PREVALENCE OF UNDERWEIGHT AND OBESITY AMONG WOMEN AND IMPACT ON FERTILITY: A CASE OF PAKISTAN

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ABSTRACT
The increasing rate of fertility is a big problem in developing countries. In Pakistan, this trend is quite different in provinces. The objective of this study is to identify the social, economic, and demographic determinants of fertility in Pakistan and how underweight and obesity effects it. In this study fertility rate of women in Pakistan has been measured through the total number of children ever born per woman. Data has been collected from the Demographic Health Survey of Pakistan and segregated into Punjab, Sindh, Baluchistan, FATA, and KPK. Women's Body Mass index is used to find out the prevalence of underweight and obesity. The results showed that socioeconomic determinants of women's fertility have been showing different effects on fertility in different provinces of Pakistan. Women's education harms women's fertility in Pakistan. A negative effect of husbands' education on women's fertility has been revealed in Pakistan. In Pakistan, women's fertility has increased by not using contraceptives in Sindh and Balochistan. Husband's age has also been proven to have a positive effect on women's fertility in KPK and Punjab. The husband's desire not to have more children harms women's lives in Punjab as compared to other provinces. Women's employment before marriage has also been found to have a positive relationship with women's fertility in Punjab, Sindh, and Balochistan. At the same time, being underweight have negative and obese have a positive impact on fertility in all provinces of Pakistan.
Keywords: Fertility, Demographic Health Survey, Provinces, BMI, KPK, FATA.

INTRODUCTION

The worldwide fertility rate has been cut in half over the last 50 years. Moreover, as societies modernize, the number of children per woman decreases dramatically. (Gupta et al, 2020). The Pakistan Population Survey, on the other hand, indicates a gradual drop in fertility, with 3.8 children per woman in 2013 and 4.1 children per woman in 2007. (PDHS, 2012-2013). This figure is likely to fall more in the coming years due to the tiny average birth interval and family size. (PDHS, 2006-07). Fertility surveys give important information on a country's population growth projections, contraception demand, and women's healthcare facilities (Debpur, Depbuur, & Bawah, 2002). Several studies have shown links between demographic and health characteristics and reproduction and fertility priorities in a variety of socioeconomic circumstances (Officer, 2010; Hayford &.Agadjanian, 2012; Thor, 2007; Roy et al., 2008). Late marriage, greater education, small family size, income, lack of child mortality, and living in affluent homes are found to be connected with a low desire to have more children in less fertile nations (Mekonnen & Worku, 2011). In Pakistan, 50% of women have emergency C-sections due to extended labour pains and other delivery problems (Sheikh et al., 2011). Women who had difficult pregnancies and C-section births are more likely to have children that are less than optimal (Jayaraman, Mishra, & Arnold, 2009).

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Being underweight (BMI less than 18.5) reduces a woman's fertility by generating hormone imbalances that impact ovulation and the possibility of getting pregnant. Underweight women are more likely to take more than a year to get pregnant than women in the healthy weight range. In these women, weakness and infertility, pregnancy rates, abortion rates, and pregnancy complications all rise. They have poor reproductive outcomes in natural as well as auxiliary perceptions (Gupta et al, 2020). At the same time obesity and overweight are rising worldwide and underweight rates persist in low-income countries (Tebekaw et al,2014)

Underweight, overweight, and obesity are significant public health issues among reproductive women. Obesity was more likely among reproductive-age women who completed secondary or higher schooling. Obesity reduces fecundity in developing countries. The study's characteristics and the variable used pregnancy BMI, underweight, optimal weight obese, median age, and smoker. Using Cox proportional hazards modelling for discrete-time data. Obesity was previously related with a lower fecundity subgroup of women in prior research, and this association maintained in women with a regular cycle. Weight decrease, independent of menstrual cycle regularity, was found to boost fertility in overweight and abases women (Law et al., 2007; Mosha et al., 2021). According to Kibria et al., (2019), the prevalence of underweight is decreasing among Indian women while the prevalence of overweight/obesity is increasing. Due to these double nutritional burdens, a large proportion of women were at increased risk of cardiovascular and reproductive adverse events. To address these issues, large-scale interventions based on these findings are required. The prevalence of being underweight rises in the early teen years and falls between the ages of 15 and 16. The majority of the possible risk variables identified by the GSHS were not substantially related to weight status. Obesity and being overweight are well-known risk factors for noncommunicable illnesses such as diabetes and various malignancies. This disease burden in low-middle-income countries is caused by the coexistence of obesity and underweight.

