

INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN ECONOMICS & MANAGEMENT SCIENCES



ISSN: 2226-3624

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To Link this Article: http://dx.doi.org/10.6007/IJAREMS/v7-i1/3875 DOI: 10.600

DOI: 10.6007/IJAREMS/v7-i1/3875

Received: 02 Jan 2018, Revised: 26 Jan 2018, Accepted: 09 Feb 2018

Published Online: 21 Feb 2018

In-Text Citation: (Obiero & Mwai, 2018)

To Cite this Article: Obiero, B. O., & Mwai, D. (2018). Determinants of Unintended Pregnancy in Kenya. *International Journal of Academic Research in Economics and Management Sciences*, 7(1), 16–36.

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Vol. 7, No.1, January 2018, Pg. 16 - 36

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Determinants of Unintended Pregnancy in Kenya

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Abstract

Background: Kenya continues to face high prevalence of unintended pregnancy. The 2014 Kenya Demographic and Health Survey established that over 35% of the total pregnancies were unintended. Unintended pregnancy is closely linked to adverse maternal and child health outcomes. In Kenya, it forms a key driver of girl child school dropout. Hazardous abortion of the pregnancies contributes hugely to maternal mortality and morbidity.

Methods: The study used a sample of 7,167 pregnant women aged 15-49 from the 2014 Kenya Demographic and Health Survey. Multinomial Logit Model was used to analyze the determinants of unintended pregnancy in Kenya.

Results: Findings of the analysis have shown that mistimed pregnancy is significantly influenced by; education level, and intention to use contraceptive in the future. Unwanted pregnancy is on the other hand influenced by education level, age, and place of residence, wealth index, and intention to use contraceptives.

Conclusion: The study found that the occurrence of unintended pregnancy is high in Kenya. Education level, employment status, age, wealth index, age at first birth, parity, marital status and ever use of contraceptives are statistically significant in influencing the occurrence of unintended. We recommend increased access to family planning methods with more focus on the availability, effective utilization of contraceptives and those who postpones the use of contraceptives.

Keywords: Unintended pregnancy, Multinomial Logit, Demographic and Health Survey, Determinants.

Background

Unintended pregnancy refers to births that are either mistimed or unwanted. Mistimed pregnancies are births that occur earlier than desired while unwanted pregnancies are those that occur when no more births are desired (Afable- munsuz, and Braveman, 2008). The corollary implication is that such births are not adequately planned for by the prospective parent(s) and the society. Therefore, it is likely that the society will bear adverse socio-economic and health outcomes. Unplanned births lead to undesirable rapid population growth that strains the societal resource endowments and jeopardizes the governments' efforts to avail adequate essential social services to the citizenry (Bradley, Croft and Rutstein 2011).

Unintended pregnancy is a global concern since it acts as a precursor for maternal mortality and morbidity (Singh et al., 2010). Births that are unintended forms a key indicator of usage and the efficacy of contraceptives, and the status of maternal reproductive health in a country (Bradley, Croft and Rutstein 2011; Ikamari et al., 2013). Moreover, precarious termination of such births exposes the woman to myriad post-abortion health complications. Worldwide, between 40 and 60 million women having unintended pregnancies seek abortions in hazardous circumstances as a means of ending such pregnancies leading to nearly 13% of the global maternal deaths (Okonofua et al., 1999; Forrest, 1994).

The global annual cases of unintended pregnancies exceed 85 Million. The developing world accounts for more than 30% of these pregnancies. Kenya has pregnancies that are either unwanted or mistimed standing at 35% of the total births. The 2014 DHS report details that unintended pregnancy in Kenya remains quite high and on average, a woman has nearly two children more than she desires (KNBS, 2014).

A report by Allan Guttmacher Institute (2012), asserts that unintended pregnancy is a great predisposing factor for unsafe abortion which has led to many maternal deaths and increased cases of morbidity in Kenya. The precarious pregnancy termination adds hugely to maternal mortality in Kenya which is currently is estimated to stand at 362 deaths per 100,000 live births (KNBS, 2014). Moreover, the longer stays while bedridden in the hospitals leads loss of labour hours and productivity to the economy as a bed ridden female labour is not productive (Gebreselassie, Gallo, Monyo, and Johnson, 2005; Chuma, and Okungu, 2011).

