American Journal of Health Research
2026, Vol. 14, No. 1, pp. 16–20
https://doi.org/10.11648/j.ajhr.20261401.13

Research Article

Adolescent Abortion Rates and Associated Factors in Vietnam: A Cross-sectional Study

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Abstract

Background: Adolescent pregnancy and unsafe abortion constitute a global public health crisis, particularly in developing nations. In Vietnam, the rising trend of abortion in this demographic necessitates a profound understanding of associated factors to facilitate timely intervention. Objective: This study aims to determine the prevalence of adolescent abortion and analyze associated demographic, knowledge, and reproductive health behavior factors in Vietnam. Methods: A descriptive cross-sectional study was conducted on 422 pregnant subjects (37 adolescents and 385 adults) presenting for abortion in Ho Chi Minh City. Data were collected via direct interviews and analyzed using Stata 17 software, employing Chi-square tests and odds ratios (OR) with a significance level of $p < 0.05$. Results: The adolescent abortion rate was 8.77%. The majority of adolescents seeking abortion were students (54.05%) and unmarried (83.78%). Adolescents exhibited a 5.28 times higher risk of irregular contraceptive use compared to adults (OR=5.28; 95% CI: 1.98-17.67). The primary reason for abortion was "continuing education" (48.65%). Knowledge regarding the fertile window was significantly lower among adolescents compared to adults (OR=0.25). Conclusion: The rate of adolescent abortion is alarmingly high and is strongly correlated with deficiencies in reproductive knowledge, marital status, and economic dependence. Enhanced sex education and access to adolescent-friendly contraceptive services are imperative.

Keywords

Abortion, Adolescent, Reproductive Health, Vietnam

1. Introduction

Unintended pregnancy and abortion among adolescents represent a significant challenge to global public health. It is estimated that approximately 21 million girls aged 15-19 become pregnant annually, with around 3.9 million unsafe abortions occurring in this age group, resulting in severe health consequences and maternal mortality [1]. In developing countries, adolescents frequently encounter barriers to accessing contraception and safe abortion services, leading to recourse to unsafe methods or delays in seeking medical care [2, 3]. Estimates indicate that approximately 15% of unsafe abortions worldwide occur in females under 20 years of age, accounting for a significant proportion of abortion-related maternal deaths [4].

In Asia, the trend of adolescent abortion is increasing, and

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Received: 6 December 2025; **Accepted:** 29 December 2025; **Published:** 20 January 2026

the age of procedure is decreasing. For instance, in China, the rate of adolescent abortion has risen in later birth cohorts, particularly among rural populations and those with lower educational attainment [4]. Vietnam is recognized as having one of the highest abortion rates in Southeast Asia. Although the general abortion rate is trending downwards, the rate among adolescents and youth shows signs of increase, accounting for over 20% of abortion cases according to some reports. At a leading obstetric center in Ho Chi Minh City, statistics indicate an increase in the adolescent abortion rate from 1.6% in 2006 to 6.8% in 2012.

Lack of reproductive health knowledge, familial and societal pressure, along with stigma, are primary drivers pushing adolescents towards abortion [2]. A recent study (2024) at Hanoi Obstetrics and Gynecology Hospital revealed that 90.3% of adolescents seeking abortion engaged in unsafe sexual practices, and 64.1% lacked general reproductive health knowledge [1]. This knowledge deficit, combined with cultural and social barriers, renders adolescents more vulnerable than adult women. Unlike older women, adolescents face multi-layered barriers in seeking abortion services, including social stigma, financial constraints, and legal requirements regarding parental consent [5]. Studies in the United States and Nepal indicate that adolescents often delay pregnancy detection and healthcare access due to unrecognized pregnancy signs or fear of familial opposition [6, 7]. In developing nations, such delays often compel adolescents to seek unsafe abortion methods or self-induce, posing life-threatening risks [8]. Furthermore, even when access is obtained, adolescents may still encounter judgmental attitudes from healthcare personnel or a lack of necessary privacy [9].