Several socioeconomic factors, including a woman's educational status, income per capita, employment, age at first marriage, life expectancy, and infant mortality rates, have a direct impact on female fertility in Pakistan and may differ by region. Age at first marriage, anticipated optimum number of children, literacy status, mass media exposure, financial level, and experience with child loss are all essential and powerful predictors of fertility (Jokela,
Elovainio, & Kivimäki, 2008).

In addition to these factors, women's low body mass index at the time of delivery is a very important factor due to which babies die immediately after birth and most fertile women lose their pregnancies which is a big problem in Pakistan.

Being underweight and Obesity are major international problems that affect many reproductive health issues. It is associated with several adverse reproductive outcomes such as infertility, ovarian dysfunction, miscarriage, prelymphosia, gestational diabetes mellitus, premature delivery, operative delivery, and fetal development disorders. Losing weight (BMI less than 18.5) can reduce a woman's fertility, leading to hormonal imbalances that affect her ovaries and her chances of getting pregnant. Underweight women take more than a year to conceive, compared to women in a healthy weight range (Were, Stranges, & Creed, 2020). The main cause of ovarian failure in women 40% of women suffers from infertility due to ovaries. Ovaries can be caused by many reasons such as ovarian or gynecological conditions such as primary ovarian deficiency or polycystic ovary syndrome (Tang, Huang, Lin, & Kuang, 2021).

In the scenario of health issues among fertile women, the current study is conducted to check the Validity of the Malthusian Theory of Population by employing the Demographic and Health Survey of Pakistan and to check how Underweight and Obesity among women reduce the fertility rate which works as the positive check (Malthusian theory) to control the population.

METHODOLOGY
This section presents an overview of the theoretical correlation and methods to use in the study for analysis.
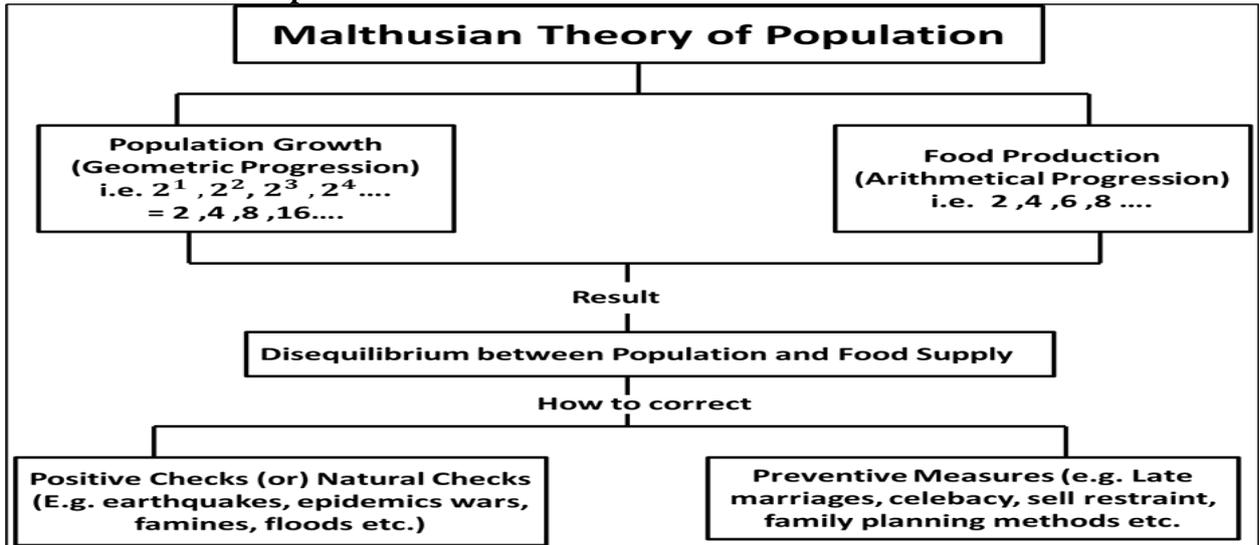
Theoretical and Conceptual Framework