Kenyan teenage girl in school bears the greatest burden of unintended pregnancy. It does not only lead to school drop outs but also those who recourse to unsafe abortions are left with life time medical complications (Magadi, 2003). Over 13,000 adolescent girls in Kenya drop out of school due to unintended pregnancy (Ikamari et al., 2013; Ferguson, 1998).

Empirical Literature

In Bangladesh, a study done using the 2015 Bangladesh Demographic Health Survey showed that age of the respondent (woman), number of children, place of residence, modern contraceptives and education level were the main factors influencing mistimed and or unwanted pregnancy. As separate concepts, mistimed pregnancy correlated more positively with age (19-29 years) and

those with 3-4 children. Unwanted pregnancy on the other hand was significantly influenced by place of residence (urban), no education, and age, i.e. 30 years and above (Rashid & Shifa 2015). Eggleston (1999), while conducting a study in Ecuador on pregnancy intention found that, place of residence (rural), households with high income, those with no or few numbers of children and women who were older were not likely to classify their pregnancy as mistimed or unwanted. Education level was more significant in explaining mistimed pregnancy and had no significance in explaining unwanted.

In Egypt, unplanned births were found to be highly influenced by age (35 years and above), education and wealth index. (Abdallah et al., (2011). In Malawi, the variables age, number of births and fertility preference were statistically significant in explaining mistimed pregnancies. On the other hand, age, desired number of births, wealth status and place of residence correlated with unwanted pregnancies. (Palamuleni and Adebowale (2014). The study in Malawi corroborates the studies that were done in Bangladesh (Rashid and Shifa 2015), Ecuador (Eggleston 1999), and Egypt (Abdallah et al., (2011) that also found age of the respondent, parity and fertility preference as main correlates of mistimed and unwanted pregnancies.

In Tanzania, mistimed and unwanted pregnancy were seen to be highly predicted by age (being young), marital status (single) and place of residence. The number of previous births was strongly correlated with mistimed than the unwanted pregnancies (Exavery et al., (2014).

Studies in Kenya have also come up with various conclusions. Mukiira et al., (2014), in their study of two informal settlements in Nairobi, found out that lack of access to contraceptives, poverty, desire to continue with education, multiple sexual partners and carefree sex were the main factors driving unintended pregnancy in these two areas. Ikamari et al., (2013), on the other hand conducted their study in the larger Nairobi. Their study showed that employment and marital status, age, and type of settlement were highly correlated with unintended pregnancies. Young and single women dwelling in non-informal settlements had the highest potentiality to have an unintended pregnancy. Magadi (2003), in her study that focused on the degree of repeatability of unplanned pregnancy among women in Kenya found that region of residence, religion, ethnicity, age of the mother, education level, order of births, birth spacing, family planning methods, fertility preference and the unmet need for family planning were statistically significant in explaining incidences of unplanned pregnancy.

Because of the above imperatives, unwanted and mistimed pregnancy places enormous social, economic and health burdens on women and the society in general. It affects the future economic usefulness of women as they either drop out of school to start early motherhood or nurse prolonged complicated medical conditions due to unsafe abortions. Unplanned births strain the government in her efforts to provide key socio-economic services like health care, education, adequate housing and efficient public transport because of rapid and unplanned population growth. Yet, the correlates of unintended pregnancy-mistimed and unwanted pregnancy, as separate concepts are hardly known in Kenya. We in this study seeks to examine these correlates to ensure there is quality reproductive healthcare to a Kenyan woman. We also intend to enrich the literature by filling this research gap.

Methodology

Conceptual Framework



Source: Adhikari et al., (2008), with modifications.

Theoretical Framework

The study uses the theory of consumer behavior as its foundation. The theory posits that individuals allocate their scarce resources among various goods and services with an aim of welfare maximization subject to some budgetary constraints. This study follows closely on the work of Garry Becker, a 'Treatise on the Family' (1981), which centralized on the demand for children at the household level. He asserted that by focusing on the quality of the children, couples will desire to have fewer births.

If parental utility is given by:

U=f(N,S).....1

Where U is the utility of the couple, N is the number of children, and S refers to other composite consumption goods. To maximize the utility function in (1) above, the household will face a budget constraint:

M=P_nN + P_sS.....2.

Where M is the income of the household, P_n is the price per unit of children and P_s is the price per unit of the composite goods. Forming and solving the augmented objective function for equation 1 & 2 above, we have demand for children function of the form:

Where N, M, P_n and P_s remain as defined above.