While the rising trend of adolescent abortion in Vietnam is alarming, there remains a paucity of comprehensive data regarding the specific sociodemographic determinants and the nuances of contraceptive failure driving this increase in the current era. Existing literature often fails to capture the rapid shifts in sexual behavior and barriers to access amid Vietnam's recent socio-economic transitions. Therefore, this study aims not only to determine the current prevalence of adolescent abortion but to rigorously analyze associated factors, including educational disparities, economic background, and gaps in contraceptive usage. Elucidating these relationships is essential to provide evidence-based recommendations for targeted public health interventions and to improve the quality of reproductive healthcare services for this vulnerable population.

2. Methods

2.1. Study Design and Setting

The study employed a descriptive cross-sectional design and was conducted in Ho Chi Minh City, Vietnam's leading economic and sociocultural metropolis, home to a distinctively heterogeneous population with diverse socioeconomic backgrounds.

2.2. Participants and Sample Size

The target population comprised pregnant females of adolescent age (10-19 years) and adult women (>19 years) presenting for abortion procedures. The sample size was calculated using the formula for estimating a single population proportion, resulting in a final recruitment of 422 subjects, including 37 adolescents and 385 adult women.

2.3. Sampling Procedure

A systematic random sampling technique was employed to recruit participants. Every third pregnant woman presenting to the Department of Family Planning for abortion services during the study period was selected (k=3). The study population was stratified into adolescent and adult groups to calculate the specific adolescent abortion rate.

Eligibility criteria: Inclusion criteria comprised women seeking abortion who were proficient in Vietnamese and free of mental disorders. Exclusion criteria included refusal to participate by the patient or their legal guardian, or the submission of questionnaires with a completion rate below 85%.

2.4. Data Collection and Analysis

Data Collection: Face-to-face interviews were conducted directly by the research team using a structured questionnaire encompassing demographics, obstetric history, and reproductive health behaviors. Each session lasted approximately five minutes and was documented manually without the use of audio or video recording devices. Notably, for adolescent participants, the presence of a parent or legal guardian was mandatory during the interview process.

Statistical Analysis: Data were processed using Stata 17. Differences between the adolescent and adult cohorts were assessed using Chi-square, Fisher's exact, and Student's t-tests, with statistical significance defined as $p < 0.05$.

2.5. Ethics

All participants (or legal guardians for those under 18) voluntarily agreed to participate and provided written informed consent after being fully informed of the study's purpose and procedures.

3. Results

3.1. Adolescent Abortion Rate

Out of 422 participants, the adolescent abortion rate was 8.77% (37/422 cases). Age distribution showed that the late adolescent group (17-19 years) accounted for the highest proportion (62.16%), followed by the middle adolescent group (32.43%), and the lowest was early adolescence (5.41%).

3.2. Sociodemographic Characteristics

There was a distinct difference in social characteristics between the two groups. Regarding occupation, 54.05% of the adolescent group were students, whereas the adult group comprised mainly office workers and laborers. The rate of economic dependence on family among adolescents reached 51.35%, significantly higher than that of adults (5.71%, p=0.0001). Regarding marital status, 83.78% of adolescents were unmarried (single), compared to only 23.90% in the adult group. The likelihood of an adolescent being single was 16.45 times higher than that of an adult (OR=16.45; 95% CI: 6.45-49.37).

3.3. Pregnancy Characteristics and Reasons for Abortion

The mean gestational age at detection in the adolescent group was 9.30 ± 5.08 weeks, later than in the adult group (6.49 ± 2.46 weeks). The time of presentation to the hospital for termination was also later for adolescents (11.08 weeks vs 7.84 weeks, p=0.0001). The most common reason for abortion among adolescents was "continuing education" (48.65%), followed by "not wanting children yet" (35.14%) and "fear of family disgrace" (32.43%). Notably, 24.32% of adolescents reported being forced by family to abort, while this rate in adults was only 2.08%.

