

Household Characteristics and Unintended Pregnancy among Women in Nigeria

Abstract

Although a substantial body of literature explores maternal and child health consequences associated with unintended pregnancy. Currently, there is little research on the implications of non-individual level factors for unintended pregnancy. Yet, factors such as household characteristics, place of residence and number of rooms, age and sex of household head have huge implications of unintended pregnancy. The neglect of these factors which are also associated with adverse outcomes for women's and infant health, especially in developing countries is critical. To provide a scientific foundation for the interaction between unintended pregnancy and household structure, the study uses data from the Nigerian DHS 2008 based on a sample of 17,886 women aged 15-49 who were currently pregnant at the time of the survey. The bivariate regression analyses show that all six variables have association with unintended pregnancy. Interestingly almost the predictor variables were significant except region of residence

Key words: Unintended pregnancy, married and currently pregnant women, Nigeria, 2008 NDHS

Introduction

Unintended pregnancy is a worldwide problem. It affects women in both developing and developed societies (Bassey 2005). Globally, 38% of pregnancies are unintended (Kaye, 2006; The Guttmacher Institute, 2000). Unintended or unplanned pregnancy refers to the sum of mistimed and unwanted pregnancies. A woman is assumed to have a mistimed pregnancy, if she became pregnant at the time when she did not want to. On the other hand, a woman is assumed to have an unwanted pregnancy if the woman did not want to become pregnant at all, or in other words the pregnancy occurred when she wanted to have no more children (Adetunji 1997). Some of the leading causes of unintended pregnancies are low contraceptive continuation rates, method failure, high unmet need for contraceptives, sexual coercion, and less commonly, rape (David 2006). Annually, 42 million induced abortions and 34 million unintended births result from unintended pregnancies (Bankole 2006). Unintended pregnancies also result in nearly 700,000 maternal deaths annually. Roughly a third of these deaths are due to problems associated with pregnancy

or childbirth, but the majority (64%) resulted from complications of unsafe or unsanitary abortion. While women globally are generally at risk of experiencing unintended pregnancies, the problem is most severe in poor countries of the world. Research shows that the majority of maternal deaths due to unintended pregnancies occur in the developing world (Bankole 2006).

It is estimated that 201 million women worldwide are at risk of unintended pregnancies (WHO 2004). These women do not often have quality access to contraception. Improving access to family planning services to these vulnerable women will prevent an estimated 52 million unintended pregnancies annually, 1.5 million maternal and child deaths annually, and reduce induced abortions by 64% (WHO 2004). Improved access to contraceptives has potential to also reduce illnesses related to pregnancy and preserve 27 million healthy life years (WHO 2004). Unintended pregnancies also have higher likelihood to result in low birth weight for children and unsafe abortion (Campbell 2006; Chalasani 2007). Mothers who have unintended births tend to suffer non-psychotic depression (postpartum depression), feelings of powerlessness, increased time pressures, and a reduction in overall physical health. They also have poorer quality relationships with all their children, tending to physically abuse them more and spend less leisure time with them (David 2006; Finer, et al 2006). Mothers who have unintended pregnancies are less likely to initiate and utilize prenatal and antenatal care, or seek it later than mothers whose pregnancies are intended (Crissey 2005; Hull and Mosley 2008). The Population Action International has shown that infant mortality in developing countries would decrease by one third by increasing the spacing between births to 2–4 years.

Existing research on unintended pregnancy in the developing world has focused on its causes (Oye-Adeniran 2004) and effects on maternal and child health (Chalasani 2007), and household and community wellbeing (Shaheen 2007). In the available research on the causes of unintended pregnancy, attention has resided on the role of contraceptive failure (Bassey 2005), poor contraceptive use practices (Adikari 2006), involuntary sexual activity (Goto 2005), and marital status (D'Angelo 2004) etc. These studies have

generally been quantitative and have succeeded in calling attention to the individual level characteristics of women who experience unintended pregnancy (WHO 2000). Currently, there is little research on the implications of non-individual level factors for unintended pregnancy. Yet, factors such as household structure, community norms, gender roles, and legal and policy environments have huge implications of unintended pregnancy (NPC 2004). The neglect of these factors in current research on unintended pregnancy is critical. Holistic knowledge of the correlates of the unintended pregnancy is key to the development of interventions to reduce it. Policy formulation will also benefit immensely from science and research that raise understanding on the different and multiple issues that underlie unintended pregnancy in different.

