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Journal of Obstetrics Gynecology and Reproductive Sciences
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Open Access

Research Article

History of Cervical Cancer and Pregnancy Losses as predictors of Abstinence from Sexual Activity among Women in Ghana

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Received date: April 25, 2025; Accepted date: May 05, 2025; Published date: May 12, 2025.

Citation: Anthony E. Boakye, (2025), History of Cervical Cancer and Pregnancy Losses as predictors of Abstinence from Sexual Activity among Women in Ghana, *J. Obstetrics Gynecology and Reproductive Sciences*, 9(4) **DOI:10.31579/2578-8965/267**

Abstract:

Background: Among the numerous reproductive health conditions that affect women; cervical cancer and pregnancy losses stand out due to their significant medical, psychological, and social consequences. These experiences may not only affect a woman's reproductive capacity but can also alter her perception of sexuality, intimacy, and bodily autonomy.

Objective: Given these challenges, the study aimed to investigate whether a history of cervical cancer and pregnancy losses can be considered significant predictors of sexual abstinence among Ghanaian women.

Methods: Data for the study were extracted from the 2022 GDHS. It was provided by Measure DHS Program through the link https://dhsprogram.com/data. Frequency distribution, Pearson's chi-squared test of independence, and binary logistic regression were used to add value to the data. The binary logistic regression was used to determine the effects of history of cervical cancer, and pregnancy losses on women's abstinence from sexual activity in Ghana.

Results: Ever tested for cervical cancer was less significant related to abstinence from sexual activity. Pregnancy Losses was less significant to abstinence from sexual activity. It was revealed that 32889 (94.9%) of women had never been tested for cervical cancer. It emerged that 24876 (71.8%) of the women never experienced pregnancy losses.

Conclusion: The findings indicate that these reproductive health experiences could not lead exclusively to sexual withdrawal. The women resumed sexual activity as part of emotional healing and relationship maintenance. Based on this, the study recommends that healthcare providers should make it a priority to strengthen positive post-reproductive health messaging to reassure women that intimacy is not harmful and that it can be part of emotional recovery and may empower them to maintain healthy sexual relationships.

Keywords: knowledge; emergency contraceptives; females; adolescents; bole sub-city

Introduction

Sexual activity is a complete natural and normal part of human life [1,2]. Therefore, becoming sexually active with a partner is a deeply personal decision that may be influenced by one's family values [3,4]. Sexuality is an important part of being human and living a full life [5]. Affectionate intimate relationships are an important part of the well-being of many individuals and contribute to health and quality of life [6]. Sexuality is about our sexual feelings and thoughts, who we are attracted to, and our sexual behaviours [7]. Exploring and expressing sexuality over time might include things like sexual dreams, fantasising about someone or about a sexual act, kissing, touching, masturbating, being naked with someone, oral sex or having penetrative sexual intercourse [8]. Women's sexuality can change over time, like anyone else's. At different times in life women may feel very sexual and at other times sex might be the furthest thing from their mind [9].

Sexual health is an important component of overall well-being, especially for women whose reproductive histories often influence their physical, emotional, and relational health trajectories [10-12]. Among the numerous reproductive health conditions that affect women; cervical cancer and pregnancy losses stand out due to their significant medical, psychological, and social consequences [13,14]. These experiences may not only affect a woman's reproductive capacity but can also alter her perception of sexuality, intimacy, and bodily autonomy [15-17]. However, in Ghana, despite ongoing national efforts to promote women's health through cervical cancer screening and maternal care programs, many women continue to experience adverse reproductive events, including late-stage cervical cancer diagnoses and recurrent pregnancy losses [18-21].

Sexual abstinence among women with a history of cervical cancer or pregnancy loss may stem from a range of factors, including pain, fear of recurrence, emotional trauma, body image issues, and relationship strain [22-26]. However, in the Ghanaian context, where discussions around female sexuality are often constrained by cultural and religious norms, such

behavioural shifts are rarely openly discussed or adequately addressed in clinical settings [27-29]. This gap in understanding not only limits the scope of holistic post-treatment care but may also leave women without the psychosocial support needed to recover and re-engage in healthy sexual lives [30,31].

