Gynecology & Reproductive Health

Educational Attainment, Media and Pregnancy Termination Among Women of Reproductive Age in Ghana

Listowel Ferka* and Joseph Kojo Oduro

Department of Population and Health, Faculty of Social Sciences, University of Cape Coast, Cape Coast, Ghana.

*Correspondence:
Listowel Ferka, Department of Population and Health, Faculty of Social Sciences, University of Cape Coast, Cape Coast, Ghana, Tel: +233544066730.

ABSTRACT

Background: Pregnancy termination is considered a major global public health challenge, especially in developing countries, where a large proportion of unsafe pregnancy terminations occur. In Ghana, pregnancy termination is a significant contributor to maternal morbidity and death among women of reproductive age. Maternal education and media exposure may affect pregnancy termination due to improved access to reproductive health information, including abortion. This study aimed to assess the association between educational attainment or media and pregnancy termination in Ghana.

Methods: This quantitative cross-sectional study utilised data from the 2014 Ghana Demographic and Health Survey (GDHS), which is part of the DHS program for monitoring health indicators in low- and middle-income countries. Using a cluster sampling technique, 5,882 women who had previously terminated a pregnancy and had complete data on all variables of interest were sampled. The data analysis, including descriptive and inferential statistics, was conducted in three phases using SPSS Version 27.

Results: The results revealed that women who had attained primary and secondary education (OR=1.38, 95% CI=1.14, 1.67; OR=1.16, 95% CI=0.94, 1.44), who listened to the radio message on reproductive health (OR=1.11, 95% CI=0.96, 1.29), who watched the TV programme on reproductive health (OR=1.05, 95% CI=0.88, 1.24), who read newspapers/magazines (OR=1.08, 95% CI=0.77, 1.50), and who were exposed to the internet (OR=1.28, 95% CI=1.08, 1.51) were more likely to terminate pregnancy than were their colleagues who were not.

Conclusions: This study demonstrated that educational levels of primary and secondary school, as well as exposure to reproductive health content through radio, television, the internet, and newspapers, are significantly linked to an increased likelihood of pregnancy termination among women. Policies aimed at regulating pregnancy termination should target educated women and women who have been exposed to radio, television, internet and newspaper messages on reproductive health education and women who are rich, married, cohabiting, residing in urban areas and aged 25-34 and 35-44 year.

Background

The termination of pregnancy, also known as abortion, is a significant public health concern worldwide, particularly in developing countries. Abortion can occur spontaneously, resulting in an unexpected loss of pregnancy, or be induced through deliberate medical or surgical intervention [1,2]. According to global estimates, between 2015 and 2019, an average of 121 million unintended pregnancies occurred each year, with approximately 60% of these pregnancies and 29% of all pregnancies ending in termination [3]. In 2020, the World Health Organization (WHO) included comprehensive abortion care in its list of essential health care services, encompassing the provision of information on how to manage abortion during and after the procedure. This comprehensive care addresses various types of abortion, including spontaneous abortion, missed abortion, induced abortion, incomplete abortion, and intrauterine foetal demise [4].

Abortion, when performed according to WHO-approved procedures appropriate for the pregnancy duration and by skilled personnel, is considered a safe healthcare intervention [5,6]. However, in developing countries, individuals with unplanned pregnancies face barriers in accessing safe, timely, affordable, geographically accessible, respectful, and non-prejudiced abortion care, leading them to resort to unsafe abortion practices [6,7]. Between 2010 and 2014, an estimated 45% of all pregnancy terminations worldwide were unsafe, with approximately 30% of the riskiest procedures performed by non-professionals using harmful and invasive methods [8]. More than 50% of these unsafe abortions occurred in Asia, particularly in south and central regions.

In Latin America and Africa, nearly 75% of all abortions were unsafe, with almost 50% of abortions in Africa alone performed under the least safe conditions [9]. Women who have access to accurate information, quality medicines, and assistance from trained healthcare providers can safely and successfully manage abortion as a simple healthcare treatment, either through medication or surgical methods. In the first 12 weeks of pregnancy, a medical abortion can also be safely self-managed by the pregnant person at home, in whole or in part [4]. However, restrictive abortion policies in most developing countries make it difficult to secure safe medical abortions (legal abortions). As a result, abortions are often performed confidentially in private health facilities, and when the cost of such services is exorbitant, women resort to dangerous methods, including visiting quacks and self-medication, leading to severe complications and even death [10]. In 2012, an estimated 7 million women per year in developing countries alone were treated in hospital facilities for complications related to unsafe abortions [9]. Africa has the highest rate of unsafe pregnancy termination-related mortality globally [11], with abortion accounting for at least 9% of maternal deaths (approximately 16,000 deaths) in 2014. Consequently, women in Africa are disproportionately affected by pregnancy termination-related deaths [8,11].