Against this background, I propose a study on the impact of household structure on unintended pregnancy in Nigeria. As in many other developing countries, rates of unintended pregnancy have continued to be very high in Nigeria (Bankole 2006). Data from the 2008 NDHS show that roughly 11% of all pregnancies in Nigeria are unintended. In some regions of the country, rates of unintended pregnancies stand at about 25 percent. While research exists on unintended pregnancy in Nigeria, the role of household characteristics in unintended pregnancy has been ignored in the existing body of research. Yet, Knowledge of household-level factors in unintended pregnancy can promote more rigorous understanding of the issues surrounding unintended pregnancy and support the development and delivery of interventions to address the problem. For the purposes of the proposed study, I shall adopt Haviland's (2003) definition of a household as "the basic residential unit in which economic production, consumption, inheritance, child rearing, and shelter are organized and carried out'. Gage et al (1997), Lloyd and Blanc (1996), and Louat, et al. (1993) see the household as basic social unit in which men, women, and children reside. On the other hand, Mberu (2006) defines household structure to include the gender of the head (female headed and male headed) and adult composition of households. In all, existing research shows that household structure has important implications for the economic and social well-being as well as fertility and sexual behavior of its members.

Surprisingly however, little is known about the interaction between household structure and unintended pregnancy.

METHODS AND DATA SOURCE

Data for this study were obtained from the Nigerian Demographic and health Survey 2008. The 2008 NDHS had a sample of 33,243 households. Among the households interviewed, 17,886 women who were currently pregnant at the time of the interview formed the sample size for analysis. Information from the women's questionnaire is used, in which women of reproductive age (15-49) were asked about their fertility desires, and births in the last five years. The women respondents were asked questions about their socio demographic background, their children, their knowledge and use of contraceptives, their children's health, reproductive health, and other information as well. From these respondents, women whose pregnancies were mistimed or unwanted were identified. These women were asked the planning status of the most recent birth; whether the birth was mistimed, unwanted or was born according to plan. The variables of the study derived from the 2008 NDHS questionnaires are shown in Table 1 and Table 2.

Dependent variable

Unintended pregnancy variable

Respondents were asked about the intendedness of their current pregnancy. For each pregnancy, women were asked whether they had wanted the pregnancy at the time of conception, had wanted it later or had not wanted it at all. Women were categorized as having had an unintended pregnancy if they reported their current or any past pregnancy as wanted later or not at all. This is coded as a binary outcome variable.

Independent Variable

Household characteristics variables

This describes the demographic and socioeconomic characteristics of the population in the sampled households. It also examines environmental conditions, such as housing facilities and physical features of

dwelling units. This information on the characteristics of the surveyed population is essential for the interpretation of survey findings and can provide an approximate indication of the representativeness of the NDHS 2008 survey. This includes household composition by age and sex, size, level of education attainment of household population, housing characteristics and the presence of durable goods in the house.

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Explanatory variables

The demographic variables included women's age, number of children, urban or rural residence and educational attainment. Wealth index, which is a proxy of socioeconomic status, The asset information was collected in the Household Questionnaire of the 2008 NDHS and covers information on household ownership of a number of consumer items ranging from a television, refrigerator, telephone, radio, bicycle, motorcycle, or car, as well as dwelling characteristics, such as source of drinking water, sanitation facilities, and construction material used for flooring. Fertility related variable included women who were pregnant at the time of survey.