3.3 Econometric Model 3.3.1 Multinomial Logit Model (MNL)

In examining the determinants of unintended pregnancy in Kenya, we in this study will employ multinomial logistic regression model since the outcome variable have more than two categories which are unordered: Intended, mistimed and unwanted pregnancies (Wooldridge, 2010).

Given variable denoted by y and a set of predictor variables denoted by x, the probability that individual i chooses jth alternative is given by:

 $P_{ij} = \Pr(y_i = j) = F_i(X_{ij}\beta_i)$ 4.

Where P_{ij} is the probability that individual i will either have mistimed or unwanted pregnancies (j categories), j refers to the categories or the outcome variable, X_{ij} is a set of explanatory variables for individual i for categories j, while the β_i 's are parameter to be estimated. Deriving the probabilities for the multinomial logistic regression model, we have:

3.3.2 Model Specification

The multivariate logistic regression for unintended pregnancy determinants is as shown below:

UP = (SEC, SCF, SPB, AHI, KFP)6.

Where SEC is Socio-economic characteristics, SCF represents Socio-cultural factors, SPB is woman's specific behavioural and or demographic characteristics, AHI denotes access to Health information and services and KFP refers to knowledge and ever use of family planning methods. We therefore specify our multivariate equation as follows:

Where; ED is education level, ES is employment status, PR is place of residence, WS is economic status, RN is religion, CAG is current age, PY is parity, AB is age at first birth, LR is listen to radio, WT is watch Television, and EUC is ever use of contraceptives.

Data and Methods

Data for this study came from the 2014 Kenya Demographic and Health Survey (KDHS) which is a nationally representative sample of 31079 women in the age bracket of 15-49. Out of the 31079 women in the reproductive age interviewed, 7167 (23%) were pregnant at the time of the survey.

Variables

While some studies have lumped together mistimed and unwanted pregnancy to imply an unintended pregnancy (Ikamari et al., 2013; Eggleston, 1999). It is the conceived view of this study that such merging of mistimed and unwanted pregnancies ignores the plain peculiarities that exist between mistimed and unwanted pregnancy. The response variable in this study is pregnancy intention- wanted, mistimed and unwanted pregnancy. We will include asset of explanatory variables determining pregnancy intention as guided by the literature (Adhikari et., 2008; Abdallah et al., 2011 Eggleston, 1999; Adebowale and Palamweni, 2014; Ikamari et al., 2014).

Results and Discussions Descriptive Statistics

Table 1: Socio-economic and Demographic Characteristics of currently pregnant women in Kenya, (KDHS 2014).

Background characteristics	Number	Percentage (%)	
Age of the respondents			
15-19	413	5.8	
20-24	1618	23	
25-29	2108	29	
30-34	1427	20	
35-39	1009	14.1	
40-44	455	6.4	
45-49	140	2	
	7167	100	
Education Level			
No level of Education	1329	19	
Primary	3790	53	
Secondary	1539	22	
Higher	509	7	
	7167	100	
Religion			
Roman Catholic	1402	20	
Protestant	4512	63	
Muslim	1038	15	
No Religion	213	3	
	7167	100	
Parity			
1-2	3010	42	
3-4	2186	30	
5-6	1092	15	
7-8	597	8	
9-10	206	3	
11>	76	1	
	7167	100	

Fertility Preference

Wants more	3628	51
Undecided	339	5
Wants no more	3045	43
Sterilized (respondent or partner)	108	2
Declared Infecund	21	0.3
	7167	100
Children Surviving		
0	35	0.5
1-2	3184	44
3-4	2189	30
5-6	1107	15
7-8	492	7
9>	160	2
	7167	100
Wealth Index		
Poorest	2151	30
Poorer	1451	20
Middle	1263	18
Richer	1209	17
Richest	1093	15
	7167	100
Heard about Family Planning on	1	
Radio		
No	2470	34
Yes	4697	66
	7167	100
Heard about Family Planning on TV		
No	4830	67
Yes	2336	33
	7166	100
Heard about Family Planning on a	1	
Newspaper		
No	5714	80
Yes	1451	20
	7165	100

Visited	by	Family	Planning	Worker
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No	6525	91
Yes	633	9
	7158	100
Told of Family Planning at a Health	ı	
Facility		
No	3531	67
Yes	1751	33
	5282	100
Ever Use of Contraceptives		
Modern Contraceptives	3347	41
Traditional Contraceptives	256	4
Non user-Intends to use later	1985	28
Non User-no intention to use later	1579	22
	7167	100
Marital Status		
Never in Union	550	8
Married	5528	77
Living with Partner	380	5
Widowed	184	3
Divorced	136	2
Separated	389	5
Total	7167	100
Source: KDHS, 2014.		

