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Role of Female Labor Force Participation in Child Health

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ABSTRACT

The objective of the study is to investigate the impact of female labor force participation on child (under 5-years of age) health in Pakistan. Child health was gauged through child immunization coverage status measured by recording receipt of 22 doses of eight basic vaccines. A micro data set (i.e., 5872 children) from Pakistan Demographic Health Survey (PDHS) 2017-2018 was utilized for the study. As per recommendations of the World Health Organization, if a child had received all the 22 doses of those eight important vaccinations, he/she was assumed as highly immunized, and vice versa. The impact of mothers' employment and other explanatory variables, on child health, was investigated using Ordered logistic regression. The child with higher birth order (OR = 0.927; p-value = 0.000), the child of not-working mother (OR = 0.829; p-value = 0.012), the child of illiterate mothers (OR = 0.606; p-value = 0.000), the child of the mother having no own mobile phone (OR = 0.793; p-value = 0.000), and the child belonged to the poorest family (OR = 0.535; p-value = 0.000) had less likelihood of immunization coverage. Mother's age (OR = 1.055; p-value = 0.005), number of ANC visits made by the mother (OR = 0.925; p-value = 0.000), and male gender of the child (OR = 1.086; p-value = 0.082) had more probabilities for child immunization coverage. Hence, there is a need to alleviate poverty and gender discrimination as well as to create opportunities to increase female education, awareness, and labor force participation for better outcomes relating to child health.

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1. Introduction

Pakistan is the world's 36th largest country by area, with a population of 207.8 million people (Lee *et al.* 2019 & PBS 2017). The 'Expanded Program on Immunization was established in

Pakistan in 1978 with the purpose of preventing children under the age of one year from infectious diseases such as fever, cough, etc. Children's immunization may help to reduce morbidity and death rate. As per recommendations of WHO, at the time of birth, a child should receive one dose of BCG vaccine and one dose of poliovirus vaccine, in six weeks of birth, a child should receive three doses of DPT vaccine, and at the ninth month, one dose of measles vaccine should be received by a child (PDHS 2017-18).

Table 1: WHO Recommendations for Child Immunization

No.	Vaccines	Doses	Time of dose	Prevents from
1.	BCG (bacilleCalmette- Guerin)	1 dose	At Birth	Tuberculosis (TB)
2.	DPT (Diphtheria, Pertussis Tetanus)	3 doses	DPT 1: 6 weeks DPT 2: 10 weeks DPT 3: 14 weeks	Diphtheria, Pertussis (Whooping Cough), and Tetanus
3.	POLIO	4 doses	Polio 0: 2 months Polio 1: 4 months Polio 2: 6-18 months Polio 3: 4-6 years	Poliomyelitis (Polio)
4.	Hepatitis B	3 doses	B1: at birth B2: 6 months B3: 6 months	Liver infection
5.	Measles	2 doses	Dose 1: 12-15 months Dose 2: 4-6 years	Measles (chickenpox)
6.	Pentavalent	3 doses	Dose 1: 6 weeks Dose 2: 10 weeks Dose 3: 14 weeks	Diphtheria, Tetanus, Pertussis (Whooping Cough), Hepatitis B and HaemophilusInfluenzae Type B (DTP-Hepb-Hib)
7.	Pneumococcal	3 doses	Dose 1: 2 months Dose 2: 4 months Dose 3: 6 months	Pneumococcal
8.	HIB (Haemophilus Influenza Type B)	3 doses	Dose 1: 2 months Dose 2: 4 months Dose 3: 6 months	Bacterial Infection (Sneezing, Coughing)

(Source: Pakistan Demographic and Health Survey 2017-18)

These vaccines are registered on a health-care department-issued prescription card. However, according to UNICEF, in Pakistan about 40.6% children are not fully immunized.