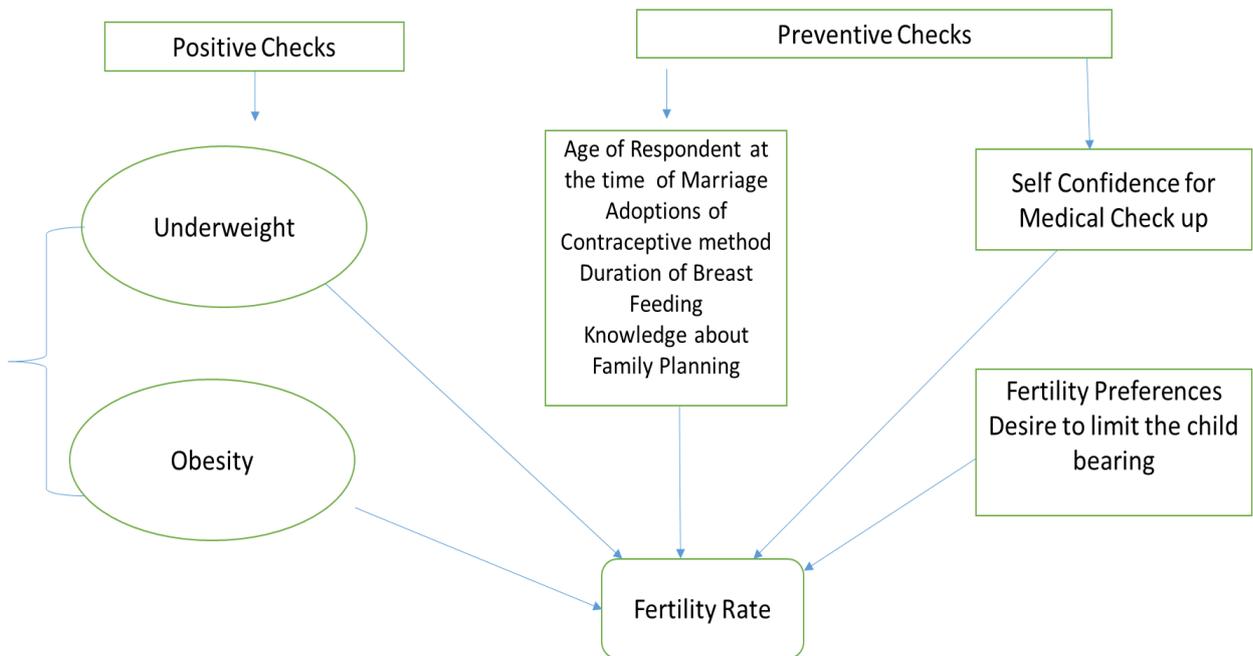**Figure1: Theoretical Frame Work**

Figure 2: Conceptual Frame Work of study based on Malthusian Theory of Population

Data and Methodology

Data for analyses were gathered from Pakistan's most recent Demographic and Health Survey (2017-2018). DHS surveys provide a wide range of evidence on a target population sample that is similar across nations. DHS data is acquired at the national level using a multi-stage cluster sampling procedure. The target demographic was ever married women between the ages of 15 and 45.

Model Specification

Fertility Rate = f (underweight, Overweight, Obesity, Age of Respondent at the time of Marriage, Adoption of Contraceptive Methods, Duration of Breast Feeding, Knowledge about Family Planning, Self Confidence for Medical Checkup, Desire to limit childbearing). Chi-square cross-tabulation is used to check the prevalence of underweight and obesity among the women in Pakistan and OLS) Ordinary Least Square method is used to check the impact of underweight and obesity on fertility.