Table 1 gives the summary statistics of the study population. Teenagers (15-19 years) were only 6%. The respondents who were in the age brackets of 20-24 and 25-29 years stood at 23% and 29% respectively. Respondents who were in the age bracket of 30-34 years were 20. Majority (58%) of currently pregnant women were below 30 years with their mean age being 28.9 years. Respondents with primary education were 53%, while those with secondary and higher education were at 22% and 7% respectively.

Those who reported they had no education level were 19%. By the number of children, most of the respondents had 1-2 and 3-4 children at 42% and 30% respectively. Those with 11 children and above were 1% of the respondents. In terms of fertility preference, 51% of the respondents indicated they wanted more children while 42% indicated they wanted no more births. The respondents that were categorized as poorest were 30% while those classified as richest were 15%. Modern contraceptives use was at 22%. Majority (77%) of the respondents were married while a further 2% were divorced.

Pregnancy Intention

Background Characteristics	Wanted	Wanted Later	Unwanted
	(planned Births)	(Mistimed)	(Wanted no more)
Age of the Respondent			
15-19	4.0	13	0.4
20-24	21.3	34	5
25-29	32.3	28	16
30-34	21.2	14	26
35-39	13.7	9	27
40-44	5.8	2	20
45-49	2	0.4	7
Education Level			
No education	24	8.7	9
Primary	47	59	74
Secondary	20.8	26	14.4
Higher	8.5	6	2.4
Employment status			
Not working	41.5	39.2	25.6
Employed	58.5	60.8	74.4
Wealth index			
Poorest	33.4	24.5	23.8
Poorer	16.7	24.7	29.8
Middle	14.6	22.1	24.4
Richer	17.1	17.2	14.7
Richest	18.2	11.6	7.3
Place of Residence			
Urban	36.7	34	28.3
Rural	63.3	66	71.7
Parity			
1-2	44.3	53.4	5.1
3-4	31.2	29.2	29.3
5-6	14.3	11	29.5
7>	10.2	6.4	36.2
Children Surviving	0.6	0.6	
0	0.6	0.6	-
1-2	47.1	56.3	b.U

Table 2: Pregnancy Intention by various Selected Background Characteristics.

3-4			30.5	29.3	34
5-6			14.4	10.1	32.7
7>			7.5	4.4	27.8
Foutility Duck					
Fertility Preto	erence		FC 1	50.2	10
Wants more			56.1	59.2	4.6
Undecided			6.0	3.4	1.3
Wants no mo	ore		36.5	36.6	88.6
Sterilized partner)	(respondent	or	1.1	0.83	5.2
Declared Infe	cund		0.4	0.06	0.24
Heard about	FP on Radio				
No			38.7	27.0	28.1
Yes			61.3	73.0	72
Heard about	F P on TV				
No			66.6	66.8	73.1
Yes			33.4	33.2	26.9
Ever Use of C	Contraceptive				
Modern			44.1	49.6	54.4
Traditional			3.2	3.8	5.6
Non user-inte	ends to use		24.1	37.4	26.2
Non user-no	intention to use		28.7	9.3	13.9
Current Mari	tal Status				
Never in Unio	on		3.4	19.0	5.0
Married			83	65.6	70.9
Living with Pa	artner		4.8	6.1	6.3
Widowed			2.5	1.2	5.9
Divorced			1.8	1.7	3.0
Separated			4.4	6.4	9.0

Source: KDHS, 2014.

The results in Table 2 have indicated that women who are in the age bracket of 25-29 years had the highest levels of mistimed pregnancy. Those in the ages between 35-39 years also recorded high prevalence of unwanted births. Women with primary education level had the highest records of mistimed and unwanted pregnancy at 59 and 74 births respectively. Those with few children had more mistimed pregnancy compared to those with more children who had more unwanted births.