In Ghana, induced abortion was a major contributor to maternal morbidity and mortality among women aged 15-49 years, accounting for 11% of all maternal deaths in 2007 [11,12]. However, a significant development occurred in 1985 when Ghana amended its criminal code (Government of Ghana PNDC Law 102), decriminalizing abortion under specific circumstances [13]. This amendment has enabled women to access safe abortion services [14], potentially reducing the burden of maternal morbidity and mortality associated with unsafe abortions in the country. The law now states that abortion is not criminal offense in so far as it is "caused by a medical practitioner specializing in gynaecology or other registered practitioner in a government hospital or registered private hospital or clinic" if the pregnancy occurred as a result of rape, "defilement of a female idiot" or incest; when continuance of the pregnancy would endanger the life of the pregnant woman or injury to her physical or mental health; or where there is considerable risk that if the pregnancy were carried to term the child would suffer from or later develop a serious physical abnormality or disease [15].

The Ghanaian government has taken steps to address unintended pregnancies and unsafe abortions by promoting modern contraceptive methods, including abortion services in the Ghana Reproductive Health Strategic Plan, and training midwifery students in comprehensive abortion care [2,14,15]. However, despite the flexibility of Ghana's abortion law, it remains restrictive compared to countries like Canada, the United States, and Uruguay [16], and the availability of abortion services in Ghana has not significantly changed [10]. Many health workers and facilities do not prioritize the application of the abortion law due to the prevalent belief that abortion is a sin [16].

Ghanaian women's access to safe pregnancy termination is limited to legal abortion services [15,17]. The decision to terminate a pregnancy is influenced by sociocultural factors such as education, religion, beliefs, values, demographics, sexuality, and attitudes [14]. The stigma associated with pregnancy terminations in Ghana and the restrictive conditions under which legal abortions are permitted lead to the practice of pregnancy termination in secrecy [13,14]. Some Ghanaian women resort to a mix of traditional practitioners, quack doctors, physicians, and other sources, such as qualified nurses, to obtain abortion services, which sometimes results in a higher risk of complications, including hemorrhaging, infection, uterine perforation, incomplete abortion, maternal death, and morbidities [13], possibly due to their level of education and exposure to social media.

Educated women have better access to abortion information, enabling them to read and understand issues related to pregnancy termination and health in general. For example, women with higher education have greater access to family planning services and may utilize contraceptives more effectively due to their increased understanding of pregnancy prevention obtained from their social networks [18]. Additionally, highly educated women may possess the ability to read, write, speak, and listen in a manner that allows them to communicate effectively in health matters, enhancing their understanding and assessment of reproductive health information

[18], which in turn improves decision-making related to pregnancy termination [11]. It can be assumed that the higher a person's level of education, the less likely they are to terminate a pregnancy.

Media serves as a communication channel to promote various health behaviours across populations. Health campaign messages, including information on safe abortion and reproductive health education, are often disseminated through television, radio, the internet, and print media. Exposure to such messages can influence behaviour change [19]. Some health education and promotion campaigns utilize new technologies like the internet and digital devices [20], helping women become aware of reproductive health issues, such as identifying fertility clinics and locations for safe pregnancy termination. The media also provides access to health information, particularly regarding pregnancy termination [19]. For instance, "Time to Talk GH" "Smash abortion stigma" media campaigns in Ghana (radio, television, internet, etc.) have upgraded the knowledge of women on the termination of pregnancy and their reproductive health in general [15,19,21].

Several studies in Ghana have investigated various aspects of pregnancy terminations [13,22] examined the incidence of induced abortion, while [16] explored factors contributing to unsafe abortion practices [2,14] assessed predictors of unsafe induced abortion, and [17] studied the relationship between mass media exposure and self-efficacy in abortion decision-making [23]. Investigated the methods women use for induced abortion. However, these studies focused on specific aspects of pregnancy termination and were often limited to selected districts, lacking nationwide data. There is a scarcity of information on the relationship between educational attainment, media exposure, and pregnancy termination in Ghana.

To ensure that women of reproductive age have unrestricted access to safe, respectful, and non-discriminatory abortion services, which is essential for achieving Sustainable Development Goals (SDGs) related to good health and well-being (SDG3) and gender equality (SDG5), it is crucial to investigate how educational levels and media exposure influence abortion decisions. Such insights can guide intervention strategies to reduce unsafe abortions among the most vulnerable groups and assist healthcare providers and stakeholders in identifying potential reasons behind the high incidence of unsafe abortion. Using data from the 2014 Ghana Demographic and Health Survey (GDHS), we investigated the association between educational attainment, media exposure, and abortion among Ghanaian women aged 19-45 years, hypothesizing that educational attainment and media exposure are significantly associated with the age at which women in this age group terminate pregnancy.