Table 1: Measurement Scales of Variables

Variables	Description	Measurement of scale
Fertility rate	Total children ever born	Continues
Age of respondent at the time of marriage	Age of respondent at the time of marriage	Continues
Age of the respondent's husband	Age of the respondent-husband	Continues
Wealth status	a) poorer b) middle c)richer d) richest	poorer =1 otherwise= 0 middle=1 otherwise=0 richer=1 otherwise=0 richest=1 otherwise=0
Education husband	a) Primary	a) Primary=1 Otherwise=0
	b) Middle	b) Middle=1 Otherwise=0
	c)Secondary	c)Secondary=1 Otherwise=0
	d)Higher	d)Higher=1 Otherwise=0
Education respondent	a) Primary	a) Primary=1 Otherwise=0
	b) Middle	b) Middle=1 Otherwise=0
	c)Secondary	c)Secondary=1 Otherwise=0
	d)Higher	d)Higher=1 Otherwise=0
Breastfeeding	Breastfeeding	Yes=1 No=0
Husband desire more children	Husband desire more children	Yes=1 No=0
Respondent currently working	Respondent currently working	Yes=1 No=0
Currently used the contraceptive method	Currently used the contraceptive method	Yes=1 No=0
Body mass index	a) underweight b) normal c)overweight d)obesity	a) underweight=1 otherwise=0 b) normal=1 otherwise=0 c)overweight otherwise=0 d)obesity otherwise=0

Source: Pakistan Demographic and Health Survey, 2017-2018

RESULTS AND DISCUSSIONS

Table 2 shows the overall findings of the Chi-square Cross-Tabulation of female fertility in Pakistan. Fertility is a dependent variable that is quantified as the total number of children born. The age of the respondent at first birth, current breastfeeding, fertility preference, husband's desire for children, respondent currently working, husband's age, worked before getting married, current contraceptive

method, husband's education, respondent's education, and wealth index were used as independent variables.

Table 2: Chi-square Cross-Tabulation in Analysis

Socioeconomic Determinants	Total children ever born (numbers)					Total
	1-3	**4-6**	**7-9**	**10-12**	**13-15**	Total
Age of first birth						
15-18	1472	1321	514	123	20	3450
19-25	3811	2253	547	99	8	6718
19-24						
26-35	1481	574	114	38	3	2210
25-30						
Above35	281	48	1	0	0	330
Otherwise						
Total	7045	4196	1176	260	31	12708
Body mass index						
Underweight	245	130	25	2	0	402
Normal	1240	673	182	36	1	2132
Overweight	725	434	144	36	8	1347
Obesity	386	295	87	25	1	794
Total	2596	1532	438	99	10	4675
Husband/partner's education level for report						
Primary	952	627	181	39	3	1802
Middle	971	622	147	16	3	1759
Secondary	1617	886	185	19	3	2710
Higher	1905	754	134	35	2	2830
Total	5445	2889	647	109	11	9101
Women's education level for report						
Primary	918	654	126	19	0	1717
Middle	759	319	57	1	0	1136
Secondary	1071	390	35	5	0	1501
Higher	1432	374	12	4	0	1822
Total	4180	1737	230	29	0	6176
Wealth index combined						
Poorest	1206	1085	487	109	20	2907
Poorer	1446	1043	314	100	2	2905
Middle	1394	856	209	42	9	2510
Richer	1433	669	114	6	0	2222
Richest	1566	543	52	3	0	2164
Total	7045	4196	1176	260	31	12708
Fertility preference						
Have another	1429	1123	163	22	0	5557
Undecided	1125	600	154	25	3	1907
No more	1499	2122	759	180	25	4585
Sterilized	58	304	72	22	3	459
Declared infecund	19	13	8	7	0	47
Total	6950	4162	1156	256	31	12555
Current contraceptive use						
No	4859	2498	772	165	20	8314
Yes	2186	1698	404	95	11	4394
Total	7045	4196	1176	260	31	12708
Husband age (Years)						
16-26	1651	193	4	4	0	1852
27-35	4112	2099	242	30	0	6483
27-36						

36-45 37-46	1031	1581	662	110	16	3400
More than 46	163	292	251	112	15	830
Total	6957	4165	1159	256	31	12568
Breastfeeding						
No	4319	2797	785	177	21	8099
Yes	383	220	51	9	7	670
Total	4702	3017	836	186	28	8769
Husband's desire for children						
Both want same	3251	1656	362	73	5	5347
Husband wants more	2393	1523	515	95	13	4539
Husband wants fewer	330	172	46	14	0	562
Total	5974	3351	923	182	18	10448
Worked before getting married						
No	5802	3627	1039	221	24	10713
Yes	1239	569	136	39	4	1987
Total	7041	4196	1175	260	28	12700