Nearly 40% of the pregnancies in Kenya are unintended with mistimed (wanted later) being 25.4% while unwanted (wanted no more) stands at 11.8% as shown by the table (Table 2), pregnancy intention varied across different characteristics. More women had mistimed pregnancies than unwanted ones. Women who were in the age brackets of 20-34 years had mistimed and unwanted pregnancy at nearly 75% and 47% respectively.

Women with no education had more unwanted pregnancy (9%) than mistimed pregnancy at (8%). Primary level of education correlated more positively with unwanted (74%) than mistimed (59%). However, increased education level showed increased occurrence of mistimed pregnancy than unwanted pregnancy.

Women who currently were not working had more mistimed pregnancy (39.2%) than unwanted pregnancy (25.6%). On the other hand, women who were working then had more unwanted births (74.4%) than mistimed pregnancy (60.8%).

By wealth index, women who were ranked poorest, richer and richest had more mistimed pregnancy than unwanted pregnancy. Poorest had mistimed and unwanted pregnancy at 24.5% and 23.8% respectively, richer had mistimed pregnancy at 17.2% while unwanted pregnancy was at 14.7%. Women who were classified as poorer and middle on the other hand indicated higher occurrences of unwanted than mistimed pregnancy. Those who were poorer had unwanted pregnancy (29.8%) while mistimed pregnancy (24.7%).

Place of residence also showed varied correlations to mistimed and unwanted pregnancy. Women who indicated they resided in the urban areas had more mistimed pregnancy (34%) than unwanted pregnancy (28.3%). Women residing in the rural areas generally had more percentages of both mistimed and unwanted pregnancies. However, there were more unwanted pregnancy (71.7%) than mistimed pregnancy (66%).

Parity was also significant in explaining both mistimed and unwanted pregnancy. Women with few births, i.e. 1-2 children had more mistimed pregnancy (53.4%) than unwanted pregnancy (5.1%). Generally, higher births were more significant in influencing unwanted pregnancy than mistimed pregnancy. Those with 3-4 and 5-6 births had more unwanted pregnancy than mistimed pregnancy at 29.2% and 29.5% respectively for unwanted births against 29.2% and 11% respectively for mistimed pregnancy. Higher births of seven children and above also showed more unwanted pregnancy (36.2%) compared to mistimed pregnancy at 6.4%.

Knowledge and or use of family planning methods was significant in determining mistimed and unwanted pregnancies. Those who heard about family planning over the radio had more mistimed and unwanted pregnancy than those who did not hear about family planning over the radio. However, those who heard about family planning over the TV had lower occurrences of mistimed and unwanted pregnancy. Single women had more mistimed pregnancy (19%) than unwanted pregnancy (5.0%). Women who were married however, showed more unwanted pregnancy (71%) as opposed to mistimed pregnancy (66%).

Econometric Results

Multivariate Analyses

To examine the correlates of mistimed and unwanted pregnancy, we have used Stata software to estimate a multinomial logit model for the determinants of unwanted and mistimed pregnancies in Kenya using wanted (wanted then) pregnancies as the base (pivot) outcome.

Table 3: Multinomial Logit Regression Results for the Determinants of Unintended Pregnancy-
Mistimed (Wanted Later) Pregnancy Outcome Category

M10_1	Coefficient	Std. Err.	P>Z
Then (Base outcome)			
Variables: Later Outcome			
Primary dummy	0.5673*	0.1184	0.000
Secondary dummy	0.6328*	0.1388	0.000
Higher education dummy	0.6130*	0.1813	0.001
Currently working dummy	-0.0517	0.0663	0.435
Twenty to twenty-four dummy	-0.7020*	0.1294	0.000
Twenty-five to twenty-nine dummy	-1.3575*	0.1444	0.000
Thirty to thirty-four dummy	-1.9115*	0.1682	0.000
Forty-five to forty-nine dummy	-2.7576*	0.2540	0.000
Poorer dummy	0.1019	0.0954	0.285
Middle dummy	0.1939***	0.1006	0.054
Richer dummy	-0.1710	0.1120	0.127
Richest dummy	-0 .4554*	0.1380	0.001
Urban residence dummy	-0.0448	0.0735	0.542
Roman catholic dummy	-0.1429	0.1939	0.461
Protestant dummy	0.4249	0.1860	0.819
Muslim dummy	-0.5948*	0.2072	0.004
Three to four children dummy	0.6472*	0.0885	0.000
Five to six children dummy	1.0234*	0.1318	0.000
Seven to eight children dummy	1.3449*	0.1815	0.000
18 years and above	0.16823**	0.0729	0.021
Listens to radio dummy	0.0417	0.0774	0.590
Watch TV dummy	-0.0180	0.0802	0.822
Use modern contraceptives dummy	-0.1204	0.1633	0.461
Non-user intends to use later dummy	-0.0350	0.1670	0.834
Non-user no intention to use	-1.0390*	0.1848	0.000
Currently married	-1.1957*	0.0882	0.000
Living with partner dummy	-0.8459*	0.1469	0.000
Widowed dummy	-1.3777*	0.2572	0.000
Divorced dummy	-0.5467**	0.2430	0.024
_cons	0.7559	0.2930	0.010