Inclusion criteria:

- ❖ Women currently pregnant and whose pregnancies were recorded by the Nigerian Demographic and Health Survey
- ❖ Women who were currently married

Exclusion criteria:

- ❖ Women who were not pregnant at the time of the survey

Statistical analysis

Bivariate associations between unintended pregnancy and each of the predictor variables or determinants were checked. Household characteristics and socio-demographic variables utilised include the following maternal age and educational attainment, type of place of residence and region of residence, fertility preference, current family size and maternal socio-economic status. These associations were described by computing odds ratio with 95% confidence intervals and p-values. A p-value of 0.05 indicated a significant association. Variables that were significant at this level were entered into a multivariate logistic regression model. Stata statistical analysis software version 10 was used in all the analysis.

Results

Socio-demographic characteristics

Table 1 shows the socio-demographic characteristics of 17,886 women who were currently pregnant at the time of survey. About (18.86%) of these women were aged between 25-29 age group, 19.78% of them were young (15-19 age group); and just above one-fourth (8.71%) of these mothers were older (45-49 age group). With regards to their current pregnancies, (89.11%) were intended; about (10.89%) were unintended. Furthermore, the majority of mothers live in rural areas (74.58%) while 24.52% live in urban areas. With regards to geopolitical zones, North west had the highest pregnancies with about 21.67%, followed by North east (19.08), the least is South east 11.02%.

**Table 1.1: Percentage distribution of women socio-demographic characteristics aged 15-49, 2008
Nigeria Demographic and Health Survey**

Characteristics	Percentage	Frequency
Age		
15-19	19.78	6,577
20-24	18.26	6,071
25-29	18.86	6,271
30-34	13.65	4,538
35-39	11.62	3,862
40-44	9.11	3,027
45-49	8.71	2,897
Place of residence		
Urban	31.47	10,463
Rural	68.53	22,780
Region		
North central	19.08	6,343
North east	18.67	6,206
North west	21.67	7,205
South east	11.02	3,664
South west	15.10	5,020
South south	14.45	4,805
Current pregnant status		
Intended	89.11	15,938
Unintended	10.89	1,948

Source: calculated from the 2008 Nigeria Demographic and Health Survey

Results

Socioeconomic characteristics

With regards to educational attainment of mothers, 39.51% of them had no education, about 19.78 had only primary education, and 32.75% reported secondary education. Only 7.96 completed either academy or university. In terms of socioeconomic status, the poorest of the respondents were about 21.77% of the, poorer were about 20.40%. 19.72% are middle class mothers, 19.63% are mothers who reported being rich. The richest among them scored 18.49%

