quintiles.

e) Estimation Technique

To analyze the impact of women empowerment in different wealth quintiles on child health-care the ordered logistic technique is used. The dependent variable (child's vaccination status) is a categorical variable and it is assumed that order of the categories is meaningful and distance between them is arbitrary.

The model for the analysis is as:

$$CH\_VAC = \beta_0 + \beta_1 CH\_BO + \beta_2 CH\_GEN + \beta_3 M\_EDU + \beta_4 W\_EMP + \beta_5 PRE\_HC + \beta_6 F\_EDU + \beta_7 GEN\_HH + \beta_8 OCC\_HH + \beta_9 LOC + \beta_{10} W\_IND + \beta_{11} W\_EMP * W\_IND + \mathcal{E}_i \quad (2)$$

where CH_VAC is the estimated score of ordered logistic model and it is the linear function of all explanatory variables.

IV. Results and Discussion

Results of the ordered logistic model are reported in Table 2. The principal variable of the study is interaction term of women empowerment and the household's wealth which first needs the explanation. The remaining explanatory variables are also discussed in the sequence in this table.

The results of interacting variables (women empowerment levels and socioeconomic status of households proxy by wealth index) in the analysis may provide empirical evidence stating whether women empowerment alone, has shown mixed effect on child health or whether women empowerment along with wealth status of house-

TABLE 2

Regression Estimates of Ordered Logistic Regression

Variables	Coefficient	Odd Ratio	p-values
CH_BO (Child's birth-order)	-0.0166504	0.9834874	0.001
CH_GEN (Child's gender)	-0.0010405*	0.9989581	0.96
M_EDU (Mother's education)	0.0142289*	1.014331	0.019
W_EMP (1) (No woman empowerment)		Reference category	
W_EMP (2) (Low woman empowerment)	0.0582251*	1.059954	0.254
W_EMP (3) (Moderate woman empowerment)	-0.0099093	0.9901396	0.841
W_EMP (4) (High woman empowerment)	0.1247505*	1.132866	0.092
PRE_HC (Prenatal health-care)	0.1353713*	1.144962	0
F_EDU (Father's education)	-0.0214867*	0.9787425	0
GEN_HH (Gender of household head)	0.1305351*	1.139438	0.017
OCC_HH (1) (Self-employed, non-agriculture)		Reference category	
OCC_HH (2) (Paid employee)	-0.1751134*	0.8393619	0
OCC_HH (3) (Self-employee agriculture)	-0.0810202*	0.9221751	0.05
LOC (Locality of the household)	0.1631125*	1.17717	0
W_IND (1) (Wealth index-Poorest wealth quintile)		Reference category	
W_IND (2) (Wealth index-Poor wealth quintile)	0.1504501*	1.162357	0.007
W_IND (3) (Wealth index-middle wealth quintile)	0.1841226*	1.202163	0.001
W_IND (4) (Wealth index-Rich wealth quintile)	0.1096944*	1.115937	0.065
W_IND (5) (Wealth index-Richest wealth quintile)	0.4175654*	1.518261	0

Continue .....

TABLE 2 *(Continued)*

Regression Estimates of Ordered Logistic Regression

Variables	Coefficient	Odd Ratio	p-values
W_EMP*W_IND (1,1) (No empowerment and poorest wealth quintile)	Reference category		
W_EMP*W_IND (2,2) (Poor empowerment and poor wealth quintile)	-0.1800451*	0.8352326	0.037
W_EMP*W_IND (2,3) (poor empowerment and middle wealth quintile)	-0.1228848*	0.8843656	0.14
W_EMP*W_IND (2,4) (poor empowerment and rich wealth quintile)	-0.2986908*	0.7417887	0.001
W_EMP*W_IND (2,5) (poor empowerment and richest wealth quintile)	-0.4098758*	0.6637327	0
W_EMP*W_IND (3,2) (moderate empowerment and poor wealth quintile)	0.4705178*	1.600823	0
W_EMP*W_IND (3,3) (moderate empowerment and middle wealth quintile)	0.0563144*	1.05793	0.478
W_EMP*W_IND (3,4) (moderate empowerment and rich wealth quintile)	0.0252577	1.025579	0.754
W_EMP*W_IND (3,5) (moderate empowerment and richest wealth quintile)	-0.1141229*	0.8921483	0.155
W_EMP*W_IND (4,2) (high empowerment and poor wealth quintile)	0.5034515*	1.654422	0
W_EMP*W_IND (4,3) (high empowerment and middle wealth quintile)	0.1873526*	1.206052	0.073
W_EMP*W_IND (4,4) (high empowerment and rich wealth quintile)	0.4953059*	1.641	0
W_EMP*W_IND (4,5) (high empowerment and richest wealth quintile)	0.1196753*	1.127131	0.254
Number of observation = 33636			
LR $chi^2(28) = 643.94$			
Prob> $chi^2 = 0.0000$			
Pseudo $R^2 = 0.0084$			

