ISSN: 2833-9320

Research Article

International Journal of Health Policy and Planning

Marital Status, Unmet Need for Contraception and Health Insurance Subscription among Women in Ghana

Anthony Edward Boakye*

Department of Health, University of Cape Coast, Ghana

***Corresponding Author**

Anthony Edward Boakye, Department of Health, University of Cape Coast, Ghana.

Submitted: 2025, Jun 02; **Accepted**: 2025, Jun 26; **Published**: 2025 Jul 14

Citation: Boakye, A. E. (2025). Marital Status, Unmet Need for Contraception and Health Insurance Subscription among Women in Ghana. *Int J Health Policy Plann, 4*(3) 01-10.

Abstract

Background

Uninsured women often have inadequate access to care, get a lower standard of care when they are in the health system, and have poorer health outcomes.

Objective

In line with this, the study aimed to investigate how marital status and unmet need for contraception interplay to influence women's health insurance subscription in Ghana.

Methods

Data for the study were extracted from the 2022 GDHS data from online at https://dhsprogram.com/data. The data were processed with SPSS version 27 and analyzed with frequency distribution, Pearson's chi-square test of independence and binary logistic regression. The frequency distribution was used to summarize 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. However, the binary logistic regression was used to assess the effects of marital status and unmet need for contraception on women's health insurance subscription in Ghana.

Results

The study found that married women had higher likelihood of health insurance subscription while women who experienced unmet need for limiting, and those who were not married and decided to abstain from sex in the last 30 days prior to the study tend to have lower odds of health insurance subscription.

Conclusion

These findings reveal important disparities in women's access to healthcare coverage in Ghana. Therefore, the study recommends that Ghana health service should endeavor to use community health workers or mobile health platforms to connect underserved women to health insurance enrollment and contraceptive services.

Keywords: Ghana, Health Insurance Subscription, Marital Status, Unmet Need for Contraception, Women

Abbreviations

DHS: Demographic and Health Survey
GDHS: Ghana Demographic and Health Survey
ICF: International Coaching Federation
IVs: Independent Variables
SPSS: Statistical Package for the Social Sciences
US: United States

1. Introduction

Health care is a central element of women's lives, shaping their ability to care for themselves and their families, to be productive members of their communities, to contribute to the workforce, and to build a base of economic security [1,2]. Women's reproductive health care needs, their central roles managing family health as parents and as family caregivers, and their longer lifespans, albeit with greater rates of chronic health problems and functional limitations than men, all shape their relationships with the health care system [3,4]. While women are major consumers of health care services and play a central role as health navigators and caregivers for their families, structural factors can challenge their ability to get the health care they need [5,6]. Factors, including national and state policies that shape the health care delivery system to research priorities and discriminatory economic and societal forces, can deprioritize women's health concerns. Access challenges are greater for women who are in low-income households [7,8].

Women's health insurance coverage is an important factor which makes health care affordable and accessible to women. Women with health insurance coverage are more likely to obtain needed preventive, primary, and specialty care services, and have better access to new advances in women's health [9-11]. Uninsured women often have inadequate access to care, get a lower standard of care when they are in the health system, and have poorer health outcomes. Compared to women with insurance, uninsured women have lower use of important preventive services such as mammograms, Pap tests, and timely blood pressure checks. They are also less likely to report having a regular doctor [9,11].

In 2021, globally, it was noted that there was an estimated 1.9 billion women of childbearing age (between 15 and 49) of which 9% have unmet contraceptive needs while 270 million women lack access to modern family planning methods [12]. Unmet need refers to the "condition of wanting to avoid or postpone childbearing but not using any method of contraception" to do so [13]. Women's unmet need is dynamic and can change over a period of time as their fertility desires alter, when women want to change their contraceptive method, or when deciding to return to contraception following childbirth [14]. During these phases, women's met need may convert into unmet need if the period of contraceptive non-use is prolonged due to factors like inability to access quality care, find contraceptives that match their needs and desires, or if women are unable to get quality counselling to help them with their contraceptive choices [14,15]. Various global studies have documented such conversion–of met need into unmet need–particularly due to contraceptive discontinuation, which can subsequently lead to unwanted fertility and childbirths [1].