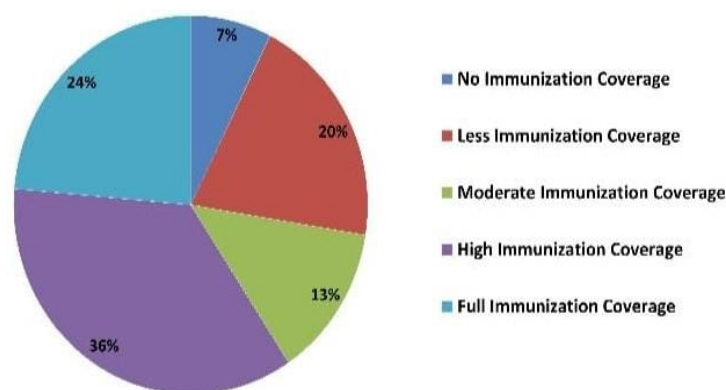


Figure: Child Immunization Coverage Status in Pakistan
(Source: PDHS-2018; Authors' Own Calculations)

In LMICs, maternal characteristics, as well as other socioeconomic and demographic characteristics, play a crucial role in improving the health of children (Lee *et al.* 2019; Asif *et al.* 2019; Acharya *et al.* 2018). Moreover, factors such as the use of mass communication and place of residence also have an impact on immunization coverage of children (Acharya *et al.* 2018). Existing literature showed that maternal employment and education have a significant and positive effect on the health outcomes of the family through the balance of power and benefits through vaccination (Lee *et al.* 2019). However, several investigations have revealed insignificant effects (Robert *et al.* 2014) while some studies revealed a negative impact on family health outcomes due to less time available for mothers for feeding and other caregiving activities (Engle *et al.* 1999; Lavy *et al.* 1996). Moreover, the reason for the negative impact may be that employed mothers may belong to a male dominated society which limits the maternal power in the household and which will increase the stress and they cannot take care of themselves as for their children (Hindmarsh *et al.* 2017). So, there is a need to explain the significance of maternal employment to better health care of their children in LMICs countries i.e. Pakistan. Furthermore, these conflicting facts may have emphasized the need for additional research in these areas.

One of the Sustainable Development Goals to be achieved by 2030 is to improve the health of children. Pakistan failed to fulfill its targets of 52 deaths in children and 40 infants' deaths per 1000 live births, but it made some progress. Vaccines, hence, have the potential to contribute significantly to the accomplishment of the health-related SDGs (Duclos *et al.*, 2009).

Table 2: Sustainable Development Goals achieving through Immunization

No.	Sustainable Development Goals	Achieving Through Immunization
1.	No Poverty	Healthy Children & Families = Increased Prosperity
2.	Zero Hunger	Immunization + Nutrition = Healthier Families
3.	Good Health and Well Being	Immunization = Healthy Lives & Well-Being

Although different studies had investigated the child vaccination coverage in Pakistan (Imran *et al.* 2018; Khan *et al.* 2017; Zaidi *et al.* 2014), but the influence of eight different

vaccinations at the same time had received no attention. In health economics, child immunization, captured by 22 doses of 8 different vaccines is rarely analyzed. So, using the ordered Logistic Regression modeling technique, this study is intended to contribute to the literature by finding child immunization coverage and factors affecting vaccination uptake in Pakistan. After the introduction in section I, the literature review is discussed in section II, theoretical framework and methodology are explained in section III. Section IV contains the findings and discussion., while the conclusion and policy suggestions are given in section V.

2. Literature Review

There is a substantial amount of research that shows a link between a mother's employment and her child's health outcomes. Child health is measured in different studies as hospitalization, injury or poisoning, asthma episode, vaccination and overweight, while child nutrition in different studies is taken as; breakfast, snack, dinner, meal speed, meal portion and healthy eating index (HEI), BMI, dietary intakes, stunting, wasting, underweight and feeding practices of mothers. While mother's employment in different studies is measured as part time/full time employment, formal/informal sector employment, employed/unemployed, reproductive/productive work. Results for developed countries showed that overall, working mothers, whether full time/part time, have less favorable nutritional patterns for their children's growth (Mindlin et al., 2009; Gaina et al., 2009; Crepinsek & Burstein, 2004). While, in developing countries, the empirical results of the research on working mothers and their children's health outcomes have been quite mixed i.e. insignificant in some studies (Boyle et al., 2018; Potocka & Jacukowicz, 2017), while some studies found a positive association between women employment and child health (Oddo & Ickes, 2018; Onah, 2020; Yaya et al., 2020; Wasswa. 2019; Komatsu et al., 2018; Garti et al., 2018; Burroway, 2017; Kabir, 2016; JAMAL, 2018; and some found a negative association between working mothers and their children's health outcomes in developing countries (Kim, 2020; Brauner-Otto et al., 2019; Nankinga et al., 2019; Rashad & Sharaf, 2019; Rao et al., 2019; JAMAL 2018). Child health in different studies, measured with different proxies. To the best knowledge of the authors, none of the earlier studies measured child health as 22 doses of eight different vaccines in the same study. As a consequence, the primary purpose of this research is to determine how women's employment affects the 8 basic vaccination uptake of their children, in Pakistan.