Theoretical Perspective
This study draws from social cognitive theory (SCT) [24]. SCT is a learning theory based on the premise that people learn through observing the actions and inactions of others. These concepts are fundamental to understanding personality development. The theory highlights the role of observational learning, modelling, expectations, and cognitive processes in facilitating behaviour change [25]. According to SCT, humans can witness and observe the behaviours of others before imitating them, and media can serve as a powerful source of observational learning [24]. Modelling behaviour is a common way to demonstrate this concept. Expectation, as one of the constructs of SCT, refers to an individual's anticipation of the consequences resulting from their actions. People evaluate the potential outcomes of their behaviours before engaging in them, and these thought processes can influence the successful execution of the behaviour.

SCT has been applied in a wide range of disciplines, such as personality development and functioning [25,26], the understanding and treatment of psychological disorders [25,27], education [28,29], and health promotion strategies [25,30]. SCT provides a framework for understanding how people actively shape and are shaped by their environment.

In this study, SCT was applied to understand how exposure to certain educational content through media channels may influence women's knowledge, attitudes, and decision-making regarding reproductive health, specifically pregnancy termination. Women of reproductive age may learn about the consequences and options related to pregnancy termination by observing characters in media that face similar situations. Therefore, the decision to terminate a pregnancy may be influenced by observing others' experiences. A woman who witnesses another woman successfully undergoes an abortion procedure may develop a stronger belief in her ability to undergo the same procedure.

Media portrayals can shape perceptions, attitudes, and behaviours. Additionally, the media can provide role models who make decisions about pregnancy termination based on their educational background. For instance, characters with higher education may be portrayed as making different choices than those with lower educational attainment. Exposure to educational content in media may enhance the cognitive processes of women, such as critical thinking and decision-making skills. This could affect how women process information related to pregnancy termination, especially concerning their educational background. Therefore, sources of pregnancy termination may include one's own experiences observed on television and what a person anticipates to occur as a result of their actions. Knowledge of this phenomenon may be useful for understanding women's pregnancy termination behaviours in Ghana.

Methodology
Data Source
This study utilized data from women's files from the 2014 Ghana Demographic and Health Survey (GDHS). The GDHS is part of the DHS program aimed at monitoring health indicators in low- and middle-income countries. The survey covers a wide range of information on maternal and child health issues, as well as educational attainment, sources of family planning information, and pregnancy termination. The survey employs a two-stage

sampling design. The first stage involved selecting 427 clusters across urban (216) and rural (211) areas nationwide. These clusters served as the enumeration areas for the study. The selection of households from the predefined clusters resulted in 11,835 households. Overall, a total of 9,396 women of reproductive age (15-49) participated in the 2014 GDHS, for a response rate of 97.3% [12]. In our study, we sampled only women who had ever terminated a pregnancy (n=5,882) and had complete information on all the variables included in the study.

Study Variables
Outcome Variable
The termination of pregnancy was the outcome variable for the current study. This was derived from a question in the GDHS, where women were asked to indicate whether they had "ever had a pregnancy that miscarried, was aborted, or ended in a stillbirth". The responses were "No" and "Yes". In the GDHS, these were coded as "No=0" and "Yes=1". In our study, we adopted the responses as coded in the GDHS ("No=0", and "Yes=1") to obtain a binary outcome for the analysis. This process resulted in a sample of 5,882 women for the study.

Independent Variable
Educational attainment was the primary independent variable for our study. It was measured as the highest level of education attained. The response options were "No formal education=0", "Incomplete primary=1", "Complete primary=2", "Incomplete secondary=3", "Complete secondary=4", and "Higher=5". For our analysis, these were recoded into four categories: "No formal education=0", "Primary=1", "Secondary=2", and "Tertiary=3". Apart from the main independent variable, eight other covariates were controlled for in the analysis. These included primary factors (media exposure = radio, TV, newspaper, or internet) and confounders (age, marital status, income, and place of residence).