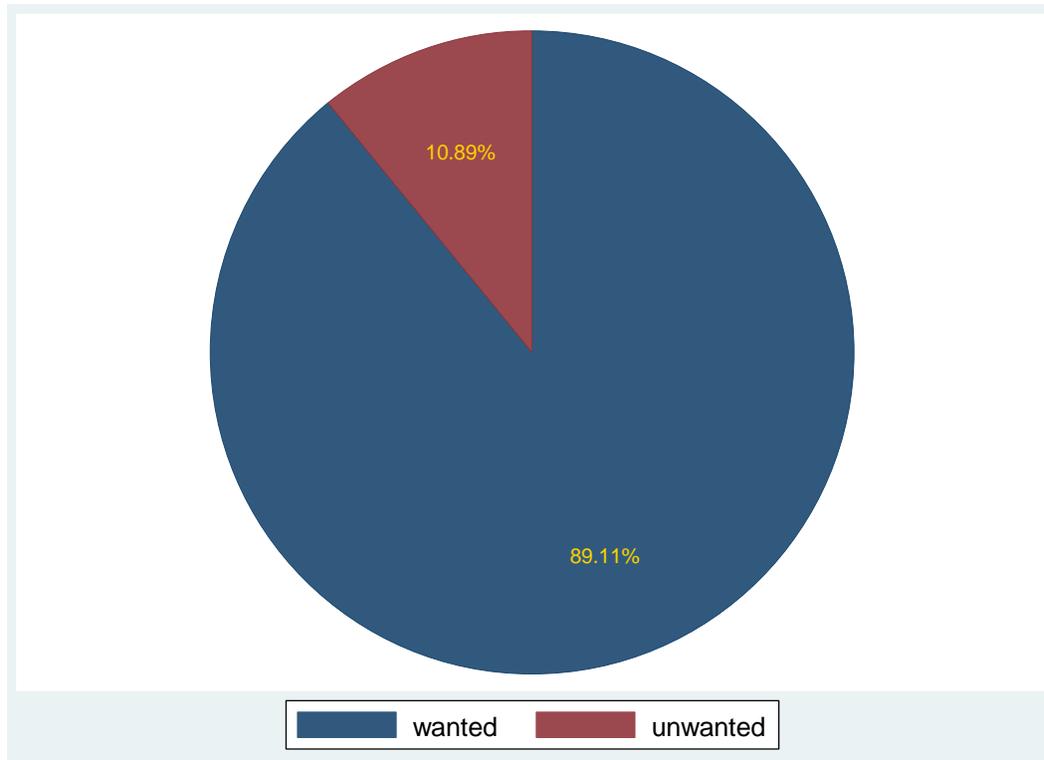
Table 1.1: Percentage distribution of socioeconomic status of women who were currently pregnant at the time of survey, 2008 NDHS

Variable	Characteristics	Percent	Frequency
Education	No education	39.51	13,134
	Primary	19.78	6,576
	Secondary	32.75	10,888
	Higher	7.96	2,645
Socio-economic status	Poorest	21.77	7,236
	Poorer	20.40	6,780
	Middle	19.72	6,556
	Richer	19.63	6,525
	Richest	18.49	6,146

Source: calculated from the 2008 Nigeria Demographic and Health Survey

Women's pregnancy intention status

Figure 1 presents the percentage distribution of current pregnant women by how they classify their pregnancy intentions (intended or unintended). The majority of the women (89.11%) classified their pregnancy as intended, while 10.89% classified their pregnancy as unintended.



Bivariate cross tabulation analyses

Bivariate analysis was utilised to determine the association between different hypothesized predictor variables and pregnancy intention status.

Maternal age: The highest occurrence of unintended pregnancies occurred to women aged 25-29 years of old and the odds of unintended pregnancy seemed to be increasing with age. As shown in table 3, mothers whose age was between 25 and 29 have the highest tendency to classify their pregnancy as unwanted (22.90%), while mothers whose age was between 30-35 have the second largest rate of unintended

pregnancies (22.38%). Rough 10.63% of mothers whose age was between 15-19 classified their pregnancies as unintended pregnancy. The oldest age cohorts 45-49, have the smallest rate of unintended pregnancy about 5.13%.

Region of residence

The rate of unintended pregnancies seemed to be highest (27.57) South south. South west geopolitical zone has the second highest rate of unintended pregnancy (18.12%). North central has 16.43% rate of unintended pregnancy, followed by North west geopolitical zone (13.14%). Mothers who are from South west and South east had the lowest rate of unintended pregnancy (12.47%) and 12.27% respectively.

Socio-Economic Determinants

Place

Place of residence. Table 3 shows that the rate of unintended pregnancies was higher among mothers living in the rural areas (68.99%) compared to 31.01% of mothers who reported that their pregnancy was unintended in the urban areas.