Source: Pakistan Demographic and Health Survey, 2017-2018

Table 3: Underweight and Obesity impacts on fertility in Pakistan

Independent Variable	Dependent Variable Fertility			
	Coefficients	Std Error	T statistic	P Value
Constant	.822	.174	4.712	.000
Age of Respondent at First Birth	-.140	.007	-21.164	.000
Body Mass Index	Normal as reference Category			
Underweight	-.289	.087	-3.308	.001
Overweight	.353	.057	6.223	.000
Obesity	.339	.070	4.864	.000
Education Respondent	No education as reference Category			
Primary	-.215	.075	-2.033	.004
Middle	-.705	.095	-7.408	.000
Secondary	-.617	.085	-7.290	.000
Higher	-.831	.094	-8.799	.000
Education Husband	No education as reference Category			
Primary	-.095	.077	-1.230	.219
Middle	-.052	.082	-.639	.523
Secondary	-.034	.074	-.455	.649
Higher	-.006	.081	-.071	.944
Wealth Index	Poorest as reference Category			
Poorer Wealth	-.241	.071	-3.396	.001
Middle Wealth	-.475	.081	-5.876	.000
Richer Wealth	-.608	.088	-6.911	.000
Richest wealth	-.809	.099	-8.204	.000
Fertility Preference	Preferred no more child			
Preferred one more Child	.641	.027	23.616	.000
Contraceptive Use	Used as reference Category			
Not Use	.157	.053	2.958	.000
Respondent Employment Status	Currently not working as a reference category			
currently working	.331	.082	4.015	.000

Husband age	.143	.004	40.380	.000
Breastfeeding	Yes, as reference Category			
Not	.411	.048	8.574	.000
				.
The desire for more children	Husband's Desire for more children as a reference category			
Husband desire no more children	-.007	.010	-.645	.519
Respondent Working before marriage	Not as reference Category			
Worked before getting married	.034	.074	.464	.643

Source: Pakistan Demographic and Health Survey, 2018

According to results, the majority of women gave birth at a young age. The most important characteristics related with fertility were a woman's age during her first marriage and her education. The median age at first birth in this research was 20 years. In Pakistan, the respondent's age at first birth has a substantial negative link with female fertility. Body mass index was classified into four groups in this study: underweight, normal, overweight, and obese. As a baseline, we chose "normal weight." In Pakistan, the category "underweight" exhibited a negative association with female fertility. Being overweight or obese has a substantial favorable connection with female fecundity in Pakistan. Women who are overweight or obese have higher fertility rates. A healthy BMI for getting a pregnant woman, that's a normal BMI between 18.5 and 24.9 (Lee, Nitsche, & Barclay, 2022).

Our findings reveal that a woman's education is strongly but adversely related with her fertility in Pakistan as a whole. Women in basic and secondary school have a negative link with total female fertility in Pakistan. Secondary and higher education for women was found to be inversely linked with fertility. In determining women's fertility, women's education is more essential than men's education. Marriage postponement has an impact on fertility (Kamal and Pervaiz, 2002).

The regression study revealed that a woman's husband's education was negatively connected with her fertility in Pakistan overall. The elementary and secondary education of a spouse has a negative link with a woman's fertility. As indicated in Table 3.2, the husband's secondary and higher education was inversely connected with the wife's fertility in Pakistan overall. The findings revealed that the wealth index had a negative link with female reproduction in Pakistan. When compared to the poorer individual in the center, the middle one was both strong and adversely connected with a woman's fertility. Because the affluent person is powerful in Pakistan, we discovered a negative association between the rich person and women fertility (Mena, Mielke, & Brown, 2020).

Two proxies, the desire for additional children and the difference between the ideal and actual number of children, were used to gauge fertility preferences. There are two types of desire for more children: wanting to have more children and not wanting to have more children. A reference category was the desire to have no more children. Table 3.2 shows that the preference for more children has a strong positive relationship with the fertility of women in Pakistan.

