International Journal of Reproduction, Contraception, Obstetrics and Gynecology
*Ahouingnan AY et al. Int J Reprod Contracept Obstet Gynecol. 2026 Jan;15(1):16-21*
www.ijrcog.org
pISSN 2320-1770 | eISSN 2320-1789

DOI: https://dx.doi.org/10.18203/2320-1770.ijrcog20254254

**Original Research Article**

# Factors associated with the knowledge and attitudes of the population of Parakou towards law no. 2021-12 on abortion in Benin in 2024

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**Received:** 16 November 2025
**Accepted:** 10 December 2025

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## ABSTRACT

**Background:** Law 2021-12 was passed in Benin to address unsafe abortions. This study aimed to study the knowledge and attitudes of the population of Parakou regarding Law No. 2021-12 in Benin.
**Methods:** This was a descriptive and analytical cross-sectional study with a prospective design. All individuals aged 18 years or older, residing in Parakou, who gave informed consent were included. Those who did not consent, those suffering from a psychological condition, those who did not complete the questionnaire, and those without consent were excluded. The data collected by Epi Data 3.1 and processed by Microsoft Word 2016 were analyzed by Epi Info 7.1.3.3. Central tendency and dispersion parameters, the chi-square test, and Fisher's exact test were used.
**Results:** There were 444 participants included and 10 excluded. The average age was 28.55±11.90 years, with extremes of 18 and 76 years. A total of 307 (70.74%) were aware of the law, 46.65% had a favourable opinion, and 29.7% had a favourable attitude. Age (p=0.011); level of education (p=0.0000); marital status (p=0.023), ethnicity (p=0.000), religion (p=0.0004); and profession (p=0.001) were significantly associated with poor knowledge of the new law. Ethnicity (p=0.0000), having been pregnant (p=0.001), and having had an abortion (p=0.000) were significantly associated with a negative attitude.
**Conclusions:** The knowledge and attitudes of the population of Parakou regarding Law No. 2021-12 in Benin in 2024 need to be improved through information and outreach.

**Keywords:** Abortion, Knowledge and attitudes, Law 2021-1, Parakou BENIN

## INTRODUCTION

Each year, 4.7% to 13.2% of maternal deaths are due to unsafe abortions.[1] Approximately 7 million women are admitted to hospitals in developing countries following unsafe abortions, and there are 220 deaths per 100,000 unsafe abortions.[2] In Benin, 200 women, 20% of whom were adolescents, died each year in silence as a result of complicated and unsafe abortions.[3] Abortion is the third leading cause of maternal deaths, and 13% of maternal deaths are attributable to clandestine abortions.[4] The frequency of unsafe abortions was 68% in Benin.[5] Unsafe abortions therefore pose a major public health problem, compounded by a human and social tragedy in our country. To reduce abortion-related maternal mortality and improve maternal health, Law No. 2021-12 amending and supplementing Law No. 2003-04 of March 3, 2003, was passed in Benin. No studies have been conducted on the knowledge and attitudes of the population of Parakou in Benin regarding the abortion law. Our study was initiated with a view to assessing the situation in Parakou.

## METHODS

This was a descriptive, cross-sectional study with an analytical and prospective approach, conducted from November 9, 2023, to September 26, 2024.The study population consisted of all persons aged 18 years and older residing in the municipality of Parakou. Included were all persons residing in the municipality of Parakou for at least six months, aged 18 years and older at the date of the survey, and who gave their free and informed verbal consent. Those who did not consent and anyone suffering from a mental or psychological condition and/or unable to understand or answer the questions asked, or who did not complete all the questions related to the different variables in the questionnaire, were excluded. An operational definition was specified using a grid developed with question scores. Knowledge was thus established on a grid of 12 questions. Individuals are considered to have good knowledge if they score ≥ 6 points and poor knowledge if they score <6. Attitude is established on a grid of 14 questions. Individuals are considered to have a favorable attitude if they score ≥ 7 points and an unfavorable attitude if they score <7. The dependent variable was the knowledge and attitudes of people aged 18 and over regarding Law No. 2021-12 on abortion in Benin in 2024. The independent variables were sociodemographic, socioeconomic, organizational, and behavioral characteristics. The sample size was calculated using Schwartz's formula: Sample size calculated using Schwartz's formula; n = Minimum sample size; α = 5% (type I risk) hence zα =1.96; p = 50% = 0.5: prevalence of good knowledge and attitudes towards the legalization of induced abortion in southwestern Ethiopia in 2016), i= 5% (Precision). AN: n = 384. The minimum sample size is n=384 people. It will be increased by 10%, giving a sample size of 422 people. The selection was made using a three-stage random sampling technique. Stage 1: Random selection of districts; a list of all districts was obtained from the register of villages and urban neighborhoods in the Borgou department (RGPH-4, 2013). Two districts were selected by ballot: the 1st district and the 2nd district. The second selection was that of neighborhoods: a random draw of eight neighborhoods in each district in proportion to the number of people aged 18 and over, using the "cumulative numbers" method. The list of neighborhoods in each district was drawn up, indicating the number of people aged 18 and over in each neighborhood. Considering each neighborhood in turn, the cumulative numbers were established. The sampling interval k = was calculated, and a starting point between 1 and the sampling interval was chosen, which is d=2000. The first neighborhood selected was ALAGA, since 2000 precedes 2311. The second neighborhood selected was CAMP ADAGBE: 2000+11968= 13968, and 13968 is between 12515 and 15969. This continued until the remaining five neighborhoods were obtained, which are OUEZE, TITIROU, BANIKANNI, BAPARAPE, and LADJI FARANI. Third degree: Selection of statistical units: The average number of people to be surveyed per neighborhood is 422/8, or 53 people per neighborhood. This choice was made according to probabilistic rules in the field. The interviewer stood at a crossroads chosen at random using the Bernoulli method (Heads = No; Tails = Yes) and then, using the spinning bottle method, chose a direction at random. In this direction, he selected subjects who met the inclusion criteria. If the neighborhood was crossed before the sample was complete, the interviewer returned to the center of the neighborhood and walked in the opposite direction to continue building the sample in the same way.