Media exposure was assessed as follows: in the last few months have you been exposed to reproductive health education on the radio and seen anything about reproductive health programmes on television? have you read about reproductive health issues from the internet or newspapers/magazines for the last 12 months? The response categories were "Yes=1" and "No=2". These were recoded as "No=0", and "Yes=1". Age was classified into 7 age groups: 15–19, 20–24, 25–29, 30–34, 35–39, 40–44, and 45–49 years. These were recoded into four categories: "15-24=1", "25-34=2", "35-44=3", and "45-49=4". Marital status was measured as "never in union=0", "married=1", "living with partner=2", "widowed=3", "divorced=4", or "no longer living together/separated=5". In the present study, participants were recoded into four categories: "never married=0", "married=1", "cohabiting=2", and "widowed/divorced/separated=3". Income was measured in the GHDS as "Poorest=1", "Poorer=2", "Middle=3", "Richer=4", or "Richest=5". Finally, the place of residence was captured in the GDHS as the type of place of residence, "Urban=1", or "Rural=2". The decision to use these variables was influenced by their significant association with pregnancy termination according to previous studies [14,22,31,32]. The data analysis for this study was conducted using SPSS Version 27 for Windows in three phases. The first phase involved descriptive statistics (frequencies and percentages) to describe the women's characteristics. In the second phase, a chi-square test was used to examine the relationships between educational attainment and pregnancy termination and between sociodemographic variables and to identify significant variables ($p < 0.05$) for the multivariate analysis. The third phase involved binary logistic regression to assess educational attainment as a predictor of pregnancy termination. Three models were fitted, with Model 1 accounting solely for educational attainment. The media exposure information was included in Model 2 (Table 3). The confounders were added to Model 3. The results of Model 1, Model 2 and Model 3 are presented as odds ratios (ORs), with their respective confidence intervals at a 5% margin of error. A sample weight was applied to improve the dataset so that the results were more accurate and representative of the population being studied. Multicollinearity was assessed using variance inflation factors (VIFs), and the results showed no evidence of multicollinearity among the variables (mean VIF=1.77).

Ethical Considerations
According to the survey report, ethical approval was obtained from the Institutional Review Board of ICF International and the Ethical Review Committee of the Ghana Health Service. We further acquired permission from the DHS Program to use these data for the study. The data can be accessed from their website (https://dhsprogram.com/what-we-do/survey/survey-display-437.cfm).

Results
Background Characteristics of the Respondents
Approximately half (49.3%) of the women were aged between 25 and 34 years. Two-thirds of the respondents were married (66.6%). Approximately 41 percent had attained a secondary level of education, with approximately one-third (32.1%) in the poorest income quintile. Fifty-five percent have been exposed to radio messages on reproductive health. Nevertheless, regarding media exposure, the results showed that 60.3% of women watched reproductive health programmes on television, 96% were not exposed to newspaper information on reproductive health, and 84.3% were not exposed to internet communication on reproductive health. Most of them lived in rural areas (60.2%), with a majority of them not terminating their pregnancy ever (78%).

Termination of Pregnancy and Respondents' Demographics
Table 2 presents the percentage distribution of women of reproductive age at pregnancy termination stratified by their background characteristics, along with their 95% confidence intervals. Concerning age, the results in Table 2 show that approximately one-fourth (24%) of the women aged 25-34 years had ever terminated their pregnancy. Additionally, 24.1 percent of the mothers cohabitated and terminated their pregnancies. Approximately 26% of those who had attained a secondary level of education and one-third (31.1%) of those who were in the richest income quintile had pregnancies terminated.

Table 1: Background characteristics of the respondents (n=5882).

Variables	Frequency	Percentage
Age	**(n)**	**%**
15-24 years	1215	20.7
25-34 years	2902	49.3
35-44 years	1590	27
45+	175	3
Marital status		
Never Married	404	6.9
Married	3916	66.6
Cohabiting	1189	20.2
Widowed/Divorced/Separated	373	6.3
Education		
No formal education	2042	34.7
Primary	1209	20.6
Secondary	2407	40.9
Tertiary	224	3.8
Media exposure		
Heard on radio		
No	2648	45
Yes	3234	55
Heard on TV		
No	3545	60.3
Yes	2337	39.7
Read newspapers/magazines		
No	5660	96.2
Yes	222	3.8
From family planning worker		
No	4958	84.3
Yes	924	15.7
Income quintile		
Poorest	1886	32.1
Poorer	1303	22.2
Middle	1083	18.4
Richer	883	15
Richest	727	12.4
Media exposure		
Heard on radio		
No	2648	45
Yes	3234	55
Heard on TV		
No	3545	60.3
Yes	2337	39.7
Read newspaper/magazines		
No	5660	96.2
Yes	222	3.8
From family planning worker		
No	4958	84.3
Yes	924	15.7
Place of residence		
Urban	2343	39.8
Rural	3539	60.2
Pregnancy termination		
No	4590	78
Yes	1292	22

Table 2: Termination of Pregnancy by Background Characteristics (n=5882).