In Pakistan, the topic of family planning has been a contentious one. Contraception is only used by 35% of the population, even though knowledge of family planning methods is almost universal. Traditional methods are one of the major contributors to the method mix (Asresie, Fekadu, & Dagnew, 2020).Table 3.2 showed the results for contraceptive methods used as a preference category. Contraceptives are strongly used in Pakistan. Because there is no public awareness Contraceptive use in Pakistan has a strong positive relationship with female fertility. There has been a significant increase in women using pregnancy medications. There are more children than non-users (Kamal and Pervaiz, 2012).

Employment and female fertility have a positive relationship. Table 3.2 shows that husband age is strongly and positively associated with the fertility of women in Pakistan overall. "Yes" is a reference category. Only 5 out of 11 babies are exclusively breastfed. In the first six months of 2018, only 42% of babies were exclusively breastfed. As recommended in comparison, these rates were less than half in Pakistan (48.4%) and more than half (50.8%) in the least developed countries. Table No. 3.2 shows that the practice of breastfeeding has a negative relationship with the fertility of women in Pakistan.

The husband's desire for more children was considered a reference category. The husband's desire for no more children had a negative relationship with the fertility of women in Pakistan overall (Impicciatore & Tomatis, 2020)

Province-wise Analysis

The overall result of socio-economic determinants of a woman's fertility in the provinces of Punjab, Sindh, Baluchistan, KPK, Fata, and GB of Pakistan is presented in table no. 4. Age at the first marriage, age at first sexual intercourse, and a woman's education were the most significant factors associated with fertility. "underweight" had a negative relationship with the fertility of women in the provinces of Punjab, Sindh, Baluchistan, KPK, and GB. Underweight women had a positive relationship with the fertility of women in FATA. The positive relationship between being overweight or obese with the fertility of women.

In regression analysis, women's no education was used as a reference category. Respondent primary education had negative relations with the provinces of Punjab, KPK, and GB and they had positive relations with the provinces of Sindh, Baluchistan, and Fata. The fertility of women was also affected with middle education having a negative relationship in the provinces of Punjab, Sindh, Baluchistan, KPK, Fata, and GB(Raza ana Waseem 2012)..

The wealth index is divided into five categories. The poorest, middle-richest, and poorest In that table, the poorest are used as a reference category. Poorer wealth is negatively correlated with the fertility of women in the provinces of Punjab, Sindh, Baluchistan, and Fata. Poorer wealth indexes had a positive relationship with the fertility of women in the provinces of KPK and GB. The result showed that middle wealth, richer wealth, and richest wealth had a negative relationship with the fertility of women in the provinces of Pakistan: Punjab, Sindh, Baluchistan, KPK, FATA, and GB. The desire for additional children and the difference between the ideal and actual number of children served as two proxies for measuring fertility preferences.

Table 4: Province-wise impact of underweight and obesity on fertility

Independent variable	Dependent Variable Fertility					
	Punjab	Sindh	Baluchistan	KPK	Fata	GB
Constant	1.922	1.185	-.893	1.560	-.562	-.123
	(.384)	(.427)	(.493)	(.455)	(.687)	(.728)
	(5.010)	(2.778)	(-1.810)	(3.427)	(-.819)	(-.168)
Age of Respondent at First Birth	-.140	-.180	-.122	-.154	-.115	-.147
	(.014)	(.016)	(.018)	(.018)	(.029)	(.024)
	(-10.002)	(-10.961)	(-6.870)	(-8.380)	(-3.908)	(-6.079)
Body Mass Index	Normal as reference Category					
Underweight	-.086	-.308	-.517	-.152	.156	-1.025
	(.163)	(.160)	(.286)	(.294)	(.604)	(.508)
	(-.527)	(-1.928)	(-1.809)	(-.516)	(.258)	(-2.018)
Overweight	.513	.421	.193	.181	.940	.110
	(.113)	(.148)	(.172)	(.139)	(.234)	(.187)
	(4.521)	(2.839)	(1.123)	(1.303)	(3.013)	(.588)
Obesity	.535	.448	.029	.179	.938	.106
	(.137)	(.207)	(.226)	(.163)	(.271)	(.275)
	(3.914)	(2.165)	(.128)	(1.098)	(3.456)	(.384)
Education Respondent	No education as reference Category					
Primary	-.099	.045	.257	-.484	.658	-.496
	(.140)	(.193)	(.273)	(.193)	(.368)	(.294)
	(-.707)	(.233)	(.942)	(-2.504)	(1.789)	(-1.688)
Middle	-.584	-.547	-.937	-.358	-.427	-1.131
	(.187)	(.243)	(.422)	.235	(.663)	(.304)
	(-3.115)	(-2.253)	(-2.218)	(-1.525)	(-.644)	(-3.718)