The data collection tool was a form containing an anonymous questionnaire. The questionnaire included: general information, sociodemographic, sociocultural, socioeconomic, and behavioral factors, as well as the population's knowledge of the new abortion law and their attitudes toward it. Prior approval was obtained from the research protocol review board of the National School for the Training of Senior Technicians in Public Health and Epidemiological Surveillance (ENATSE), the Local Ethics Committee for Biomedical Research at the University of Parakou (CLERB-UP), and the mayor of the municipality of Parakou. The informed consent and confidentiality of the respondents were observed.

Data collection was carried out using Epi Data 3.1 French version software; it was processed using Microsoft WORD version 2016 software, and the tables were created using Microsoft Excel version 2016. Data analysis was performed using Epi Info software version 7.1.3.3. Central tendency and dispersion parameters were used to describe quantitative variables, and proportions with their 95% CI were used for qualitative variables. Pearson's chi-square (c2) statistical test (when all theoretical frequencies in the contingency table were ≥ 5) or Fisher's exact test (when at least one of the theoretical frequencies in the contingency table was < 5) was used, as appropriate, to search for associations between variables; the measure of association used was the prevalence ratio (PR) associated with its 95% CI. The statistical significance threshold was set at 0.05, and the difference was considered statistically significant for all p-values ≤the threshold. A multivariate analysis was performed to control for potential confounding factors, and an adjustment was made using a multivariate analysis model involving the binomial logistic model with logarithmic link. In this model, variables that were significant at the 20% threshold (p<0.2) in bivariate analysis were included. Data were collected over a three-month period, from May 1 to August 3, 2024, and stored anonymously and confidentially. Each participant was given a unique identifier in the study. The database containing participant information was password-protected and accessible only to authorized persons involved in the research. Neither names nor any other identifying information was used in the study, in accordance with Law No. 2009-09 of May 22, 2009, on the protection of personal data in the Republic of Benin.

## RESULTS

There were 444 participants in this study, of whom 10 people (2.25%) were excluded. The prevalence rate was 97.75%.

### *Sociodemographic and sociocultural characteristics*

A total of 434 respondents were surveyed, of whom 197 were women and 54.60% were men. The male/female sex ratio was 1.20. The average age was 28.55±11.90 years, with a median of 24 years and extremes of 18 and 76 years. There were 362 respondents in the 18-38 age group, representing 83.41% of the total, and 0.23% in the 76+ age group. Christians represented 55.30% and 41.01% had a secondary education level. There were 54.84% single, 75.35% living in an urban environment, and 24.42% of Bariba ethnicity (Table 1).

### *Overall knowledge of abortion law*

Of the respondents, 307 (70.74%) had a good knowledge of the new abortion law; 75.12% had heard of medical abortion and 53.07% had obtained their information from the media.