5 % level of significance.
Source: Authors Estimation by norm.

holds matters for child health. Regression results revealed that probability of child health-care declines with low women empowerment in all wealth quintiles (poor, middle, rich, richest) keeping no empowerment in poorest wealth quintiles as reference category. The poor women empowerment in poor, middle, rich and richest wealth quintiles decreases the probability of child health-care by 83, 88, 74 and 66 per cents, re-

spectively. The negative effect of poor women empowerment decreases by incremental change in the wealth quintile. It is inferred that women empowerment is the basic factor that contributes in child health-care. Poor empowerment, even in the rich and richest wealth quintile households, decreases child health-care.

The probability of child health-care increases with moderate women empowerment in poor and middle wealth quintiles by 60 and 5.7 per cents, respectively. However, there is a strange result showing that for the same category of women empowerment in highest wealth quintile (richest wealth quintile), children are less likely to have health-care. The high women empowerment in poor, middle, rich and richest wealth quintiles increases the probability of child health-care; which increases by 65 per cent with high women empowerment in poor wealth quintile, 20 per cent in middle wealth quintile, 64 per cent in rich wealth quintile, and 12 per cent in richest wealth quintile. It may be concluded that women empowerment is core determinant to child health-care, irrespective of wealth status of a household. Women empowerment plays a comparative role in child health-care, despite the lesser socioeconomic status of the household.

Child's birth-order has been included in the analysis as a continuous variable to explain the effect of birth-order on health-care of children, alternatively on the number of children born to a woman. It is hypothesized that higher birth-order child has lesser probability to have health-care in the form of immunization; based on the assumption that larger number of children decreases the marginal satisfaction of parents/mothers to have children. Moreover, due to time and resource constraint, it becomes difficult for a household to provide health-care to large number of children. Results of this study show that the birth-order has statistically insignificant effect on child health-care. Possibly, the resource constraint effect is nullified by free provision of child immunization in Pakistan, which is the variable of interest in the analysis to represent the child health-care. It explains that if health-care to children is provided free of cost, the resource constraint becomes ineffective for the households.

The ordered logistic regression results have shown that male children are more likely to have health-care as compared to females. It gives an important clue representing the gender discrimination in children health-care. As child vaccination is freely provided to households, the case of gender discrimination is linked to behavior of the households instead of influence of economic burden to the households. The evidence supports the existence of gender discrimination among children in Pakistan. Mother is considered as a primary care-taker of children and her educational level is included in the analysis as a continuous variable. The results express that probability of a child being immunized increases with increase in mother's educational level. This is supported by Smith, et al. (2003), Wamani, et. al. (2004) and Khan and Aslam (2017). The findings suggest that while mothers in general, are more conscious about child health, educated mothers have more knowledge about child health-care, and therefore, they recognize its importance.

This study includes women empowerment in the analysis as a categorical variable. At the household level it is captured through women empowerment index comprising of three components of decision-making. One of them is the medical treatment. Therefore, women empowerment index is theoretically relevant to explain the behavior of parents towards child health-care. Similarly, another component of women empowerment is recreation and travel representing the choice and physical mobility of woman which is also relevant to child health-care. It eliminates the question raised by researchers for appropriate measure of women empowerment to explain a specific phenomenon at the household level.

The results show that low and high women empowerment increase the probability of child health-care as compared to no women empowerment, as a reference category. The effect of moderate women empowerment is statistically insignificant. The impact of women empowerment on child health is also supported by previous studies [Doan (1990), and Smith, et. al. (2003)]. Therefore, the results explain that empowered women have a say in decision-making of the households and they also have social mobility to go out of way for health-care of their children. Additionally, such women are more aware about the source of health-care of children. These factors increase the probability of health-care of children.

Prenatal-care has been proxied by tetanus toxoid vaccination of mothers' during pregnancy. It also represents health-care of the child at gestational stage. This variable is included in the function to see whether the prenatal-care is a complement to child immunization or not. Results have shown that prenatal-care increases the probability of child immunization. It may be conferred that prenatal-care has spill-over effects on child health-care and it is likely through the transfer of information and knowledge about child health-care at the time of prenatal consultation.