Moreover, existing reproductive health research in Ghana tends to focus on fertility [32-37], and contraceptive use [38-40]. These studies fail to look at the intersection between these reproductive events (cervical cancer and pregnancy losses) and women's sexual behaviour patterns together. Other researchers also attempted to advance evidence on how a history of cervical cancer and pregnancy losses serve as predictors of sexual abstinence among women in Ghana but did so by exploring the variables in isolation. For instance, Appiah, Amertil, Oti-Boadi, Lavoe and Siedu [41] looked at the experiences of women living with cervical cancer; Adanu [42] studied sexuality and gynecologic health of women; Donkor and Lariba [43] explored coping strategies of women undergoing cervical cancer treatment; Anarfi [44] examined vulnerability to sexually transmitted disease; Agbemenu, Hagan and Leung [45] studied psychological and social impact of cervical cancer diagnosis and treatment; Anaman-Torgbor, Angmorterh, Dordunoo and Ofori [46] explored cervical cancer screening behaviours and challenges while Gyimah, Adjei and Takyi [47] also examined health care decision-making and sexual abstinence behaviour.

In view of this, it is difficult to predict how reproductive trauma influences sexual behaviours among women. Without clear evidence, healthcare providers may overlook abstinence as a coping response or symptom of unresolved psychological distress, further marginalising affected women and impeding the development of effective, culturally appropriate interventions. Given these challenges, the study aimed to investigate whether a history of cervical cancer and pregnancy losses can be considered significant predictors of sexual abstinence among Ghanaian women.

Specifically, the study seeks to:

1) Analyse if a history of cervical cancer predicts abstinence from sexual activity among women in Ghana;

2) Examine whether pregnancy losses influence abstinence from sexual activity among women in Ghana.

The study further hypothesized that there is no statistically significant relationship between a history of cervical cancer, pregnancy losses and abstinence from sexual activity among women in Ghana

Methods

Data Source

Data for the study were extracted from the 2022 GDHS. It was provided by Measure DHS Program through the link https://dhsprogram.com/data. The DHS data were preferred because it is nationally representative, provides a wealth of information on population, and can guarantee generalization (can be used to make broad statements about the entire population) [48,49].

Measures

In the study, the independent variables (IVs) are history of cervical cancer, and pregnancy losses. The variables were carefully chosen because the researcher wants to ascertain how they interplay to influence sexual abstinence among women in Ghana. Hence, previous studies did not provide a direct causal link between the history of cervical cancer, pregnancy losses, and sexual abstinence [50-54]. The dependent variable (DV) in the study was abstinence from sexual activity.

Data Processing and Analysis

Data were processed with SPSS version 27. Frequency distribution, Pearson's chi-squared test of independence, and binary logistic regression were used to add value to the data. For instance, the frequency distribution was used to summarise participants' responses into proportions. The Pearson's chi-squared test of independence was used to test the hypotheses postulated in the study to either accept or reject the null hypotheses. The binary logistic regression was used to determine the effects of history of cervical cancer, and pregnancy losses on women's abstinence from sexual activity in Ghana.

Results

To ascertain the proportion of women who were abstaining from sexual activity prior to the study instigated data extraction on a single item thus "currently abstaining" for analysis. After the analysis, the results revealed that 30445(88%) of the women were not abstaining from sexual activity while 4218(12%) of the women were abstaining from sexual activity prior to the study.

To ascertain the proportion of women with cervical cancer history in Ghana triggered data extraction on a single item (ever tested for cervical cancer) from the 2022 GDHS for analysis. After the analysis, the results revealed that 94.9% of women had never been tested for cervical cancer while 0.3% of the women do not even know whether they had been tested for cervical cancer or not (see Table 1).

Variable	Frequency	Percentage
Ever tested for cervical cancer		
No	32889	94.9
Yes	1683	4.9
Don't know	91	0.3
Total	**34663**	**100.0**

Source: GDHS (2022).

Table 1: History of Cervical Cancer among Women in Ghana

Table 2 has Pearson's chi-square test of independence on history of cervical cancer and abstinence from sexual activity among women in Ghana. This analysis was conducted to test the hypothesis there is no statistically significant relationship between history of cervical cancer and abstinence from sexual activity among women in Ghana. Statistically significant relationship was found between history of cervical cancer [χ^2=6.215, p=0.045] and abstinence from sexual activity among women in Ghana.