Universal health coverage ensures that all people obtain the health services they need without suffering financial hardship when paying for them is a global health priority in the post-2015 development agenda [16]. Health insurance pays for all or part of medical or surgical expenses for the insured, mitigating out of-pocket payments as a barrier to health care and providing financial risk protection against catastrophic health expenditures [17,18]. Studies show that health insurance decreases financial barriers and increases access to health care generally, as in the Philippines, Rwanda, and Ghana [19-22]. And a review of the effect of insurance on maternal health found that insurance positively influences uptake of facility-based delivery across all types of insurance schemes in a number of developing countries [19,23,24]. Insurance coverage is often limited to those who are employed within formal institutions or who can afford private insurance [25]. However, expanding coverage and eliminating financial barriers would increase client contact with health facilities and providers, creating more opportunities for family planning education and service provision [25-28]. More frequent interactions with providers on a range of health issues may also increase clients' trust in providers and could lead to positive spillovers for uptake of family planning. One study notes that trust and rapport between clients and providers may even be a more important determinant of family planning acceptance than the number of methods available [25-28].

In Ghana, one in every 10 (9.9%) females and more than a quarter (26.6%) males aged 15-49 are not covered by any health insurance [29]. Health insurance coverage among women 15-49 years has increased from 40 percent in 2008, 62 percent in 2014 then to a peak of 90 percent in 2022. Similarly, coverage rate has also increased among men aged 15-49, ranging from 30 percent in 2008 to 73 percent in 2022 [29]. The percentage of females and aged 15-49 with any health insurance coverage is higher in urban areas (90.8% for females and 77.2% for males) compared to rural (89.2% for females and 68.8% for males). Twenty-seven percent of women and 39% of men with NHIS coverage did not have a valid card [29].

With a women health insurance policy, females do not need to be financially dependent on their fathers or husbands to pay their medical bills [30]. They can obtain the best available medical treatment and claim the medical bills from the insurance company [30]. As a result, they become financially independent and can take better care of their health needs. Women can stay financially secure for any medical emergencies if they have a good health insurance for females [31]. This ensures peace of mind as they can access quality treatment at the right time without worrying about exhausting their savings [32].

In Ghana, women's reproductive health and access to healthcare services are critical to achieving national and global health targets [33-35]. Despite progress in family planning initiatives and the introduction of the National Health Insurance Scheme (NHIS), significant gaps persist [23,36-38]. A complex interplay exists between marital status, unmet need for contraception, and health insurance subscription, particularly among women of reproductive age [39-41]. Evidence suggests that marital status can influence both contraceptive behavior and health-seeking patterns, with

unmarried, divorced, or widowed women often facing more barriers to accessing reproductive health services [42,43]. Simultaneously, the unmet need for contraception remains a pressing challenge, contributing to unintended pregnancies, unsafe abortions, and adverse maternal outcomes [42,44-46]. Meanwhile, low enrollment in health insurance schemes further limits access to essential healthcare, including family planning services [44-46].

However, the extent to which these three factors marital status, unmet need for contraception, and health insurance subscription are interrelated has not been fully explored in the Ghanaian context [47-52]. Hence, all the studies conducted in this discipline explored pairwise relationships (e.g., marital status and unmet need, or insurance and healthcare access). Among the studies are, Asiedu, Arhinful and Agyemang examined the demographic factors (including marital status) affecting unmet need for contraception, Kumi-Kyereme and Amo-Adjei studied the influence of health insurance on reproductive health service use which did not explicitly explore contraceptive needs, Dalaba, Akweongo, Aborigo and Oduro focused their study on family planning utilization by considering marital status and health service availability, Adu-Gyamfi investigated health insurance effects but lacks focus on contraceptive need or marital status interactions, Appiah, Seidu, Ahinkorah, Adu and Osei explored unmet need among married women but does not integrate the role of health insurance, Amo-Adjei and Anamaale Tuoyire also looked at marital status and sexual behavior but lacks direct linkage with contraception and insurance [47-52]. Therefore, this gap validates the claim that the relationship among the three factors are studied separately or in pairs and that there is no comprehensive study that examines how marital status, unmet need for contraception, and health insurance subscription interact in an integrated model. Thus, there is a critical need to investigate the associations between marital status, unmet need for contraception, and health insurance subscription among women in Ghana, to identify vulnerable subgroups and to inform integrated policy and programmatic responses.