Theoretically, fathers' education is assumed to affect the child health-care positively, but it is surprising to note (Table 1) that fathers' education affects the probability of child health-care negatively and is corroborated by percentage estimates of the PSLM survey. According to the survey, 48.9 per cent children of illiterate fathers are not immunized against 54.9, 51.8 and 64.4 per cents of those whose fathers have primary, secondary and higher education, respectively. At this stage it is hard to explain this surprising phenomenon. Head of the households manage the households' affairs and gender of the head of households play an important role in the welfare of children. The ordered logistic results have shown that probability of children health-care increases in the case of females' headed households. It may be conferred that females are more conscious about child health-care and they are good mangers of their households, particularly in child health-care matters. The type of job/occupation may affect the financial stability of a household. For instance, self-employed (non-agriculture and agriculture) households fluctuate more in income as compare to the paid employees. The type of occupation of the head of households, have been included as a categorical variable. The head of households with paid-employee and self-employed (in agricul-

ture) increase the probability of child health-care as compare to self-employed (non-agricultural) heads of households.

The geographic locality of households like a big city/capital, town near the sea, in the desert or in the hilly areas has an impact on accessibility of health-care services. On the same lines urban and rural locality of households also determine the accessibility of households to health services. In the analysis, variables of household locality (urban/rural) have been included as a binary variable. It is theoretically assumed that urban children are more likely to have health-care as compared to rural areas. Results of the ordered logistic model confirm assumption; which explain that urban households have easy access to health-care services and majority of these programs are urban centered. The urban households have comparatively more awareness about the health-care.

Socioeconomic status of households is measured by wealth index which is included in the analysis as a categorical variable. The results shows that children from poor, middle, rich and richest households are more likely to have health-care; keeping the poorest households as omitted category [see, Frost, et al. (2005) for Bolivia; Kamiya (2011) for Lao; Alam, et al. (2010), Khan and Raza (2014) and Khan and Aslam (2017) for Pakistan]. The results demonstrate that household's wealth status count for health-care behavior of the household, although the immunization of children is free. The probability of child health-care is high in richest quintiles as compared to all other quintiles of wealth index.

V. Conclusion and Policy Recommendations

The study provides evidence on socioeconomic determinants of health-care of children in Pakistan. There is a global concern that women empowerment and high socioeconomic status of households play an important role in child health-care in low income countries. These dimensions are primarily targeted to eliminate poor health-care of children. The main objective of the current study is to see the impact of interaction of women empowerment and household wealth on child health-care in Pakistan. According to the empirical results it is concluded that in child health-care woman empowerment plays a significant role. If a woman is empowered, even belonging to a household of lower socioeconomic status, the probability of child health-care increases. It is suggested that to improve child health-care in Pakistan, women empowerment should be improved. To materialize this intention there is a need to formulate policies to eradicate gender discrimination and power inequalities between male and female. It may be attained by enabling woman to acquire new resources, materialization of gender discrimination laws, implementation of inheritance law and the basic human and woman rights.

The media and social organizations can give important input for women empowerment, by spreading information to the households. Women organizations working for women welfare and economic support may be a good instrument for awareness

regarding women empowerment and their rights. It is important to note that males should also be the part of target population as decision-making by women (women empowerment) at the household level is a comparative term for women to men.

There are some other important results related to policy implications. Gender discrimination still exist in child health-care. Theoretically, it may be linked with women empowerment in the forth coming years when these children (children under study are below 5 years age) will become adults. Children discriminated today in food, nutrition and education distribution would face the same situation which they have faced in their childhood. It will develop the psyche of gender discrimination in these children in their grown up age, and they will behave in the same manner as in their adulthood. Therefore, the interventions for elimination of gender discrimination in child health-care ought to be made with focus on women empowerment and intergenerational detrimental effects of gender discrimination.

The prenatal-care to be taken by women in form of tetanus toxoid vaccination during pregnancy is a complement of child health-care in form of child vaccination during the first 12 months of childhood. It creates a series of vaccination. The notion leads to consider the prenatal-care as focal point in the program and policies about women and child health-care. Children from poor households suffer a greater risk of poor health-care. Poverty elimination should be an agenda of policy makers in Pakistan. It is also relevant with the kind of job/occupation of the head of households as paid employees who face less fluctuation in income, and children from these households are more likely to have health-care. Mothers' education has also shown an impressive effect on child health-care as it should be focused in the policy to enhance child health-care. Mothers' education, not only have the effect on child health-care but it may have spillover effects on child nutrition and the overall welfare.

Rural children are less likely to have health-care as rural areas are much backward in a number of socioeconomic indicators ranging from health and education facilities to the rural infrastructure, housing, energy supply and communication. On the other hand, majority of population lives in rural areas. Since the birth of Pakistan these areas are neglected in policies and development programs. In the past programs for these areas, were mainly focused on raising agricultural production to support the national economy. The programs for development of villages were fewer and those too were not properly managed and implemented, which resulted into poor conditions of villages. There is a complex system of resource distribution at the national level among urban and rural areas. Child health-care cannot be improved at the national level until the rural areas are given priority in the policy framework for development activities of Pakistan.

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