Variable	No (%)	Yes (%)	Total n (%)	χ^2	P-value
Ever tested for cervical cancer				6.215	0.045
No	87.7	12.3	32889(100.0)		
Yes	89.6	10.4	1683(100.0)		
Don't know	91.2	8.8	91(100.0)		

Table 2: Relationship between History of Cervical Cancer and Abstinence from Sexual Activity among Women in Ghana

Note: Row percentages in parenthesis, Chi-square significant at (0.001), (0.05), (0.10)

No: do not engage child in labor Yes: engage child in labor

Source: Fieldwork (2025).

Further analysis was conducted with binary logistic regression on history of cervical cancer and abstinence from sexual activity among women in Ghana. This analysis was conducted to determine the influence history of cervical cancer exert on women's abstinence from sexual activity in Ghana. The results are presented in Table 3.

Variable	B	Wald	Sig.	Exp(B)	95CI	
Ever tested for cervical cancer (No=1.0)						
Yes	-0.187	5.223	0.022	0.830	0.707	0.974
Don't know	-0.372	1.009	0.315	0.689	0.333	1.425
Constant	**-1.967**	**13699.812**	**0.000**	**0.140**		

Source: GDHS (2022). Significant at 0.05.

Table 3: Binary Logistic Regression Results on History of Cervical Cancer and Abstinence from Sexual Activity among Women in Ghana

After processing the data, the logistic regression model was significant at -2LogL = 25662.860; Nagelkerke R2 of 0.000; χ2=6.528; p=0.038 with correct prediction rate of 87.8%. More importantly, the Model Summary which shows a Nagelkerke R2 of 0.000 suggests that the model explains 0.0% of variance in the likelihood of women's abstinence from sexual activity in Ghana. With this percentage contribution to the entire model, the results confirmed the whole model significantly predict women's abstinence from sexual activity in Ghana.

Table 3 revealed that ever tested for cervical cancer was statistically significant related to abstinence from sexual activity at p=0.022, (OR=0.830, 95%CI ([0.707-0.974]). This variable identifies those women to have 0.8times less likely to abstain from sexual activity compared with their counterparts that had not tested for cervical cancer (see Table 3).

To unravel the proportion of women who were experiencing pregnancy losses trigger data extraction on a single item (pregnancy losses) for analysis. After the analysis, the results revealed that 71.8% of the women never experienced pregnancy losses while 0.0% recorded either six, eight or eleven pregnancy losses (see Table 4).

Variable	Frequency	Percentage
0	24876	71.8
1	6934	20.0
2	1970	5.7
3	596	1.7
4	186	0.5
5	60	0.2
6	16	0.0
7	18	0.1
8	4	0.0
11	3	0.0
Total	**34663**	**100.0**

Table 4: Pregnancy Losses among Women in Ghana

Source: GDHS (2022).

Table 5 has outcome of Pearson's chi-square test of independence on pregnancy losses and abstinence from sexual activity among women in Ghana. This analysis was conducted to test the hypothesis there is no statistically significant relationship between pregnancy losses and abstinence from sexual activity among women in Ghana. Statistically significant relationship was found between pregnancy losses [χ2=95.395, p<0.001] and abstinence from sexual activity among women in Ghana.

Variable	No (%)	Yes (%)	Total n (%)	χ^2	P-value
Pregnancy losses				95.395	<0.001
0	86.8	13.2	24876(100.0)		
1	89.9	10.1	6934(100.0)		
2	91.5	8.5	1970(100.0)		
3	90.9	9.1	596(100.0)		
4	91.4	8.6	186(100.0)		
5	98.3	1.7	60(100.0)		
6	100.0	0.0	16(100.0)		
7	100.0	0.0	18(100.0)		
8	100.0	0.0	4(100.0)		
11	100.0	0.0	3(100.0)		

Table 5: Relationship between Pregnancy Losses and Sexual Abstinence among Women in Ghana

Note: Row percentages in parenthesis, Chi-square significant at (0.001), (0.05), (0.10)

No: do not engage child in labor Yes: engage child in labor

Source: Fieldwork (2025).