Specifically, the study seeks to:
• Ascertain if marital status influence women to subscribe to health insurance in Ghana,
• Analyze whether unmet need for contraception trigger women to subscribe to health insurance in Ghana.
The study further hypothesized that there is no statistically significant relationship between marital status, unmet need for contraception and women's health insurance subscription in Ghana

2. Methods

2.1. Data Source

Data for the study were extracted from the 2022 GDHS data from online at https://dhsprogram.com/data. These data were collected on 17th of October, 2022 and ended on 14th January, 2023. In all, three months were used to collect the data.

2.2. Measures

• Independent Variables
In this study, the independent variables are marital status and unmet need for contraception. These variables are indicators themselves, they were carefully chosen to ascertain how they interplay to influence women's access to health care and also identify which women are underserved and why, so, that it will enable the design of more inclusive and effective health systems [53].

• Dependent Variable
Women's health insurance subscription is the dependent variable. This variable was studied just to provide critical insights into women's access to healthcare, health equity, and overall well-being. It was the indicator itself.

2.3. Statistical Analytical Tool for Analysis

The data were processed with SPSS version 27 and analyzed with frequency distribution, Pearson's chi-square test of independence and binary logistic regression. The frequency distribution was used to summarize 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. However, the binary logistic regression was used to assess the effects of marital status and unmet need for contraception on women's health insurance subscription in Ghana.

2.4. Ethical Consideration

The ethical clearance for the survey was granted by The Ethical Review Committee of the Ghana Health Service and ICF Institutional Review Board. The ethical clearance assure that the survey procedures were in accordance with Ghana's ethical research standards and US and international ethical research standards.

3. Results

To be able to identify the proportion of women who have subscribed to health insurance in Ghana instigated the extraction of a single item "covered by health insurance" which was used by the 2022 GDHS to assess the proportion of subscribers in Ghana for analysis. After the analysis, the results revealed that 31663(91%) of women have subscribed while 2994(9%) have not. To ascertain the marital status of women in Ghana data were extracted on a single indicator "marital status" use by the 2022 GDHS for analysis. After the analysis, the results revealed that 70% of women are married while 3% have divorced (see Table 1).

Variable	Frequency	Percentage
Marital status		
Never in union	1437	4.1
Married	24253	70.0
Living with partner	4992	14.4
Widowed	1349	3.9
Divorced	989	2.9
No longer living together/separated	1643	4.7
Total	34663	100.0
Source: GDHS (2022).		

Table 1: Marital Status of Women in Ghana

Table 2 has outcome of Pearson's chi-square test of independence on marital status and women's health insurance subscription in Ghana. This analysis was conducted to test the hypothesis there is no statistically significant relationship between marital status and women's health insurance subscription in Ghana. Statistically significant relationship was found between marital status [χ^2=179677, p<0.001] and women's health insurance subscription in Ghana.

Variable	No (%)	Yes (%)	Total n (%)	χ^2	P-value
Current marital status				**179.677**	**<0.001**
Never in union	10.2	89.8	1437(100.0)		
Married	7.3	92.7	24253(100.0)		
Living with partner	11.6	88.4	4992(100.0)		
Widowed	11.7	88.3	1349(100.0)		
Divorced	12.6	87.4	989(100.0)		
No longer living together/separated	12.4	87.6	1643(100.0)		
Note: Row percentages in parenthesis, Chi-square significant at (0.001), (0.05), (0.10) No: not subscribed Yes: subscribed Source: GDHS (2022).					