3. Theoretical Framework

A variety of theoretical models exist (in literature) in relation to health-care and its implications i.e. Grossman (1972) proposed that medical-care demand be based on demand for good health, the behavioral model for health-care was introduced by Andersen and Newman in 1973, quality aspect of demand-care was introduced by Donabedian (2005) and mother level indicators, pollution of the environment, food inadequacy, injury, and personal sickness control are the five biological and medical proximate drivers of child death proposed by Mosley and Chen (1984). Individual factors, parental features, demographic characteristics, socioeconomic qualities, and geographical characteristics are all distant determinants of child mortality that work through proximate determinants. Instead of using the same as child mortality, we employed the modified proximal determinants approach for immunization of children, which is utilized in several health economics researches (Pande, 2003; Khan and Raza, 2013; Khan and Raza, 2014).

Theoretical underpinnings of the current study are embedded in the healthcare services utilization model proposed by Andersen and Newman (2005). The description of the model is given below.

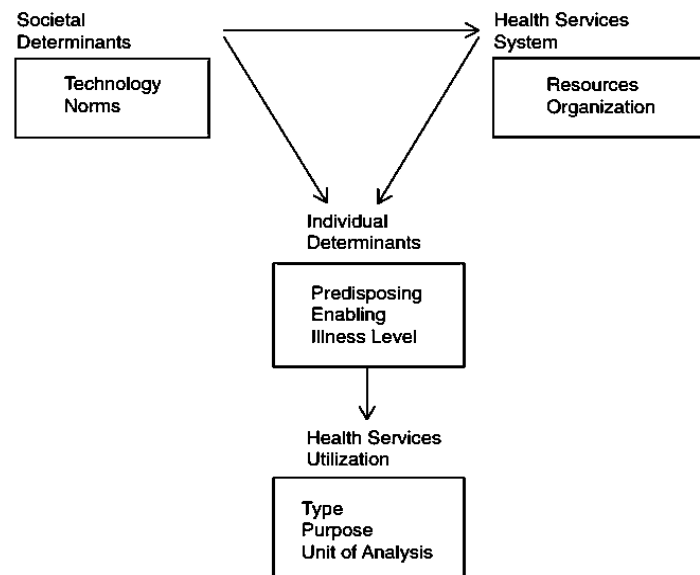


Figure: Healthcare Services Utilization Framework (Andersen and Newman, 2005)

Figure 1 exhibits how the main components of the framework. According to the framework, the amount of health services used by a person is determined by: (1) the predisposition—based on demographic (for example age, gender, and marital status), as well as social determinants (such as education, family size, occupation, religion), and attitudinal or belief related characteristics of the persons to make use of services; (2) enabling characteristics (like household income, health insurance coverage, or another source of third-party payment, accessibility to source) which permit to satisfy a need relating to health service utilization; (3) his illness level factors.

4. Data and Methodology

4.1. Source of Data

For estimating the child immunization in Pakistan, with respect to women labor force participation, PDHS 2017-2018 data were used to construct this analysis. The PDHS data set includes a variety of mothers and their children's health information and is part of an international demographic, socioeconomic, and health survey system designed to help less developed economies collect data on family planning, reproductive health, maternal and child health, nutrition, immunization, education, and employment. Using two-stage stratified sampling process, a sample of 16, 240 individuals from 561 primary sampling units were selected. From these households, a total of 12,708 women between the ages of 15 and 49 were successfully surveyed. However, this study's analysis was restricted to 5872 live-born children aged one to five years. Child immunization status is determined by 8 basic vaccines i.e. BCG, DPT, Polio, Measles, Pentavalent, Pneumococcal, Hepatitis (B1, B2, B3) and HIB (1, 2, 3). If a child has received all 22 doses of these 8 vaccinations, he or she is considered highly immunized. The following is a general model of child immunization status:

$$\text{Child Immunization Status} = f(\text{Child level Characteristics, Mother level Characteristics, Household level Socioeconomic Characteristics, Regional level Characteristics}) \quad (1)$$