Further analysis was conducted with binary logistic regression on pregnancy losses and abstinence from sexual activity among women in Ghana. This analysis was conducted to determine the effect of pregnancy losses on abstinence from sexual activity among women in Ghana. The results are presented in Table 6

Variable	B	Wald	Sig.	Exp(B)	95CI	
Pregnancy losses (0=1.0)						
1	-0.298	45.909	0.000	0.742	0.681	0.809
2	-0.494	35.376	0.000	0.610	0.519	0.718
3	-0.421	8.553	0.003	0.656	0.495	0.870
4	-0.478	3.322	0.068	0.620	0.371	1.037
5	-2.192	4.724	0.030	0.112	0.015	0.806
6	-19.318	0.000	0.998	0.000	0.000	0.000
7	-19.318	0.000	0.998	0.000	0.000	0.000
8	-19.318	0.000	0.999	0.000	0.000	0.000
11	-19.318	0.000	0.999	0.000	0.000	0.000
Constant	**-1.885**	**10116.583**	**0.000**	**0.152**		

Table 6: Binary Logistic Regression on Pregnancy Losses and Abstinence from Sexual Activity among Women in Ghana

Source: GDHS (2022). Significant at 0.05

After processing the data, the logistic regression model was significant at -2LogL = 25561.700; Nagelkerke R2 of 0.006; χ2=107.688; p<0.001 with correct prediction rate of 87.8%. More importantly, the Model Summary which shows a Nagelkerke R2 of 0.006 suggests that the model explains 0.6% of variance in the likelihood of women's abstinence from sexual activity. With this percentage contribution to the entire model, the results confirmed the whole model significantly predict women's abstinence from sexual activity in Ghana.

Table 6 revealed that losing just a pregnancy was statistically significant related to abstinence from sexual activity at p<0.001, (OR=0.742, 95%CI ([0.681-0.809]). This variable identifies those women to have 0.7times less likely to abstain from sexual activity compared with their counterparts that had never lost a pregnancy (see Table 6). Further, losing pregnancy twice was statistically significant related to abstinence from sexual activity at p<0.001, (OR=0.610, 95%CI ([0.519-0.718]). This factor labels those women to have 0.6times less likely to abstain from sexual activity compared with their counterparts that had never lost a pregnancy (see Table 6). Furthermore, losing pregnancy three times was statistically significant related to abstinence from sexual activity at p=0.003, (OR=0.656, 95%CI ([0.495-0.870]). This variable revealed those women to have 0.7times less likely to abstain from sex compared with their counterparts that had never lost a pregnancy (see Table 6). Then, losing pregnancy five times was statistically significant related to abstinence from sexual activity at p=0.030, (OR=0.112, 95%CI ([0.015-0.806]). This variable revealed those women to have 0.1time less likely to abstain from sexual activity compared with their counterparts that had never lost a pregnancy (see Table 6).

Discussion

The study attempted to investigate the influence of history of cervical cancer and pregnancy losses on sexual abstinence among women in Ghana. The results revealed that ever tested for cervical cancer had lower odds of abstinence from sexual activity. This finding refuted previous studies which found that cervical cancer patients experienced low libido due to the cervical cancer symptoms and the side effects of chemotherapy [41,45]. Further, the authors asserted that women who have been treated for cervical cancer have persistent vaginal changes that compromise sexual activity and result in considerable distress. This outcome suggests that women who have been tested for cervical cancer are more likely to engage in some form of sexual activity than women who have never been tested. The plausible explanation to this finding could be that several factors play a role such as the timing of testing (usually after a woman becomes sexually active) and the increased awareness of sexual health among those who have been tested [56,57].

The study found that pregnancy losses are associated with lower odds of abstinence from sexual activity. This finding corroborated with a previous study which found that compared with multiparous women, those with one or no surviving child had a lower likelihood of being abstinent and having a met need [58]. On the contrary, the finding refuted previous studies which found that half of the women with recurrent pregnancy loss had impaired sexual function. Further, women with recurrent pregnancy loss predominantly experienced decreased sexual desire, while they did not have much problem in terms of vaginal lubrication [59,60]. This finding suggests that experiencing a pregnancy loss might lead individuals to be less likely to abstain from sexual activity in the future [61,62]. The plausible explanation to this finding could be due to a variety of factors including emotional distress, altered beliefs about fertility, or a desire to try again quickly [61,62].

The study found that relationship exists between history of cervical cancer and abstinence from sexual activity. Therefore, the null hypothesis was ignored. This outcome refuted previous studies which found no significant association between early sexual activity and cervical cancer [63,64] On the contrary, this outcome corroborated with a previous study which found that a significant association (p-value = 0.0007) exists between cervical cancer screening behaviours and sexual activity among women [65]. The relationship found indicates that the variables are not independent of each other. A p-value of 0.045 found explains that the cervical cancer history might be less likely to predict women's abstinence from sexual activity.