Table 2: Relationship between Marital Status and Women's Health Insurance Subscription in Ghana

Table 2 has outcome of Pearson's chi-square test of independence on Further analysis was conducted with binary logistic regression on marital status and women's health insurance subscription in Ghana. This analysis was conducted to ascertain the influence marital status exert on women's health insurance subscription in Ghana. After processing the data, the logistic regression model was significant at -2LogL = 20216.692, Nagelkerke R^2 of 0.011, χ^2= 169.905, p<0.001 with correct prediction rate of 91.4%. Significantly, the Model Summary which shows a Nagelkerke R^2 of 0.011 suggests that the model explains 1.1% of variance in the likelihood of women's health insurance subscription in Ghana. With this percentage contribution to the entire model, the results confirmed the whole model significantly predict women's health insurance subscription in Ghana.

It emerged in Table 3 that married was significantly related to women's health insurance subscription at p=0.001, (OR=1.440, 95%CI ([1.206-1.719]). This factor labels those women to have 1.4times more likely to subscribe to health insurance compared with their counterparts who had never being in a union (see Table 3). However, the rest of the variables (living with a partner, widowed, divorced, and no longer living together/separated) were not significant which could be as a result of chance. This suggests women's health insurance subscription in Ghana is not dependent on them (see Table 3).

Variable	B	Wald	Sig.	Exp(B)	95CI	
Current marital status (Never in union=1.0)						
Married	0.364	16.219	0.000	1.440	1.206	1.719
Living with partner	-0.145	2.203	0.138	0.865	0.715	1.048
Widowed	-0.152	1.567	0.211	0.859	0.677	1.090
Divorced	-0.239	3.405	0.065	0.788	0.611	1.015
No longer living together/separated	-0.218	3.620	0.057	0.804	0.642	1.007
Constant	2.172	622.524	0.000	8.776		
Source: GDHS (2022). Significant at 0.05.						

Table 3: Binary Logistic Regression Results on Marital Status and Women's Health Insurance Subscription in Ghana

To analyze research objective two which is "to examine if unmet need for contraception influence women to subscribe to health insurance in Ghana instigated the extraction of data on unmet need for contraception for analysis. After the analysis, the results revealed that 22.1% of the women reported they do not have unmet need while 7.0% indicated they are not married and did not engage in sex in the last 30 days (see Table 4).

Variable	Frequency	Percentage
Unmet need for contraception		
Unmet need for spacing	4177	12.1
Unmet need for limiting	3962	11.4
Using for spacing	5671	16.4
Using for limiting	6028	17.4
No unmet need	7675	22.1
Not married and no sex in last 30 days	2418	7.0
Infecund, menopausal	4732	13.7
Total	**34663**	**100.0**
Source: GDHS (2022).		

Table 4: Unmet Need for Contraception in Ghana

Table 5 has outcome of Pearson's chi-square test of independence on unmet need for contraception and women's health insurance subscription in Ghana. This analysis was conducted to test the hypothesis there is no statistically significant relationship between unmet need for contraception and women's health insurance subscription in Ghana. Statistically significant relationship was found between unmet need for contraception [χ^2=325.571, p<0.001] and women's health insurance subscription in Ghana.

Variable	No (%)	Yes (%)	Total n (%)	χ^2	P-value
Unmet need for contraception				325.571	<0001
Unmet need for spacing	7.0	93.0	4177(100.0)		
Unmet need for limiting	11.6	88.4	3962(100.0)		
Using for spacing	6.4	93.6	5671(100.0)		
Using for limiting	6.6	93.4	6028(100.0)		
No unmet need	7.2	92.8	7675(100.0)		
Not married and no sex in last 30 days	12.8	87.2	2418(100.0)		
Infecund, menopausal	13.2	86.8	4732(100.0)		
Note: Row percentages in parenthesis, Chi-square significant at (0.001), (0.05), (0.10) No: Not Subscribed Yes: Subscribed Source: GDHS (2022).					