The following is the functional form of analysis:

Child Immunization Status = f (Gender of Child, Birth Order of Child, No. of Children Age 5 and Below, Mother's Education, Mother's Occupation, Mother Own a Mobile Phone, Mother's Age, Number of Antenatal Care Visits, Wealth Index, Place of Residence) (2)

Table 3 shows the operational definitions of the variables.

Table 3: Operational Definition of Variables

Variables	Definitions
Dependent variable	
IMMUN (Child Immunization Status)	0=No Immunization Coverage 1= Less Immunization Coverage 2= Moderate Immunization Coverage 3= Full Immunization Coverage 4= High Immunization Coverage
Independent Variables	
Individual Characteristics	
CGEN (Gender of Child)	1 for Male, 2 for Female
BORD (Birth-Order of Child)	Taken as Continuous.
NCHU (No. of Children Age 5 and Below)	Taken as Continuous.
Mother Characteristics	
MEDU (Mother's Education)	0 for Illiterate, 1 for Primary, 2 for Secondary, 3 for Higher
MOCCU (Mother Occupation) Binary	0= Not Working 1=Working
MOWN (Mother Own A Mobile Phone)	0 For No,1 For Yes
MAGE (Mother Age)	Taken As Continuous.
ANCV(Antenatal Care Visits)	Taken As Continuous.
Socioeconomic Characteristics	
WINDX (Wealth Index)	1 for Poorest, 2 for Poorer, 3 for Middle, 4 for Richer, 5 for Richest
Regional Characteristics	
PRES (Place of Residence)	1 for Urban, 2 for Rural

4.2. Construction of Variables

The majority of the variables are used in the analysis as given in the survey but some of them need explanation.

4.2.1. Measuring Immunization of Children

Child immunization status is a dependent variable and data on vaccination uptake is taken for eight serious diseases—tuberculosis, diphtheria, whooping cough (pertussis), tetanus, polio, measles, liver, and Pneumococcal. In Pakistan twenty-two times child vaccinations are 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 contain: 1 dose of BCG, 3 doses of DPT, 4 doses of Polio, 2 doses of Measles, 3 doses of Pentavalent, 3 doses of Pneumococcal, 3 doses of Hepatitis (B1, B2, B3) and 3 doses of HIB (1, 2, 3). PDHS 2017-18 contains information on the immunization of children (under 5 years) for all these vaccinations. The child immunization status is taken in ordered form and categorized as no immunization coverage,

less immunization coverage, moderate immunization coverage, high immunization coverage and full immunization coverage. Additive indexing technique is used to generate vaccination status of children and the value of index ranging from 0 to 22. To make it a categorical variable, zero is assigned to no vaccination where additive index value is zero; 1 to less vaccination status whereas additive index value is 1 to 7; 2 to moderate vaccination status where additive index values are 8 to 14; 3 to high vaccination status where additive index value is 15 to 21; and 4 to full vaccination status where children receive all twenty two doses of vaccinations and the additive index value is 22.

4.2.2. Measuring Women Employment

Women's employment status is taken as binary i.e. employed or not.

4.2.2.1. Wealth Index

The wealth score is based on a household's asset ownership information. The PDHS survey asks about the household's holding of a diversified group of assets such as TV and vehicle, along with home characteristics like flooring material, type of drinking water source, and bathroom facilities, as well as other wealth-related characteristics. A weight or factor score is applied to each household asset for which data is obtained using principal components analysis. For each asset, a standardized score is assigned to each household, with the score varying depending on whether or not the household owns the asset. Five groups of wealth with an equal group of participants each create the breakpoints that identify wealth quintiles as Lowest, Second, Middle, Fourth, and Highest. (PDHS 017-18).

4.3. Estimation Technique

To analyze the effect of mothers' employment on the health care of their children i.e. immunization status, the ordered logistic regression technique is used. The dependent variable (child immunization) is categorical and it is assumed that the order between them is meaningful and the distance between them is arbitrary.