Source: Derived from Data Analysis

* Imply significance at 1 percent level while ** and *** imply significance at 5 and 10 percent level of significance, respectively.

Table	4:	Multinomial	Logistic	Regression	Results	for	the	Determinants	of	Unintended
Pregn	ancy	y-Unwanted (Wanted N	No more) Pre	egnancy (Dutco	ome	Category.		

M101	Coefficient	Std. Err.	P>Z
Then (Base Outcome)			
Variables: No more outcome			
Primary dummy	0.9592*	0.1652	0.000
Secondary dummy	0.7370*	0.2034	0.000
Higher education dummy	0.5875***	0.3140	0.061
Currently working dummy	-0.1123	0.0645	0.268
Twenty to twenty-four dummy	0.6989	0.6176	0.258
Twenty-five to twenty-nine dummy	0.7895	0.6192	0.202
Thirty to thirty-four dummy	1.0321***	0.6263	0.099
Forty-five to forty-nine dummy	1.7031*	0.6436	0.008
Poorer dummy	0.4571*	0.1310	0.000
Middle dummy	0.5801*	0.1409	0.000
Richer dummy	0.1625	0.1620	0.316
Richest dummy	-0.1749	0.2127	0.411
Urban residence dummy	0.2828*	0.1072	0.008
Roman catholic dummy	- 0.19142	0.2635	0.468
Protestant dummy	0.2245	0.2544	0.378
Muslim dummy	- 1.394*	0.3115	0.000
Three to four children dummy	2.1987*	0.2012	0.000
Five to six children dummy	3.1076*	0.2315	0.000
Seven to eight children dummy	3.694*	0.2589	0.000
18 years and above	-0.29074*	0.0990	0.003
Listens to radio dummy	0.0713	0.1088	0.512
Watch TV dummy	-0.0596	0.1168	0.610
Use modern contraceptives dummy	-0.1178	0.2091	0.573
Non-user intends to use later dummy	-0.2575	0.2185	0.239
Non-user no intention to use	-1.2732*	0.2358	0.000
Currently married	-1.7405*	0.1479	0.000
Living with partner dummy	-1.3329*	0.2260	0.000
Widowed dummy	-1.0007*	0.2456	0.000
Divorced Dummy	-0.17872	0.3091	0.563
_cons	-3.80694	0.6858	0.000

Source: Derived from Data Analysis.

* Imply significance at 1 percent level while ** and *** imply significance at 5 and 10 percent level of significance, respectively

Since the coefficients of the multinomial logit model cannot be interpreted directly in themselves and can only be interpreted qualitatively, we therefore in attempting to interpret both the magnitude and the sign of the coefficients have computed the marginal effects presented in table as shown.