3.4. Knowledge, Attitude, and Contraceptive Use Behavior

Results indicated limited reproductive health knowledge among adolescents. Only 16.22% of adolescents correctly identified the fertile window in the menstrual cycle, significantly lower than the adult group (43.64%). Regarding behavior, 86.49% of adolescents did not use contraceptive methods regularly. The risk of irregular contraceptive use in adolescents was 5.28 times higher than in adults (OR=5.28; p=0.0001). Among adolescents using contraception, less effective methods such as withdrawal (27.03%) and emergency contraceptive pills (32.43%) were more common than condoms (24.32%).

4. Discussion

The adolescent abortion rate recorded in this study was 8.77%, higher than previous reports in Ho Chi Minh City. This increase aligns with global trends in unintended adolescent pregnancy rates in developing countries, where unmet contraceptive needs remain high [10]. A key finding is the delay in pregnancy detection and healthcare access among adolescents compared to adults (11 weeks vs 7.8 weeks). This corresponds with international studies showing that adolescents often delay seeking abortion services due to fear of social stigma, lack of knowledge about pregnancy signs, or ignorance of safe service locations [6, 7]. Late detection leads to higher complication risks due to procedures at advanced gestational ages.

Regarding reasons for abortion, "continuing education" was the leading cause (48.65%), reflecting the pressure between continuing education and motherhood at this age. This result is consistent with a study in Mexico City, where schooling adolescents had a nearly 90% probability of using abortion to prevent a first birth to protect their academic and economic future [11]. In Tanzania, abortion is also seen as a solution for female students to remain in school amidst strict regulations on school pregnancy [12].

Contraceptive use behavior in the adolescent group is alarming, with nearly half (48.65%) using no method. Adolescents in this study had a 5-fold higher risk of irregular contraceptive use compared to adults. This situation underscores the necessity for comprehensive sex education programs in schools, which have proven effective in reducing unintended pregnancy rates and improving contraceptive knowledge [13]. Similar to studies in Ghana and Nigeria, although knowledge of modern contraceptive methods may be high, actual usage remains low due to cultural barriers, hesitation in accessing services, and lack of autonomy in sexual relationships [14]. The heavy reliance of adolescents in this study on emergency contraceptive pills instead of regular methods also indicates a gap in education regarding safe and proactive sexual practices.

Study Limitations: The study was conducted in Ho Chi Minh City; thus, representativeness for rural or remote areas is limited. Additionally, the cross-sectional design does not allow for causal inference. The adolescent sample size (n=37), while sufficient for comparison with adults, is modest for in-depth analysis of subgroups within the adolescent age range.

5. Conclusion

The adolescent abortion rate in Ho Chi Minh City, Vietnam, stands at 8.77%, indicating an increasing trend compared to the past. Factors closely associated with this situation include a lack of reproductive health knowledge, irregular contraceptive use, single marital status, and economic dependence on family. The results emphasize the urgent need for comprehensive sex education programs in schools and communities, focusing on providing knowledge about conception timing and effective contraceptive methods. Concurrently, creating a friendly and discreet environment for adolescents to access reproductive health services without fear of stigma is essential to minimizing unintended pregnancies and unsafe abortions.

Abbreviations

OR ODDS RATIO

Author Contributions

Yen Nguyen: Conceptualization, Resources, Data curation, Methodology, Supervision, Validation, Writing – original draft

Tuan Ho: Data curation, Methodology, Formal Analysis, Writing – original draft

Hoai-Thanh Lam: Formal Analysis, Methodology, Software, Writing – original draft

Uyen Ho: Writing – review & editing

Funding

This work is not supported by any external funding.

Data Availability Statement

The data is available from the corresponding author upon reasonable request.

Conflicts of Interest

The authors declare no conflicts of interest.

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Biography

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Research Field

Yen Nguyen: Obstetrics, Gynecology, Infertility.
Tuan Ho: Obstetrics, Gynecology, Infertility.
Hoai-Thanh Lam: Obstetrics, Gynecology, Infertility.
Uyen Ho: Obstetrics, Gynecology.