The following is the estimation equation for children's immunization status:

4.4. Model Specification

4.4.1. Functional Form of the Model

Child Immunization=f (Child Gender, Birth Order of the Child, Number of Siblings under Age 5, Maternal Education, Maternal Occupation, Maternal Mobile Phone Ownership, Maternal Age, Number of Antenatal Care Visits, Household's Wealth Quintile, Household' Area of Residence)

Econometric Form of the Model

$$CHIMMUN = \beta_0 + \beta_1CHGNDR + \beta_2BORD + \beta_3CHU5 + \beta_4MEDU + \beta_5MOCPTN + \beta_6PHONE + \beta_7MAGE + \beta_8ANCV + \beta_9WEALTH + \beta_{10}AREA + \varepsilon_i \quad (3)$$

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

5. Results and Discussion

5.1. Descriptive Analysis

The qualitative analysis of child immunization is shown in Tables 4 and 5. The number of fully immunized children in the study sample was determined to be 23.36 percent (1388 out

of 5872). The proportion of children in the lowest income group (poorest families) who obtained full immunization was only 22%, which was the worst among children in other income quintiles. Most completely immunized children (about 50%) have uneducated mothers, while 40.72 percent of mothers with access to media (cell phone) had children who have received all vaccination doses recommended. Only 12% of fully immunized children have a working mother, which is an extremely low percentage in comparison to children who do not have a working mother. Furthermore, in regression analysis, all of the selected were shown to be significant, excluding the wealth index and the type of residence. Table 6 provides a detailed summary of these and other aspects.

Table 4: Characteristics of study participants (women with their child) in Pakistan (2018 DHS)

Variables	Categories	Frequency	Percentage
Child Immunization Coverage	No Immunization	432	7.4
	Less	1184	20.1
	Moderate	772	13.1
	High	2096	35.6
	Full Immunization Coverage	1388	23.6
Gender of Child	Male	2986	50.9
	Female	2886	49.1
Birth Order of Child	≤2	2560	43.6
	>2	3312	56.4
No. of Children age 5 and below	≤5	5635	96
	>5	237	4
Mother's Occupation	Not Working	5162	87.9
	Working	710	12.2
Mother's Education	No education	2883	49.1
	Primary	779	13.3
	Secondary	1278	21.8
	Higher	932	15.9
Mother Having Own Mobile Phone	No	3481	59.3
	Yes	2391	40.7
Mother's Age	Age <20	274	4.6
	20-34	4550	77.5
	35-49	1048	17.9
No. of Antenatal care visits	No Antenatal care visit	831	14.2
	ANC 1	455	7.7
	ANC 2	797	13.6
	ANC 3	831	14.2
	ANC 4 &above	2758	50.3
Wealth Index	Poorest	1292	22.0
	Poorer	1274	21.7
	Middle	1163	19.8
	Richer	1042	17.7
	Richest	1101	18.8
Area of Residence	Urban	2661	45.3

Rural	3211	54.7
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Table 5: Cross tabulation for child Immunization

Child Immunization	No Immunization	Less Immunization	Moderate Immunization	High Immunization	Full Immunization	Total
Mother Occupation						
Not Working	385	1043	686	1843	1205	5162 (87.9)
Working	47	141	86	253	183	710 (12.2)
Mother Education						
No Education	344	881	361	820	477	2883 (49.10)
Primary	37	109	116	287	230	779 (13.27)
Secondary	30	117	174	577	380	1278 (21.76)
Higher	21	77	121	412	301	932 (15.87)
No. of Antenatal Care Visits						
No ANCV	156	305	79	181	110	831 (14.15)
ANCV1	45	125	54	143	88	455 (7.75)
ANCV2	66	197	128	255	151	797 (13.57)
ANCV3	59	165	104	312	191	831 (14.15)
ANCV4 & Above	106	392	407	1205	848	2958 (50.37)
Wealth Index						
Poorest	183	440	167	340	162	1292 (22.00)
Poorer	121	299	155	420	279	1274 (21.70)
Middle	58	208	148	458	291	1163 (19.81)
Richer	49	136	156	397	304	1042 (17.75)
Richest	21	101	146	481	352	1101 (18.75)