Secondary	-.402	-.125	.556	-.629)	.940	-1.354
	(.164)	(.224)	(.355)	(.223)	(1.434)	(.265)
	(-2.443)	(-.557)	(1.565)	(-2.822)	(.655)	(-5.112)
Higher	-.556	-.310	-.5654	-.788	-.274	-2.025
	(.197)	(.239)	(.366)	(.229)	(.876)	(.305)
	(-2.826)	(-1.295)	(-1.543)	(-3.448)	(-.327)	(-6.647)
Education Husband	No education as reference Category					
Primary	-.134	-.149	.245	-.254	-.033	-.080
	(.148)	(.165)	(.294)	(.192)	(.299)	(.322)
	(-.904)	(-.902)	(.834)	(-1.323)	(-.112)	(-.248)
Middle	-.107	-.028	.315	-.455	.596	-.357
	(.171)	(.234)	(.264)	(.209)	(.301)	(.291)
	(-.625)	(-.121)	(1.194)	(-2.184)	(1.981)	(-1.227)
Secondary	-.012	-.117	.108	-.406	.140	-.403
	(.157)	(.185)	(.233)	(.182)	(.296)	(.269)
	(-.073)	(-.632)	(.462)	(-2.233)	(.474)	(-1.500)
Higher	-.181	.198	.075	-.450	.127	-.111
	(.184)	(.189)	(.228)	(.200)	(.343)	(.272)
	(-.981)	(1.051)	(.331)	(-2.247)	(.368)	(-.408)
Wealth Index	Poorest as reference Category					
Poorer Wealth	-.278	-.573	-.547	.080	-.099	.185
	(.173)	(.183)	(.186)	(.202)	(.225)	(.210)
	(-1.611)	(-3.1434)	(-2.934)	(.397)	(-.440)	(.881)
Middle Wealth	-.578	-.608	-.974	-.215	-.704	-.009
	(.191)	(.198)	(.248)	(.213)	(.342)	(.272)
	(-3.023)	(-3.066)	(-3.926)	(-1.007)	(-2.060)	(-.032)
Richer Wealth	-.677	-1.281	-.862	-.240	-.466	.444
	(.202)	(.211)	(.268)	(.230)	(.461)	(.383)
	(-3.352)	(-6.086)	(-3.214)	(-1.046)	(-1.012)	(1.160)
Richest wealth	-.991	-1.620	-1.483	-.357	-.977	-.038
	(.219)	(.254)	(.357)	(.249)	(.862)	(.394)
	(-4.528)	(-6.382)	(-4.151)	(-1.436)	(-1.134)	(-.096)
Fertility Preference	Preferred no more child					
Preferred one more Child	.647	.679	.826	.744	.894	.566
	(.055)	(.066)	(.087)	(.072)	(.128)	(.097)
	(11.798)	(10.231)	(9.461)	(10.400)	(6.967)	(5.841)
Contraceptive Use	use as preference Category					
Not Use	.355	.055	.225	.121	.044	.140
	(.100)	(.131)	(.199)	(.130)	(.256)	(.173)
	(3.546)	(.421)	(1.133)	(.930)	(.172)	(.812)
Respondent Employment Status	Currently not working as reference category					
currently working	.412	.309	.414	.337	-1.379	-.670
	(.150)	(.165)	(.256)	(.273)	(1.123)	(.402)
	(2.750)	(1.870)	(1.618)	(1.233)	(-1.228)	(-1.667)