Level of education

The highest rate of unintended pregnancies 39.78% came from mothers who have only secondary education. Second to the highest rate of unintended pregnancies about 27.05% came from mothers who have only primary/elementary education. On the other hand, mothers who had no education (26.39%) reported the pregnancies as unintended. The lowest rate come from mothers who had completed academy or university (6.78%)

Economic status

The highest rate of unintended pregnancies 25.26% occurred to class mothers who identified their economic status as richer, while poor mother have the second rate of unintended pregnancy (21.9%), while the second highest rate of unintended pregnancy occurred to middle class women (21.875)

Table 3: Cross tabulation analyses between pregnancy intention status and demographic characteristics, 2008 NDHS

Characteristics	Intended pregnancy (%)	Unintended pregnancy (%)
Age ***		
15-19	6.47	10.63
20-24	19.13	22.90
25-29	27.13	22.38
30-34	20.53	15.30
35-39	15.00	14.78
40-44	8.01	8.88
45-49	3.74	5.13
Educational attainment ***		
None	51.75	26.39
Primary	22.09	27.05
Secondary	21.14	39.78
Higher	5.03	6.78
Socioeconomic status ***		
Poorest	27.69	15.45
Poor	24.02	18.69
Middle	19.16	21.87
Rich	15.92	25.26
Richest	13.20	18.74
Religion **		
Catholic	8.27	12.22
Other Christian	31.09	56.94
Islam	58.53	29.29
Traditionalist/other	2.11	1.69

Place of residence ***		
Urban	26.32	31.01
Rural	73.68	68.99
Region ***		
North central	18.87	16.43
North east	23.33	12.47
North west	28.49	13.14
South east	7.60	12.27
South west	11.95	18.12
South south	9.7	27.57

Source: calculated from the 2008 Nigeria Demographic and Health Survey

Proximate Determinants

Table 4 shows women's pregnancy intention status by husband's level of education, sex and age of household head, type of place of residence, household assets. The data revealed that the differences whether or not the pregnancy is intended are statistically significant across all the proximate variables.

Husbands' level of education: Mothers whose husbands have completed academy/university reported the lowest rate of unintended pregnancies (14.21%), mothers whose husbands have only completed secondary school; about 37.48 % reported the highest rate of unintended pregnancy. Mothers who reported that their husbands have no education recorded 22.96%. Mothers who had no knowledge of the husband's or partners' educational status reported about 1.04%.

Age of household head

The highest rate of unintended pregnancy occurred to women whose husbands' ages are 35-44 (28.52%).

The lowest rate occurred to women whose husbands' age range between 85-94 (0.78%) and 95 and 104 (0.16%) respectively.

Husbands' desire for family size:

Women who agree with their husband about family size were likely to consider their pregnancies as unintended. When the women's desire disagrees with their husband about family size, data revealed that they were more likely to have unintended pregnancies 38.23%

Variables	Characteristics	Intended pregnancy	Unintended pregnancy
Husbands' level of education ***	No education	42.61	22.96
	Primary	20.36	24.31
	Secondary	25.46	37.48
	Higher	10.95	14.21
	Don't know	0.63	1.04
Sex of household head ***	Male	90.69	82.44
	Female	9.31	17.56
Age of household head ***	15-24	3.11	4.73
	25-34	27.58	21.19
	35-44	34.56	28.52
	45-54	20.19	23.12
	55-64	9.19	12.57
	65-74	3.51	7.01
	75-84	1.11	1.92
	85-94	0.27	0.78
	95-104	0.46	0.16
Main wall of residence ***	Cement	34.77	45.69
	Mod/earth	51.06	36.80
Household assets **	Television	25.34	38.46
	Refrigerator	9.15	12.82
Husband's desire for children***	0-4	23.07	25.56

	5-9	9.18	38.23
	10+		
No of living rooms	0-4	28.07	35.07
	4+	22.08	8.05

Source: calculated from the 2008 Nigeria Demographic and Health Survey

Multivariate logistics regression analyses

Table 4 shows the results of the multivariate logistic regressions. This is presented in odds ratios by each of the hypothesized predictors of unintended pregnancies. These odds-ratios can be interpreted as the odds of classifying the pregnancies for each of the demographic, socio economic and other proximate variables

Almost all of the hypothesized variables emerged to be significantly related to unintended pregnancy when taken simultaneously. Religion was not significant and maternal age was significant at 0.1 but not significant at 0.05% confidence interval.