Background characteristics	Termination of pregnancy		
	(n)	**% [95% CI]**	**p value**
	(5882)	22 [21, 23]	
Age			**
15-24 years	(193)	15.9 [11.2, 21.3]	
25-34 years	(698)	24.1 [21.0, 27.2]	
35-44 years	(374)	23.5 [19.3, 28.4]	
45+	(27)	15.4 [02.1, 29.0]	
Marital status			**
Never Married	(67)	16.6 [08.2, 26.1]	
Married	(857)	21.9 [19.1, 25.2]	
Cohabiting	(286)	24.1 [19.4, 29.4]	
Widowed/Divorced/Separated	(82)	22 [13.1, 31.2]	
Educational attainment			**
No formal education	(339)	16.6 [13.0, 21.3]	
Primary	(282)	23.3 [18.2, 28.5]	
Secondary	(620)	25.8 [22.0, 29.1]	
Tertiary	(51)	22.8 [11.2, 34.4]	
Media Exposure			
Heard on radio			**
No	(507)	19.1 [16.1, 23.0]	
Yes	(785)	24.3 [21.1, 27.3]	
Heard on TV			**
No	(669)	18.9 [16.1, 22.0]	
Yes	(623)	26.7 [23.3, 30.3]	
Read newspapers/magazines			*
No	(1230)	21.7 [19.1, 24.4]	
Yes	(62)	27.9 [17.0, 39.0]	
Internet (WhatsApp)			*
No	(1063)	21.4 [19.1, 24.0]	
Yes	(229)	24.8 [19.1, 30.5]	
Income quintile			**
Poorest	(300)	15.9 [12.2, 20.0]	
Poorer	(251)	19.3 [14.1, 24.3]	
Middle	(257)	23.7 [19.2, 29.6]	
Richer	(258)	29.2 [24.3, 35.2]	
Richest	(226)	31.1 [25.3, 37.3]	
Place of residence			**
Urban	(626)	26.7 [23.5, 30.3]	
Rural	(666)	18.8 [16.1, 22.6]	

Further results on the media exposure information showed that women who listened to the radio (24.3%), watched television (26.7%), read newspapers/magazines (27.9%), and were exposed to internet communication on reproductive health (24.8%) had pregnancies terminated. Approximately 27 percent of those who lived in the urban setting terminated their pregnancies.

Association Between Pregnancy Termination and Educational Attainment

A binary logistic regression modelling approach was used to examine educational attainment, media exposure, and background characteristics as predictors of women's pregnancy termination

in Ghana. Model 1 accounted for the educational attainment of women. Model 2 included the media exposure information, while Model 3 included the confounders. Table 3 shows the estimated odds ratios (ORs) of pregnancy termination, along with their corresponding 95% confidence intervals (CIs). The interpretation of the model results was based on the final model (Table 3, Model 3). The results showed that educational attainment and all media channels (radio, television, newspaper/magazine, and internet) were significant predictors of pregnancy termination. Also, background characteristics, age, marital status, income, and place of residence were significantly associated with pregnancy termination.

After controlling for important predictors in the model, the results suggest that women who have attained primary and secondary education had higher odds (OR=1.38, 95% CI=1.14, 1.67; OR=1.16, 95% CI=0.94, 1.44) of terminating pregnancy than did their counterparts who had no formal education. Concerning exposure to media, women who listened to the radio message on reproductive health (OR=1.11, 95% CI=0.96, 1.29), watched TV programmes on reproductive health (OR=1.05, 95% CI=0.88, 1.24), read newspapers/magazines (OR=1.08, 95% CI=0.77, 1.50), or were exposed to the internet (OR=1.28, 95% CI=1.08, 1.51) were more likely to terminate pregnancy than were their colleagues who did not.

Table 3: Predictors of pregnancy termination among women in Ghana (n=5882).

	Model 1	Model 2	Model 3
	OR [95% CI]	OR [95% CI]	OR [95% CI]
Educational attainment			
No formal education	1.00	1.00	1.00
Primary	1.53(1.28, 1.82) **	1.44(1.20, 1.72) **	1.38(1.14, 1.67) **
Secondary	1.74(1.50, 2.02) **	1.54(1.31, 1.80) **	1.16(0.94, 1.44)
Tertiary	1.48(1.06, 2.07) *	1.15(0.80, 1.65)	0.66(0.43, 1.01) *
Media exposure			
Heard on radio			
No		1.00	1.00
Yes		1.08(0.93, 1.25) *	1.11(0.96, 1.29)
Heard on TV			
No		1.00	1.00
Yes		1.34(1.15, 1.56) **	1.05(0.88, 1.24)
Read Newspaper/magazines			
No		1.00	1.00
Yes		1.10(0.79, 1.53)	1.08(0.77, 1.50)
Internet(WhatsApp)			
No		1.00	1.00
Yes		1.20(1.02, 1.42) *	1.28(1.08, 1.51) **
Age			
15-24 years			1.00
25-34 years			1.63(1.35, 1.97) **
35-44 years			1.72(1.39, 2.12) **
45+			1.25(0.79, 1.96)
Marital status			
Never Married			1.00
Married			1.42(0.93, 1.67)
Cohabiting			1.46(1.07, 1.98) *
Widowed/Divorced/Separated			1.26(0.87, 1.83)
Income quintile			
Poorest			1.00
Poorer			1.14(0.94, 1.39)
Middle			1.38(1.11, 1.72)
Richer			1.72(1.32, 2.23) **
Richest			1.83(1.36, 2.47) **
Place of residence			
Urban			1.00
Rural			0.92(0.78, 1.10) *

CI: Confidence interval, OR: Odds ratio, p**: 0.01, p*: 0.05.