Mother Age						
Age < 20	38	62	61	84	29	274 (4.67)
20-34	311	889	611	1663	1076	4550 (77.49)
35-49	84	233	100	349	283	1048 (17.85)
Child Birth Order						
Birth Order ≤ 2	155	453	364	950	638	2560 (43.60)
Birth Order > 2	277	731	408	1146	750	3312 (56.40)
Number of Children Age Five And Below						
Children ≤ 5	406	1118	740	2033	1338	5635 (95.96)
Children > 5	26	66	32	63	50	237 (4.04)
Type of Place of Residence						
Urban	164	372	370	1061	694	2661 (45.32)
Rural	268	812	402	1035	694	3211 (54.68)
Child Gender						
Male	214	577	375	1101	719	2986 (50.85)
Female	218	607	397	995	669	2886 (49.15)
Mother Own a Mobile Phone						
No	350	905	464	1097	665	3481 (59.28)
Yes	82	279	308	999	723	2391 (40.72)
Total	432 (7.36)	1184 (20.16)	772 (13.15)	2096 (35.69)	1388 (23.64)	5872 (100)

5.2. Ordered Logistic Regression Analysis (OLR)

Table 7 shows the findings of Ordered Logistic Regression. According to the results, the probability of a child being fully immunized reduces as a mother's employment rises (a child

whose mothers are employed, there are 18 percent fewer chances to be fully vaccinated in comparison of children with unemployed mothers). Further, the results of wealth index and type of place of residence also showed an insignificant impact on child immunization. Only the lowest (poorest) quintile showed a significant and negative impact on child immunization. Male children were 8 percent more chances than female children to be fully vaccinated.

Female education has a positive effect on the vaccination uptake of her children; for example, a mother with higher education has more chances for her children to be fully immunized. The number of children under age five and birth order of children has a significant negative impact on child immunization while antenatal care visits will 7% increase child immunization.

Table 6: Results of Ordered Logistic Regression for Immunization of Children

Variables	Coefficient	Significance	S.E.	Exp(B)
MOCCU (Mother Occupation Binary)				
No	-0.187	0.012**	0.074	0.829
Yes	Reference category	-	-	1.00
NCHU (Number of Children Age 5 and Below)				
BORD (Birth order)	-0.076	0.000*	0.016	0.927
ANCV (Antenatal Care Visits)				
MAGE (Mother Age)	0.070	0.000*	0.009	1.073
MEDU (Mother Education)				
No education	0.053	0.005*	0.000	1.055
Primary	-0.501	0.000*	0.090	0.606
Secondary	0.184	0.060***	0.097	1.202
Higher	0.227	0.005*	0.815	1.255
MOWN(Mother Own a Mobile Phone)				
No	Reference category	-	-	1.00
Yes	-0.232	0.000*	0.056	0.793
WINDX (Wealth Index)				
Poorest	-0.626	0.000*	0.105	0.535
Poorer	-0.149	0.115	0.094	0.862
Middle	-0.017	0.842	0.085	0.983
Richer	-0.017	0.838	0.081	0.983
Richest	Reference category	-	-	1.00
CGEN (Child Gender)				
Male	0.083	0.082***	0.047	1.086
Female	Reference category	-	-	1.00
PRES (Type of Place of Residence)				
Urban	-0.084	0.129	0.055	0.919
Rural	Reference category	-	-	1.00

ChiSq (Model 1) = 963.870; ChiSq (Model 2) = 978.976; N = 5872

*, ** and *** represents significant at the level of 1, 5 and 10 % respectively

5.2.1 Individual Characteristics:

The gender of the child was included in the individual characteristics to see the impact of the mother's work on the immunization status of their children. The gender of the child was taken to determine the immunization status of children when their mothers work. According to regression results, male children are preferred to female children in their vaccination uptake i.e. male children are found to be more chances for vaccination uptake than female children (Biswas et al., 2001).

The birth order of children refers to the order in which they were born. The findings reveal that as the birth order increases, the likelihood of being immunized children decreases. It is hypothesized that a higher birth-order child has a lesser probability to have health care in the form of immunization; based on assumption i.e. larger number of children decreases the marginal satisfaction of parents/mothers to have children. Moreover, due to time and resource constraints, it becomes difficult for a household to provide health care to a large number of children.