Results

- ❖ Women who reside in the rural areas were % more likely to classify their pregnancy as unintended compared to those women living in urban areas
- ❖ Rich women were 1.3 time more likely to see their pregnancy as unintended compared to those moderate and poor women.
- ❖ Women who have completed secondary and higher education were 1.3 times more likely to declare their pregnancy as unintended compared to those women who have not education

Table 4

Among married women who were currently pregnant, odds ratios from multivariate logistic regression assessing the association between unintended pregnancy with selected characteristics.

Characteristics	Category	Odds ratio
Age	Continuous variable	1.0
Educational attainment	0 = None	1.2
	1 = Primary	0.87
	2 = Secondary/High**	0.98
Socioeconomic status	0 = Poor	1
	1 = Moderate	0.78
	2 = Rich**	0.87
Place of residence	0 = Urban	1
	1 = Rural**	1.3
Parity	Continuous	1.3
Husbands' age	Continuous	1.2
Floor residence	0= cement	0.56
	1 = floor/mud**	
Age of Household head	Continuous	1.3
Household asset	Continuous	1.2

Source: calculated from the 2008 Nigeria Demographic and Health Survey

Legend: **Significant at P-value < 0.05

Discussion

This research studied the impact of household characteristics on unintended pregnancy among married women in Nigeria. The 2008 NDHS had a sample of 33,243 households. Among the households interviewed, 17,886 women who were currently pregnant at the time of the interview formed the sample size for analysis.

The respondents were 17,886 out of 33,243 women of reproductive age (15-49) years old) who were currently pregnant at the time of the survey. The study examined the significant factors that influence Nigerian women's pregnancy intention status and tried to evaluate the differences in pregnancy intention status among married women in Nigeria based on their demographic, socio economic, household characteristics and other proximate determinants

The study shows that roughly half (13.65%) of the respondents were aged between 35-39 age group. About (19.78%) of them were young (15-19 age group); and just above one-fourth (8.71%) of these women were older (45-49 age group). In regards to their current pregnancies, (89.11%) were intended; about (10.89%) were unintended. Furthermore, the majority of the women live in rural areas (68.53%) while 31.47% live in urban areas.

Findings from the study show that the rate of unintended pregnancies seemed to be highest (27.57%) South south. South West geopolitical zone has the second highest rate of unintended pregnancy (18.30%). North east has 19.23% rate of unintended pregnancy, followed by North central geopolitical zone (16.43%). Mothers who are from North west had 13.14% rate of unintended pregnancy, while Northeast reported 12.47% and South east (12.27%) rates of unintended pregnancy respectively.

Data analysis of the bivariate table shows that the rate of unintended pregnancies was higher among women living in the rural areas (68.99%) compared to 31.01% of mothers who reported that their pregnancy was unintended in the urban areas.

Results emerging from the analyses show that the highest rate of unintended pregnancies 39.15% occurred to women who have no education. Second to the highest rate of unintended pregnancies about 33.15% occurred to women who have only primary/elementary education. On the other hand, women who had finished secondary education (24.33%) reported the pregnancies as unintended. The lowest rates of unintended pregnancy came from mothers who had completed academy or university (6.78%)

With regards to socioeconomic status, the results of the bivariate table shows that the highest rate of unintended pregnancies occurred to rich mothers (25.26%), while middle class mothers have the second rate of unintended pregnancy (21.87%), while it was lowest among the poorest mothers (15.45%)

Conclusion

Results emerging from the research reveal women who have the highest likelihood of unintended pregnancy and also show significant factors which affect pregnancy intention statuses among married women in Nigeria. The findings of the study show that empowering and raising women's status will readily reduce the rate of unintended pregnancy among women of reproductive age in Nigeria. If they are empowered, they would regulate their fertility and thus they can properly space their pregnancies or limit their family size.

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