	Marginal Effects		Standard Errors	
Variables	Mistimed	Unwanted	Mistimed	Unwanted
	Pregnancy	Pregnancy	Pregnancy	Pregnancy
Education (Ref: No				
education)				
Primary education dummy	0.094467*	0.0370124*	0.0215728	0.0076163
Secondary education	0.1020166*	0.0258972*	0.0252873	0.0091395
dummy				
Higher education	0.0960088*	0.0189659***	0.0332424	0.0140989
Employment (Ref: Not				
employed)				
Employed	-0.0065494	-0.0046191	0.0120853	0.0044981
Age (Ref:15-19)				
20-24 years dummy	-0.1201104*	0.0434512	0.0245505	0.0273123
25-29 years dummy	-0.237639*	0.0558443	0.0272345	0.0272456
30-34 years dummy	-0.3386243*	0.0736433***	0.0313383	0.0273934
35-39 years dummy	-0.3709515	0.0824142	0.0356536	0.0276612
40-44 years dummy	-0.4943397	0.1097968 0.0476109		0.0280799
45-49 years dummy	-0.5196764*	-0.5196764* 0.1312747* 0		0.0294546
Wealth Index (Ref:				
Poorest)				
Poorer dummy	0.0133264	0.0199481*	0.0173308	0.0058738
Middle dummy	0.0280116***	0.0239931*	0.018258	0.0063429
Richer dummy	-0.0330059	0.0096594	0.0199728	0.0071874
Richest dummy	-0.0835709*	-0.0025033	0.0237621	0.0094447
Place of Residence (Ref:				
Rural)				
Urban residence dummy	-0.0056065	-0.0124454*	0.0133689	0.0047612
Religion (No Religion)				
Roman catholic dummy	-0.0376588	0.0101694	0.0351545	0.0117144
Protestant dummy	-0.0003498	0.0099663	0.0336835	0.0113064
Muslim dummy	-0.0974145*	-0.0558389*	0.0375638	0.0139248
Parity (Ref: 1-2 children)				
3-4 children dummy	0.0982139*	0.0939243*	0.0160514	0.0083047
5-6 children dummy	0.1514512*	0.1302446*	0.0238968	0.0102687
7-8 children dummy	0.2014778*	0.1528399*	0.0329284	0.0119976
9>++ children dummy	0.2643259	0.171278	0.0478166	0.0140803
Age at first birth (<18 years				
at birth)				

Table 5: The probability of having Unintended Pregnancy- Mistimed (Wanted Later) andUnwanted (Wanted no more) Pregnancy.

18 years and above at birth dummy	0.0327278*	-0.0155956*	0.0132477	0.0044607
Heard about FP over radio				
(Ref: Not heard)				
Heard about FP radio	0.0056033	-0.0037365	0.0140848	0.0048109
dummy				
Heard about FP thro' TV				
(Ref: Not heard)				
Watch FP on TV dummy	-0.0022506	0.0031591	0.0146138	0.0051565
Contraceptives (Ref: Use				
traditional)				
Modern contraceptives	-0.0181404	-0.0034992	0.0296701	0.0092062
dummy				
Non-user in tend later	0.0143715	-0.0107472	0.0126464	0.0096386
dummy				
Non-user no intention	-0.1601719*	-0.0444895*	0.0196717	0.010635
dummy				
Marital status (Ref: Single)				
Married dummy	-0.2785544*	-0.0816515*	0.0209094	0.0107879
Living with partner dummy	-0.2182545*	-0.066943*	0.0296402	0.012972
Widowed dummy	-0.3241387*	-0.046085*	0.0486067	0.0135318
Divorced dummy	-0.177934**	-0.0184382	0.0458271	0.0157683
Separated dummy	-0.1871169	-0.0260114	0.0293499	0.0120646

Source: Derived from Data Analysis.

* and ***Imply significance at 1 and 10 percent level respectively.

Correlates of Mistimed Pregnancy

The results presented in Table 5 (above) have indicated that the likelihood of mistimed pregnancy is significantly predicted by education level, age, wealth index, religion, Parity, age at first birth, contraceptive use and marital status.

Educated women compared to uneducated ones are more likely to have mistimed pregnancy than pregnancy that is wanted then. Having primary education level increases the probability of having mistimed pregnancy by 9.5% than wanted pregnancy compared to those with no education. Women with secondary and higher education levels have a higher probability of having mistimed pregnancy relative to those with no education by 10% and 9.6% respectively than births that are wanted then. An increase in age reduces the probability of occurrence of mistimed pregnancy compared to planned births. Women aged 20-24 shows less likelihood in experiencing mistimed pregnancy by 12% than wanted births compared to those aged between 15-19 years. The probability of women who are in the age brackets of 25-29 years and 30-34 years having mistimed pregnancy is lower by 24% and 34% respectively than wanted births compared to those who are in the age bracket of 15-19 years. Women who are aged between 45-49 years have lower chances of experiencing mistimed pregnancy at nearly 52% than planned births compared to those in the age bracket of 15-19 years.