The number of children aged five and under was included in the study to determine the effect of maternal employment on the vaccination uptake of their children. Children under the age of five are less likely to be immunized, according to the findings.

5.2.2. Mother's Characteristics:

According to regression results, the children of working mothers are found to be less likely to be immunized as compared to children of not working mothers. It could explain that the majority of employed women are self-employed or living on a subsistence level of income or belongs to poor families. Women's illiteracy, lack of professional education, and technological know-how are all indicators of low immunization of their children. In a societal context, it may be explained that the household's main earning hand is believed to be a male headed household, but women are forced into the labor market when the household's fundamental necessities are not being met because most of the employed females belong to poor or low income families.

Similarly, the nature of the mother's employment may have a different impact on child health care. Mothers working in the agricultural sector and clerical work have a positive and significant effect on child immunization while mothers in manual work have an insignificant impact on child immunization as compared to professional working.

The role of mothers' education in their children's vaccination uptake has also been incorporated into the analysis. Children with uneducated mothers are less likely to be vaccinated, according to findings. Increased levels of maternal education demonstrated to have a positive impact on the outcome of child immunization. It further explains the fact that educated women are more aware of the importance of child immunization (Smith, et al., 2003; Wamani, et. al., 2004; Khan & Aslam, 2001; and Streatfield et al., 1990).

Antenatal care visits increase the probability of children being fully immunized while having access to media may decrease the immunization status of children. It may be conferred that antenatal 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.

5.2.3. Socioeconomic Characteristics:

To investigate the effect of household socioeconomic status on child immunization, we employed the wealth index (Wagstaff and Watanabe, 2000; Oakes and Rossi, 2003; Fotso and Kaute-Defo, 2006). The PDHS wealth index is based on two basic ideas for determining economic status: 1) the distribution of health services among the poor, and 2) the ability to pay for health care. In comparison to income or expenditure indexes, wealth indexes can better describe the allocation of health services to the poor (Rutstein, et. al. 2004; Khan & Raza 2014; Khan & Raza 2014). According to Biswas et al. (2001), children are fully immunized if the family's economic situation is stable. The regression results of the current study for wealth index showed an insignificant impact on vaccination uptake of their children. The results demonstrate, as immunization of children is free of cost, the resource constraint becomes ineffective for the households.

5.2.4. Regional Characteristics:

The geographic locality of households i.e. urban and rural locality has an impact on the accessibility of healthcare services. In the analysis, variables of household locality (urban/rural) have been included as qualitative variables. It is theoretically assumed that urban children have more chances for health care as compared to rural areas. Econometric results showed an insignificant impact on child vaccination uptake. It explains that if resources are provided free of cost, the resource constraint becomes ineffective for the households.

6. Conclusion and Policy Recommendation:

The study provides evidence on child healthcare determinants in Pakistan. There is great concern in low- and middle-income economies, women's employment plays a significant role in child health care. The main objective of the current study is to see the impact of mothers' employment on child health care in Pakistan. According to the empirical results, it is concluded that in child health care, women's employment plays a significant role. If a woman is employed and belongs to a household of lower socioeconomic status (poorest quintile), the probability of child health-care decreases. It is suggested that to improve child health care in Pakistan, women's employment should be improved. To implement this goal, there is a need to formulate policies to eliminate power inequalities between males and females. It may be attained by the implementation of inheritance law and the basic human and woman rights, enabling the woman to attain new resources and reduction of gender discrimination laws. Social organizations and media can play important role in the decision making of employed mothers, by spreading information to households.

There are some other important results related to policy implications. Gender discrimination still exists in child health-care. This discrimination may be linked with women in coming years when these children (children under study are below the age of 5 years) will become adults. Children discriminated today in food, nutrition, and education distribution would face the same situation when they become adults, 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 the elimination of gender discrimination in child healthcare ought to be made with a focus on women's employment and the intergenerational detrimental effects of gender discrimination.

The antenatal care to be taken by women 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 antenatal-care visits as the focal point in the program and policies about women and child health care. Children from poor households

suffer a greater risk of poor healthcare. Poverty elimination should be an agenda of policymakers in Pakistan. Mothers' education has also shown an impressive effect on child health care as it should be focused on the policy to improve child health care in Pakistan.

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