The study found that relationship exists between pregnancy losses and abstinence from sexual activity due to this, the null hypothesis was not confirmed. This finding refuted a previous study which found that although research is sparse on first trimester miscarriages, numerous studies have found no association between sexual activity and preterm birth [66]. On the contrary, the finding aligns with a previous study that previous pregnancy termination is related to lower odds of being abstinent among all and single women [58]. A p-value of <0.001 found is an indication of a strong relationship; which meant that pregnancy losses could have a greater influence on women's abstinence from sexual activity in Ghana.

The study found that 94.9% of women in Ghana had never been tested for cervical cancer. This finding agrees with previous studies which found that a large proportion of Ghanaian women report never having been screened for cervical cancer [18,67-69]. On the contrary, the finding refuted previous study by Tchounga, Boni, Koffi et al. [70] in Côte d'Ivoire which found that (72.5%) had been offered cervical cancer screening. This finding suggests that there is a significant lack of cervical cancer screening and prevention efforts in the country. Further, this outcome indicates low awareness and uptake of available preventative measures like Pap smears and human papillomavirus (HPV) vaccines [71-74].

The study found that only 4.9% of the women had been tested for cervical cancer. This outcome is almost similar to a previous study by Twinomujuni, Nuwaha and Babirye [75] in Central Uganda which found that only 7% of women had ever been screened for cervical cancer. On the contrary, the finding refuted previous studies which found that 70% had ever screened for cervical cancer [76]. 8.9% of the female students in Ghana reported having been screened for cervical cancer, even after being aware of the screening services [77,78]. This finding is an indication of a very low rate of cervical cancer screening among women in Ghana. This therefore, explains that a significant proportion of women in Ghana are not actively participating in preventative measures to detect cervical cancer [18,19].

The study found that 71.8% of the women never recorded pregnancy losses. This finding is almost similar to a previous study which found that more than 75% of pregnant women are never recorded with a pregnancy loss [79]. This outcome indicates that a significant portion of the women experienced no pregnancy loss or had their losses unreported. The plausible explanation to this finding could be that these women endeavour to observe practices that could lower risk of miscarriage including: not smoking during pregnancy, not drinking alcohol or using illegal drugs during pregnancy, and eating a healthy or balanced diet with at least 5 portions of fruit and vegetables a day [80].

Conclusion

This study investigated the influence of a history of cervical cancer and pregnancy losses on abstinence from sexual activity among women in Ghana. The findings indicate that these reproductive health experiences could not lead exclusively to sexual withdrawal. The women resumed sexual activity as part of emotional healing and relationship maintenance. Based on this, the study recommends that healthcare providers should make it a priority to strengthen positive post-reproductive health messaging to reassure women that intimacy is not harmful and that it can be part of emotional recovery and may empower them to maintain healthy sexual relationships.

Limitation of the Study

The study was limited to make a causal inference; hence, the DHS data used are a cross-sectional in nature meaning it captures information at one point in time. Therefore, it made it difficult to infer causality or determine the direction of relationships (e.g., whether pregnancy loss leads to sexual abstinence or vice versa).

Declaration

Abbreviations

AIDS	Acquired immunodeficiency syndrome
DHS	Demographic and Health Survey
DV	Dependent Variable
GDHS	Ghana Demographic and Health Survey
GSS	Ghana Statistical Service
HIV	Human Immunodeficiency Virus
IVs	Independent Variables
SPSS	Statistical Package for the Social Sciences

Ethics Approval and Consent to Participate

The GDHS Program obtained ethical approval from both The Ghana Health Service's Ethics Review Committee (ERC) and The ICF The Institutional Review Board (IRB) for ethical review. This dual approval process assure that the survey adheres to ethical guidelines and protects the rights of participants.

Consent for publication

Not Applicable

Availability of Data and Materials

The datasets used is the 2022 GDHS data. Therefore, it is publicly available online at https://dhsprogram.com/data. This is Measure DHS Initiative or Program.

Competing Interests

Author did not register any conflict of interest.

Funding

No fund was received.

Author's Contributions

Anthony Edward Boakye is the sole author of the Manuscript

Acknowledgements

I acknowledge measure DHS program for making the datasets available to me.

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DOI:10.31579/2578-8965/267