Husband age	.106	.162	.190	.124	.133	.181
	(.008)	(.009)	(.010)	(.009)	(.012)	(.015)
	(13.342)	(18.546)	(20.017)	(14.418)	(10.99)	(11.907)
Breastfeeding	Yes, as reference Category					
Not	.327	.213	.494	.414	.887	.492
	(.095)	(.119)	(.150)	(.120)	(.203)	(.169)
	(3.436)	(1.793)	(3.292)	(3.457)	(4.361)	(2.906)
Desire for more children	Husband Desire for more children as reference category					
Husband desire for no more children	.023	.010	-.075	-.043	-.051	.076
	(.22)	(.024)	(.028)	(.027)	(.068)	(.048)
	(1.049)	(.392)	(-2.665)	(-1.611)	(-.754)	(1.585)
Respondent	Not as reference Category					
Worked before got married	.064	-.143	.159	.270	-.661	.341
	(.116)	(.155)	(.269)	(.292)	(1.667)	(.314)
	(.548)	(-.918)	(.592)	(.924)	(-.396)	(1.089)

Source: Demographic and Health Survey 2017-18

There are two types of desire for additional children: wanting more and not wanting more. The desire for no more children was a reference category. The preference for more children was strongly correlated with the fertility of a woman in the provinces of Pakistan. The result preferred one more child and had a strong positive relationship with women's fertility in the following Pakistani provinces: Punjab, Sindh, Baluchistan, KPK, Fata, and GB.

Family planning has been an argumentative issue in Pakistan. Table No. 4 showed the results of the fertility determinant provinces of Punjab, Sindh, Baluchistan, KPK, Fata, and GB. This demonstrates the outcome in provinces where the contraceptive method was not widely used. The positive relationship with the fertility of women in the provinces of Pakistan: Punjab, Sindh, Baluchistan, KPK, Fata, and GB.

Table 4 showed that the result of breastfeeding is related to the fertility of women in the provinces of Punjab, Sindh, Baluchistan, KPK, Fata, and GB of Pakistan. Pakistan has an alarmingly low rate of exclusive breastfeeding, with only 38% of infants younger than six months being breastfed exclusively. There was breastfeeding as a reference category. In that table, no breastfeeding has a positive relationship with the fertility of women in those provinces: Punjab, Sindh, Baluchistan, KPK, Fata, and GB of Pakistan. That result showed the husband's desire for more children and a positive relationship with the fertility of a woman in those provinces of Pakistan, Punjab, Sind, and GB. That was a desire for fewer children and a negative relationship with the fertility of women in those provinces of Pakistan: Baluchistan, KPK, and Fata.

CONCLUSION AND RECOMMENDATIONS

The objective of this study was to identify the social, economic, and demographic determinants in Pakistan. To solve the increasing rate of women's fertility in Pakistan, the rate of education among women has to be increased. The government should pay attention to the education of women. Schools and colleges should be arranged for women. Women's access to the media should be improved. And the participation of women in the labor force should be encouraged. There is a negative correlation between education and fertility. Higher education causes a decline in fertility in women. Higher education delays childbearing and leads to alternative employment. The government should run family planning programs on a large scale, especially given that they should be widely managed. They should be informed through radio and newspapers. And the women there should be told about this. And they should be forced to focus on the labor force and their studies. Early marriage of women should be stopped. In Pakistan, the early marriage of women should be stopped. The government should implement it strictly. Radio and higher education in Pakistan have harmed female fertility. In Pakistan, priority should be given to initiatives in which women delay marriage, and the government should create employment opportunities for women and encourage the labor force. In Pakistan, a husband's education has a negative effect on a woman's fertility. Therefore, a husband with a high level of education has a positive relationship with a woman's fertility. Therefore, the government should provide proper management of education in Pakistan. Governments in developing countries are trying to control the

socioeconomic determinant of women's fertility. But there should be a system of equality. Now no woman has even one child and many women have many more children, so there should be a system of equality.

LIMITATIONS OF STUDY

While conducting this research we faced the following limitation as the study utilized the data Demographic and Health Survey of Pakistan (2017- 2018) for analyses. DHS data is national-level data and is collected by cluster sampling method by many stages. We have a target population married women of Aged 15-45 years.

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