**Table 1: Distribution of respondents in the municipality of Parakou in 2024 according to sociodemographic characteristics (n=434).**

| | Numbers N (434) | Frequencies (%) |
|---|---|---|
| **Gender** | | |
| Male | 237 | 54.61 |
| Female | 197 | 45.39 |
| **Age groups in years** | | |
| 18-38 | 362 | 83.41 |
| 38-58 | 50 | 11.52 |
| 58-76 | 21 | 4.84 |
| >=76 | 1 | 0.23 |
| **Marital status** | | |
| Single | 238 | 54.84 |
| Married or in a relationship | 181 | 41.71 |
| Divorced | 12 | 2.76 |
| Widowed | 3 | 0.69 |
| **Religion** | | |
| Muslim | 134 | 30.87 |
| Christian | 240 | 55.30 |
| Endogenous | 28 | 6.45 |
| Other | 16 | 3.69 |
| None | 16 | 3.69 |
| **Ethnicity** | | |
| Bariba | 106 | 24.42 |
| Yoruba/Nago | 87 | 20.05 |
| Lokpa | 18 | 4.15 |
| Dendi | 38 | 8.75 |
| Fon and related groups | 77 | 17.74 |
| Otamari/erba and related | 49 | 11.29 |
| Others | 59 | 13.60 |

### *Attitudes towards the law on safe abortion*

87.34% of participants had a favorable opinion of Law No. 2021-12. 74.96% stated that a pregnancy can be terminated if it endangers the health of the mother or child, and 59.22% in cases of rape. Thus, 26.04% were willing to advise a loved one in case of a need for an abortion. Only 129, or 29.7%, had an overall favorable attitude towards Law No. 2021-12 on abortion in Benin.

### *Factors associated with knowledge of the law on safe abortion*

*Relationship between knowledge and sociodemographic factors*

Sociodemographic factors such as age (p=0.011); level of education (p=0.0000); marital status (p=0.023), and sociocultural and socioeconomic factors, namely ethnicity (p=0.000), religion (p=0.0004), and occupation (p=0.001) were significantly associated with poor knowledge of the new law (Table 2).

**Table 2: Relationship between the knowledge of the population of Parakou regarding the abortion law in 2024 and sociodemographic factors.**

| | N* | Poor knowledge | | RP | IC 95% | P value |
|---|---|---|---|---|---|---|
| | | Number, n** | Percent | | | |
| **Age (years)** | | | | | | |
| 18-38 | 362 | 134 | 37.01 | 1 | - | 0.011 |
| 38-58 | 50 | 23 | 46 | 1.24 | [0.89; 1.72] | |
| 58-76 | 21 | 14 | 66.66 | 1.80 | [1.29; 2.50] | |
| >=76 | 1 | 0 | 0.00 | - | - | |
| **Level of education** | | | | | | |
| No education | 33 | 26 | 78.78 | 1 | - | 0.0000 |
| Primary | 59 | 34 | 57.62 | 0.73 | [0.55; 0.96] | |
| Secondary | 144 | 53 | 36.80 | 0.46 | [0.35; 0.61] | |
| Higher | 198 | 58 | 29.29 | 0.37 | [0.28; 0.49] | |
| **Marital status** | | | | | | |
| Single | 238 | 84 | 35.29 | 1 | - | 0.023 |
| Married | 181 | 77 | 42.54 | 1.20 | [0.95; 1.53] | |
| Divorced | 12 | 8 | 66.66 | 1.88 | [1.22; 2.91] | |
| Widowed | 3 | 2 | 66.66 | 1.88 | [0.83; 4.28] | |
| **Ethnicity** | | | | | | |
| Bariba | 106 | 39 | 36.79 | 1 | - | |
| Yoruba and related languages | 87 | 36 | 41.37 | 0.76 | [0.55; 1.06] | 0.000 |
| Lokpa | 18 | 9 | 50 | 0.92 | [0.55;1.53] | |
| Dendi | 38 | 14 | 36.84 | 0.68 | [0.42;1.08] | |
| Fon and related groups | 77 | 37 | 48.05 | 0.61 | [0.44; 0.86] | |
| Otamaris Berba relatives | 49 | 13 | 26.53 | 0.48 | [0.29; 0.80] | |
| Other | 59 | 23 | 38.98 | 0.71 | [0.49; 1.05] | |
| **Religion** | | | | | | |
| Muslim | 134 | 70 | 52.23 | 1 | - | |
| Christian | 240 | 70 | 29.16 | 1.00 | [0.79; 1.25] | 0.004 |
| None | 28 | 15 | 53.57 | 0.55 | [0.43; 0.72] | |
| Aucune | 16 | 10 | 62.25 | 1.10 | [0.75; 1.61] | |
| Other | 16 | 6 | 37.50 | 0.61 | [0.44; 0.86] | |
| **Occupation** | | | | | | |
| Civil servant | 51 | 16 | 31.37 | 1 | - | |
| Student | 68 | 30 | 44.11 | 0.97 | [0.58; 1.61] | 0.011 |
| Housewife | 24 | 13 | 54.16 | 1.72 | [1.10; 2.98] | |
| Craftsman/laborer | 88 | 47 | 53.40 | 1.70 | [1.09; 2.67] | |
| Retailer | 152 | 35 | 23.02 | 0.73 | [0.45; 1.21] | |
| Other | 51 | 30 | 58.82 | 1.87 | [1.17; 2.98] | |