For confounders, the results showed that women aged 25-34 years (OR=1.63, 95% CI=1.35, 1.97) or 35-44 years (OR=1.72, 95% CI=1.39, 2.12) had higher odds of terminating their pregnancies than women aged 15-24 years. Additionally, women who were married and cohabiting had higher odds (OR=1.42, 95% CI=0.93, 1.97; OR=1.46, 95% CI=1.07, 1.98) of pregnancy termination than those who were never married. Regarding income, the results indicate that women in the richer and richest income quintile were more likely to terminate their pregnancy (OR=1.72, 95% CI=1.32, 2.23; OR=1.83, 95% CI=1.36, 2.47) when compared with those in the poorest income quintile were. Women who resided in rural areas had lower odds (OR=0.92, 95% CI=0.78; 1.10) of terminating their pregnancy than did their counterparts in urban areas.

Discussion

This study investigated the link between educational level, media exposure, and pregnancy termination among Ghanaian women aged 15-45 years. After accounting for key predictors, the findings revealed a notable connection between education and abortion, with women who had completed primary or secondary school facing a higher risk of terminating a pregnancy. This observation aligns with [11] research, which found that the likelihood of induced abortion was substantially greater for women with primary, secondary, or higher education levels. A potential explanation is that women with some formal education may intend to finish their studies and marry before having children, owing to the substantial investments their parents have made in their schooling. As a result, many Ghanaian students may choose abortion in cases of unplanned pregnancies to avoid disappointing their parents by failing to graduate. However, this reasoning may not resonate with women lacking formal education, who could be more inclined to carry pregnancies to term regardless of whether they were planned or unplanned [2]. Also, the current finding is similar to 'expectation', which is one of the constructs of SCT [24]. This alludes to what an individual envisages to happen as a result of their actions. For instance, if a pregnant woman with primary or secondary education evaluates the consequences of her actions and realises that carrying a pregnancy to a term will not allow her to graduate from school and fulfil her parents' dreams, she will terminate her pregnancy.

Regarding the association between media exposure and pregnancy termination, the study showed that women exposed to radio, television, newspaper/magazine, or internet messages on reproductive health were more likely to terminate a pregnancy. These findings align with previous research on the link between mass media exposure and reproductive health decision-making capacities and behaviours in Ghana [33] and other parts of Sub-Saharan Africa [34]. For instance, [19] discussed how adolescent girls and young women exposed to mass media are more self-assured when making abortion decisions [33], found a strong association between mass media exposure and abortion self-efficacy among women of reproductive age. These authors proposed that women exposed to reproductive health education through mass media are more likely to encounter foreign cultures

and messages promoting self-reliance and autonomy, thus encouraging them to boldly terminate unintended pregnancies. Additionally, the internet, which has become central in most young people's lives, could be used to find information on various methods and approaches to terminate a pregnancy [19]. This finding aligns with the observational learning constructs of social cognitive theory [24], which explains that individuals may witness and observe others' actions before imitating them. A woman may be willing to terminate her unplanned pregnancy if she witnesses a successful presentation or procedure of pregnancy termination via media such as television. Media portrayals can shape perceptions, attitudes, and behaviours and can provide role models who make decisions about pregnancy termination based on their experience and educational background.

The results showed an association between income quintile and termination of pregnancy. Women in the richer and richest income quintiles were more likely to terminate their pregnancies. This finding resonates with [2] observation that women from middle-aged and wealthy households were more likely to have an induced abortion than women from impoverished households. Furthermore, these findings reinforce Sledgh's assertion that induced abortions are more prevalent among affluent women [35]. For women from economically disadvantaged backgrounds, financial implications may hinder their ability to undergo induced abortion procedures [36]. Unlike women from rich backgrounds who can afford to pay for abortion charges, their colleagues from poor economic backgrounds cannot afford to pay; hence, it is more possible for richer women to engage in pregnancy termination as a form of contraception [2].