Table 5: Relationship between Unmet Need for Contraception and Women's Health Insurance Subscription in Ghana

Further analysis was conducted with binary logistic regression on unmet need for contraception and women's health insurance subscription in Ghana. This analysis was conducted to ascertain the effect of unmet need for contraception on women's health insurance subscription in Ghana. After processing the data, the logistic regression model was significant at -2LogL = 20078.888, Nagelkerke R^2 of 0.020, χ^2= 307.709, p<0.001 with correct prediction rate of 91.4%. Significantly, the Model Summary which shows a Nagelkerke R^2 of 0.020 suggests that the model explains 2% of variance in the likelihood of women's health insurance subscription in Ghana. With this percentage contribution to the entire model, the results confirmed the whole model significantly predict women's health insurance subscription in Ghana.

It emerged in Table 6 that unmet need for limiting significantly related to women's health insurance subscription at p<0.001, (OR=0.574, 95%CI ([0.492-0.669]). This variable tag those women to have 0.6times less likely to subscribe to health insurance compared with their counterparts who reported unmet need for spacing (see Table 6). Further, not married and did not engage in sex in the last 30 days was significantly related to women's health insurance subscription at p<0.001, (OR=0.513, 95%CI ([0.433-0.607]). This factor identifies those women to have 0.5times less likely to subscribe to health insurance compared with their counterparts who reported unmet need for spacing (see Table 6). Furthermore, infecund, menopausal was significantly related to women's health insurance subscription at p<0.001, (OR=0.494, 95%CI ([0.427-0.571]). This variable reveals those women to have 0.5times less likely to subscribe to health insurance compared with their counterparts who reported unmet need for spacing (see Table 6). However, the rest of the indicators (using for spacing, using for limiting and no unmet need) were not significant indicating that women's health insurance subscription is not dependent on them (see Table 6).

Variable	B	Wald	Sig.	Exp(B)	95CI	
Unmet need for contraception (Unmet need for spacing=1.0)						
Unmet need for limiting	-0.556	50.261	0.000	0.574	0.492	0.669
Using for spacing	0.100	1.516	0.218	1.106	0.942	1.297
Using for limiting	0.061	0.589	0.443	1.063	0.909	1.243
No unmet need	-0.027	0.126	0.722	0.974	0.840	1.128
Not married and no sex in last 30 days	-0.667	60.271	0.000	0.513	0.433	0.607
Infecund, menopausal	-0.705	90.060	0.000	0.494	0.427	0.571
Constant	**2.588**	**1819.197**	**0.000**	**13.305**		
Source: GDHS (2022). Significant at 0.05.						

Table 6: Binary Logistic Regression on Unmet Need for Contraception and Women's Health Insurance Subscription in Ghana

4. Discussion

The study aimed to investigate the effects of marital status and unmet need for contraception on women's health insurance subscription in Ghana. By analyzing nationally representative data, the study sought to identify which groups of women are most underserved and discover how social and reproductive factors influence health insurance uptake among women in Ghana. The analysis brought to light that marital status significantly influences women's likelihood of being subscribed to health insurance, with married women showing higher subscription rates than their never being in union counterparts. This finding suggests that being in a marital union can facilitate access to health insurance subscription. The plausible explanation to this finding could partly be that the marriage guarantees financial stability and support which eventually makes it easier for couples to manage the costs of insurance premiums and healthcare expenses. This finding corroborated with previous studies which found that married women had higher likelihood of health insurance coverage compared to unmarried [54-58]. The similarity in the finding could be attributed to same scientific question used, and standardized statistical analytical tools used.

The study found that women with an unmet need for contraception had lower health insurance subscription. This outcome was consistent with Bolarinwa, Babalola, Adebayo and Ajayi's study that the lack of health insurance coverage may explain the low levels of modern contraceptive use [59]. This finding implies that women who are unable to access or afford contraception may also face barriers to accessing other healthcare services, including health insurance [60]. This finding highlights critical gaps in Ghana's efforts to provide equitable healthcare access [15]. Further, the finding suggests that the current health insurance outreach and benefits might not fully account for the reproductive health needs of never being in union or underserved women. The plausible explanation to this finding could partly be that these women often face socio-economic challenges that contribute to lower insurance subscription rates. This finding corroborated with Zapata, Pazol, Curtis et al.'s study which found that women without insurance had ongoing or potential need for contraceptive services and might require publicly funded care [61]. The similarity in the findings could be attributed to similar standardized methodologies applied, the underlying phenomena, and the nature of scientific inquiry.