*N = total number of people; **n = number of people with poor overall knowledge

**Table 3: Factors associated with the attitudes of the population of Parakou towards the abortion law in 2024.**

| | N | Negative attitude | | RPa | IC 95% | P value |
|---|---|---|---|---|---|---|
| | | Number | Percent | | | |
| **Having been pregnant** | | | | | | |
| Yes | 94 | 47 | 50 | 1.7 | [1.22-2.56] | 0.001 |
| No | 103 | 29 | 28.15 | 1 | - | |
| **Having had an abortion** | | | | | | |
| Yes | 18 | 7 | 36.84 | 0.4 | [0.22-0.72] | 0.000 |
| No | 75 | 69 | 92 | 1 | - | |
| **Ethnicity** | | | | | | |
| Bariba | 106 | 30 | 17.75 | 1 | | 0.03 |
| Yoruba and related languages | 87 | 49 | 28.99 | 1.58 | [0.76; 3.31] | |

Continued.

| | N | Negative attitude | | RPa | IC 95% | P value |
|---|---|---|---|---|---|---|
| | | Number | Percent | | | |
| Lokpa | 18 | 4 | 2.37 | 0.53 | [0.17; 1.64] | |
| Dendi | 38 | 6 | 3.55 | 0.73 | [0.31; 1.77] | |
| Fon and related groups | 77 | 29 | 17.16 | 1.06 | [0.54; 2.07] | |
| Otamaris Berba and related | 49 | 30 | 17.75 | 3.50 | [1.34; 10.4] | |
| Other | 59 | 21 | 12.43 | 1.10 | [0.51; 2.41] | |

*Relationship between attitudes and sociocultural and socioeconomic factors*

Socioeconomic factors such as occupation (p=0.46), monthly income (p=0.89), and family size (p=0.29) were not significantly associated with negative attitudes toward the new law. However, sociocultural factors such as ethnicity (p=0.0000) and gynecological and obstetric history, such as having been pregnant (p=0.001) and having had an abortion (p=0.000), were significantly associated with negative attitudes towards the new law, Parakou, Benin, 2024 (Table 3).

## DISCUSSION

The population's level of knowledge regarding the legalization of abortion was good in 70.74% of cases. According to a study conducted in Ethiopia in 2022, of the 402 respondents, 38.06% had good knowledge.[6] This result is lower than that found in our study. In fact, the results of this study are similar to those of a study conducted in South Africa, where the level of knowledge increased from 68% to 80% between 2006 and 2016.[7,8] The similarity of the results showed that the population was well informed about the law. In Nepal, 94.4% of respondents knew that abortion was legal.[9] Similarly, the study conducted at Debra Markos Hospital found a frequency of 92%.[10] This result is significantly higher than ours, certainly because their study was conducted among medical students, who are likely to have sufficient knowledge of the law, whereas ours was conducted in the community, where the level of education was low. In this study, 29.70% of participants had favorable attitudes toward the legalization of abortion, while 70.3% had unfavorable attitudes. The same result was found in the study conducted by Cresswell et al in Zambia, which revealed that 30.80% of women had favorable attitudes and 69.20% had unfavorable attitudes toward the legalization of abortion.[11] The study by Kahsay et al also noted that 47.05% of young women had favorable attitudes.[12] The similarity of the results shows that the population had limited knowledge of the law. In this study, educational level, age, marital status, and religion were the sociodemographic factors significantly associated with knowledge, and ethnicity was significantly associated with attitude. This result is consistent with that of the study conducted by Gebru et al in Ethiopia in 2015, by Cresswell et al in Zambia in 2016, and in the Oromia Regional State of Ethiopia (Wayessa; Ethiopia 2022); where age, religion, and marital status were associated factors.[6,10,11] Thus, only respondents with higher levels of education were more likely to have a positive attitude (66.66%) toward abortion. This result is consistent with that found in Thailand in 2023.[13] These differences show that the population certainly had a low level of access to information and safe abortion services. Muslims (17.24%) and Christians (60.34%) were less likely to perceive the benefits of the abortion law, perhaps because, like all other religions, these religions discourage abortion and consider it a sin, since a human embryo is an embryonic human being.[14]

## CONCLUSION

The knowledge and attitudes of the population of Parakou regarding Law No. 2021-12 in Benin in 2024 need to be improved through information and outreach.

*Funding: No funding sources*
*Conflict of interest: None declared*
*Ethical approval: The study was approved by the Institutional Ethics Committee*

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**Cite this article as:** Ahouingnan AY, Olowo IB, Hounkponou NFM, Lawin O, Adoukonou TT. Factors associated with the knowledge and attitudes of the population of Parakou towards law no. 2021-12 on abortion in Benin in 2024. Int J Reprod Contracept Obstet Gynecol 2026;15:16-21.