The likelihood of pregnancy termination varied based on marital status. Women who were married or cohabiting had higher odds of terminating a pregnancy than those who were never married or had never cohabited. In their study on the effect of socioeconomic inequalities and contextual factors on induced abortion in Ghana [2], found that the risk of induced abortion was substantially higher for cohabiting women. They explained that cohabiting women in Ghana may be more likely to undergo an induced abortion because they may be uncertain whether their partners will eventually marry them, as they cannot afford to be single mothers or reduce their chances of finding future suitors. Furthermore, these results are consistent with those of [37], who found that pregnancy termination primarily increased among married women. Although being a married woman becomes a protective factor against induced abortion [2], married women who begin childbearing at a young age and reach their desired family size relatively early may spend more years trying to avoid pregnancy while still fecund, putting them at higher risk for unintended pregnancies [38,39].

The study's findings revealed differences in pregnancy termination across age groups. Women aged 25-34 and 35-44 years were more likely to terminate their pregnancies than women aged 15-24 years. This observation aligns with those of [11] study, which found a higher prevalence of induced abortion among Ghanaian women

aged 25–49 years. These findings also corroborate the work of [40] and [41], who reported that women older than 30 years were more likely to undergo induced abortion. A plausible explanation is that by this age, a woman may have already attained her desired family size; hence, any unplanned pregnancy would likely prompt her to terminate her pregnancy [43].

Conclusion

This study provides evidence that pregnancy termination is significantly associated with educational attainment and media exposure. Primary and secondary education and exposure to radio, television, internet and newspaper programmes for reproductive health information are significantly associated with pregnancy termination. The date of pregnancy termination appeared to be influenced by demographic characteristics. Married women who are cohabiting, aged 25-34 years and 35-44 years, and who are rich are substantially more likely to engage in pregnancy termination. Policies aimed at regulating pregnancy termination should target educated women and women who have been exposed to radio, television, internet and newspaper messages on reproductive health education and women who are rich, married, cohabiting, residing in urban areas and aged 25-34 and 35-44 years.

References

1. Jones Rachel K, Lawrence B Finer, Susheela Singh. "Characteristics of US abortion patients, 2008." New York: Guttmacher Institute. 2010.

2. Nyarko SH, Potter L. Effect of socioeconomic inequalities and contextual factors on induced abortion in Gha-na: A Bayesian multilevel analysis. PLoS ONE. 2020; 15: e0235917.

3. Hailegebreal S, Enyew EB, Simegn AE, et al. Pooled prevalence and associated factors of pregnancy termination among youth aged 15–24 year women in East Africa: Multilevel level analysis. Plos one. 2022; 22; 17: 0275349.

4. https://www.who.int/news-room/fact-sheets/detail/abortion

5. Raymond EG, Grimes DA. The comparative safety of legal induced abortion and childbirth in the United States. Obstet Gynecol. 2012; 119: 215-219.

6. Kapp N, Romero M, Dupte S, et al. Comprehensive Abortion Care. Oxford Research Encyclopedia of Global Public Health. 2024.

7. Bearak J, Popinchalk A, Ganatra B, et al. Unintended pregnancy and abortion by income, region, and the legal status of abortion: estimates from a comprehensive model for 1990-2019. The Lancet Global Health. 2020; 8: e1152-1161.

8. http://www.who.int/en/news-room/factsheets/detail/preventing-u

9. Ganatra B, Gerdts C, Rossier C, et al. Global, regional, and subregional classification of abortions by safety, 2010–14: estimates from a Bayesian hierarchical model. The Lancet. 2017; 390: 2372-2381.

10. Lamina M. Health care providers' attitudes towards termination of pregnancy: A qualitative study in Western Nigeria. Open Journal of Obstetrics and Gynecology. 2013; 3: 400-410.

11. Baruwa O, Amoateng A, Biney E. Induced abortion in Ghana: Prevalence and associated factors. Journal of Biosocial Science. 2022; 54: 257-268.

12. Ghana Statistical Service (GSS), Ghana Health Service (GHS) and Macro International. Ghana Maternal Health Survey, 2007. Calverton, Maryland, USA: GSS, GHS, and Macro International 2009.

13. Polis CB, Castillo PW, Otupiri E, et al. Estimating the incidence of abortion: using the Abortion Incidence Complications Methodology in Ghana. BMJ Global Health. 2017; 5: e002130.

14. Boah M, Bordotsiah S, Kuurdong S. Predictors of unsafe induced abortion among women in Ghana. Journal of Pregnancy. 2019; 9253650.

15. Ba DM, Zhang Y, Pasha-Razzak O, et al. Factors associated with pregnancy termination in women of childbearing age in 36 low-and middle-income countries. PLOS Global Public Health. 2023; 3: e0001509.

16. Atakro CA, Addo SB, Aboagye JS, et al. Contributing factors to unsafe abortion practices among women of reproductive age at selected district hospitals in the Ashanti region of Ghana. BMC women's health. 2019; 19: 1-7.