The study found that relationship exists between marital status, unmet need for contraception and women's health insurance subscription. Therefore, the null hypotheses were rejected. The p-values of <0.001 found in the explanatory variables indicate a strong relationship. This meant that marital status, and unmet need for contraception exert a considerable influence on women's health insurance subscription in Ghana. Further, the relationships found implies that these factors are interconnected and influence one another. This finding aligned with Widiarti and Idris's study which found that a significant relationship exists between marital status and health insurance ownership [62]. Again, the finding corroborated with previous studies which found that there is an association between health insurance coverage and family planning use and that most sexually active women have inadequate access to health insurance [63,64].

The study found that 70% of women in Ghana are married consistent with previous studies which found that a significant percentage (70%) of female entrepreneurs in Ghana were married and had an average of four children [65,66]. This finding suggests that marriage is a prevalent and significant social institution for many women in the country [67,68]. However, the 3% of women who have their marriages been dissolved in Ghana reason could be lack of commitment, closely followed by infidelity and conflict in the family [69,70]. This figure implies that while marriages in Ghana are generally considered stable, there is a notable incidence of divorce [68,71,72]. This finding disagrees with a previous study which found a divorce rate of about 12% [73].

The study found that 22.1% of women do not have unmet need. This finding refuted previous studies by Okyere et al., in Ghana, Wulifan et al., in Ghana, Genet, Abeje and Ejigu in Ethiopia which found 26.7%, 35.17%, 17.4% respectively and Kabagenyi, Wasswa and Kayemba also found 20%, 22%, 28% and 33% of the married women in Tanzania, Uganda, Rwanda and Burundi respectively had unmet need for contraception [15,39,74,75]. This finding implies a significant portion of women in Ghana are either using contraception or have no desire for family planning [15]. However, the 7.0% that indicated they are not married and did not engage in sex in the last 30 days suggests that a significant portion of the unmarried women in Ghana chose to abstain from sexual intercourse during that time frame. This finding refuted a study by Alhassan and Dodoo which found that specifically, 22% of women had never engaged in sexual intercourse (primary abstainers) and about an additional 43% had abstained from sex for more than a year [76]. The plausible explanation to this finding could partly be their personal beliefs, low libido, relationship dynamics, health concerns, or a conscious decision to abstain [77].

5. Conclusion

The study attempted to investigate how marital status and unmet need for contraception influence women's health insurance subscription in Ghana, using nationally representative data (2022 GDHS). Marital status significantly affects health insurance subscription: Married women are more likely to be insured than unmarried women. Women with an unmet need for contraception are less likely to be subscribed to health insurance, potentially due to limited access to reproductive services or lack of engagement with the healthcare system. These findings reveal important disparities in women's access to healthcare coverage in Ghana. Unmarried women and those with unmet contraceptive needs represent underserved groups who are more vulnerable to health risks and financial hardship due to lack of insurance. The lower insurance subscription among these groups may lead to delayed care-seeking, unintended pregnancies, and poor reproductive health outcomes. Health insurance schemes, like the National Health Insurance Scheme (NHIS), may not be adequately reaching or serving women with high reproductive health needs. Therefore, the study recommends that Ghana health service should endeavor to use community health workers or mobile health platforms to connect underserved women to health insurance enrollment and contraceptive services.

Limitations of the Study

The secondary data used made it impossible to limit the errors and biases in the study, hence, The DHS was a sample, not a census therefore, the possibility it might not represent the entire country is high. Again, The DHS was conducted cross-sectionally. This design too has its associated weaknesses, and that same weaknesses are likely to be introduced into the current study. Therefore, the results should be interpreted with caution.

Declaration

Ethics Approval and Consent to Participate

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

Availability of Data and Materials

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

Acknowledgements

I acknowledge measure DHS program for making the dataset available to me on 20th August, 2023.

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