An increase in wealth index reduces the likelihood of having mistimed pregnancy as opposed to wanted pregnancy. Women who are classified as richest in the wealth index have a low chance of 8.4% in having mistimed pregnancy than planned births compared to those classified as poorest. Muslim women have a less likelihood of having mistimed pregnancy of 9.8% compared to wanted pregnancy than those without any religion. Women with 3-4 and 5-6 children have a higher likelihood of having mistimed pregnancy than wanted births at 9.8% and 15% respectively as opposed to those with 1-2 children. Those with 7-8 children have increased probability of having mistimed pregnancy than wanted births compared to those with 1-2 children. The probability of a woman with 7-8 children compared to those with 1-2 children having mistimed pregnancy is 20.1% higher than wanted births.

A woman who has her first birth at 18 years and above shows a higher chance of 3.3% in experiencing mistimed pregnancy compared to wanted pregnancy than those who give birth when below 18 years of age. Women who indicated that they are non-users of contraceptives and had no intention of using contraceptives had a less likelihood of having mistimed pregnancy at 18% compared to wanted births than those who used traditional contraceptives. Women who are married have a less chance of having mistimed pregnancy compared to wanted pregnancy than those who are single. The probability of a married woman getting mistimed than wanted pregnancy is 28% lower compared to those who are single.

Correlates of Unwanted Pregnancy

Unwanted pregnancy is significantly influenced by education, age, place of residence, religion, number of children, age at first birth, contraceptive use and marital status. An increase in education level increases the chance of a woman classifying her pregnancy as unwanted compared to pregnancy that is wanted then (wanted) than those without any level of education. The probability of a woman with primary and secondary level of education experiencing unwanted pregnancy increases by nearly 37% and 26% respectively compared to planned births than those with no level of education. An increase in age increased the likelihood of the occurrence of unwanted pregnancy than planned births. Women in the age brackets of 30-34 years had more chance of having unwanted pregnancy by nearly 74% compared to wanted births than women in the ages of 15-19 years. Women aged 45-49 had a higher probability of 13% in having unwanted than planned births as opposed to women in the age brackets of 15-19 years.

Women who were classified as poorer and middle had increased probability of 2% and 2.4% respectively in having unwanted compared to wanted births than those classified as poorest. Women who were residing in the urban areas had a lower probability of 1.2% in having unwanted pregnancy compared to planned births than those who resided in the rural areas. The probability of those who were Muslims having unwanted pregnancy was lower by 66% compared to wanted births than those who had no religion. Women who had 3-4 and 5-6 children had increased chance of experiencing unwanted pregnancy at 9.4% and 13% respectively than planned pregnancy compared to those with 1-2 children. Those who had 7-8 children had a less likelihood of 15% in experiencing unwanted pregnancy than planned births compared to women with 1-2 children.

Women who had their first birth when aged 18 years and above had a lower chance of 1.6% in having unwanted compared to wanted births than those who had their first birth before reaching the age of 18 years. Women who reported that they used no contraceptives and had no intention of using any in the future had a lower likelihood of getting unwanted pregnancy at 4.4% compared to planned pregnancy than those who used traditional contraceptives. Women who indicated they were either married or living with their partner had a lower probability of 8.2% and 6.7% in having unwanted pregnancy than planned births compared to those who were single.

Conclusion and Policy Recommendations

The study concludes that education, age, place of residence, religion, number of children, age at first birth, contraceptive use and marital status are statistically significant in determining both mistimed and unwanted pregnancies. Having Primary and secondary level of education, younger (15-19 years), classified as poorest, with 3 and above children, single and had her first birth at the age of 18 years increases the probability of having mistimed (wanted later) pregnancy. On the other hand, women who are aged 20-24, 25-29, 30-34, and 45- 49, in the category of richest by wealth index, Muslim, married, non-user of contraceptives and has no intention of using in the future were less likely to experience mistimed pregnancy. The likelihood of unwanted pregnancy (wanted no more) is on the other hand increased by a woman having primary and secondary level of education, being in the age bracket of 30-34 and 45-49 years, residing in the rural areas, classified as middle and poorer, single and with 3-4, and 5-6 children. However, women who resided in the urban area, Muslim, with 7-8 children, gave birth at 18 years and above, didn't use any contraception and had no intention to use in the future and is married had a lower probability of experiencing unwanted (wanted no more births).

To help alleviate the problem of unintended births, we recommend concerted efforts to ensure women get higher education and trainings on sexual and reproductive health care to empower them to make independent decisions regarding when to have children and the fertility preference. More energy should be focused on dissemination of information on accurate, consistent and effective utilization of contraceptives since their incorrect use can lead to many unplanned births.

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