17. Payne CM, Debbink MP, Steele EA, et al. Why women are dying from unsafe abortion: narratives of Ghanaian abortion providers. African journal of reproductive health. 2013; 17: 118-128.

18. Väisänen H. The association between education and induced abortion for three cohorts of adults in Finland. Population studies. 2015; 69: 373-388.

19. Ahinkorah BO, Seidu AA, Mensah GY, et al. Mass media exposure and self-efficacy in abortion decision-making among adolescent girls and young women in Ghana: Analysis of the 2017 Maternal Health Survey. PLOS ONE. 2020; 15: e0239894.

20. Robinson MN, Tansil KA, Elder RW, et al. Mass media health communication campaigns combined with health-related product distribution: a community guide systematic review. American journal of preventive med-icine. 2014; 47: 360-371.

21. Sisson G, Kimport K. Depicting abortion access on American television, 2005–2015. Feminism & Psychology. 2017; 27: 5.

22. Ahinkorah BO. Sociodemographic determinants of pregnancy termination among adolescent girls and young women in selected high-fertility countries in sub-Saharan Africa. BMC Pregnancy and Childbirth. 2021; 21: 1-8.

23. Caesar Agula Elizabeth G, Henry Patrick O, Assuming Charles, et al. Methods women use for induced abortion and sources of services: insights from poor urban settlements of Accra, Ghana. BMC Women's Health. 2021; 21: 300.

24. Bandura A. Social cognitive theory of personality. In L. A. Pervin & O. P. John (Eds.), Handbook of personality: Theory and research. 1999; 154–196.

25. Schunk DH, DiBenedetto MK. Motivation and social cognitive theory. Contemporary educational psychology. 2020; 60: 101832.

26. Van Overwalle F, Manto M, Cattaneo Z, et al. Consensus paper: cerebellum and social cognition. The Cerebel-lum. 2020; 19: 833-868.

27. Vollenweider FX, Preller KH. Psychedelic drugs: neurobiology and potential for treatment of psychiatric disor-ders. Nature Reviews Neuroscience. 2020; 21: 611-624.

28. Greenwal AG, Lai CK. Implicit social cognition. Annual review of Psychology. 2020; 71: 419-445.

29. Scavarelli A, Arya A, Teather RJ. Virtual reality and augmented reality in social learning spaces: a literature review. Virtual Reality. 2021; 25: 257-277.

30. Sharma M. Theoretical foundations of health education and health promotion. Jones & Bartlett Learning. 2021.

31. Mogilevkina I, Hellberg D, Nordstrom ML, et al. Factors associated with pregnancy termination in Ukrainian women. Acta obstetricia et gynecologica Scandinavica. 2000; 79: 1126-1131.

32. Sonfield A, Gold RB. Public funding for family planning, sterilisation and abortion Services 2010. 1980–2010.

33. Owoo NS, Lambon-Quayefio MP, Onuoha N. Abortion experience and self-efficacy: exploring socioeconomic profiles of GHANAIAN women. Reproductive health. 2019; 16: 117.

34. Wusu O. Exposure to media content and sexual health behaviour among adolescents in Lagos metropolis, Nige-ria. African journal of reproductive health. 2013; 17: 157-168.

35. Sledgh G. Abortion in Ghana: In Brief. No. 2. New York: Guttmacher Institute. 2010.

36. OuédraogoR, Sundby J. Social Determinants and Access to Induced Abortion in Burkina Faso: From Two Case Studies. Obstetrics and Gynecology International. 2014; 402456.

37. Skjeldestad FE, BorganJK, Daltveit AK, et al. Induced abortion. Effects of marital status, age and parity on choice of pregnancy termination. Acta obstetricia et gynecologica Scandinavica. 1994; 73: 255-260.

38. Chae S, Desai S, Crowell M, et al. Reasons why women have induced abortions: a synthesis of findings from 14 countries. Contraception. 2017; 96: 233-241.

39. Chae S, Desai S, Crowell M, et al. Characteristics of women obtaining induced abortions in selected low-and middle-income countries. PLoS. 2017; 12: e0172976.

40. Mote CV, Otupiri E, Hindin M. Factors associated with induced abortion among women in Hohoe, Ghana. Afri-can Journal of Reproductive Health. 2010; 14: 115-121.

41. Santos AP, Coelho Ede A, Gusmão ME, et al. Factors associated with abortion in women of reproductive age. Revista Brasileira de Ginecologia e Obstetrícia. 2016; 38: 273-279.

42. Oue´draogo R, Sundby J. Social Determinants and Access to Induced Abortion in Burkina Faso: From Two Case Studies. Obstet Gynecol Int. 2014; 402456.