Edelweiss Applied Science and Technology ISSN: 2576-8484 Vol. 9, No. 2, 1337-1352 2025 Publisher: Learning Gate DOI: 10.55214/25768484.v9i2.4767 © 2024 by the authors; licensee Learning Gate

Attitudes and barriers to family planning methods among reproductive-age women in Southern Philippines

Image: Provide the second state of the sec

^{1,2}Faculty, BSN, MN, and PhD Programs in Nursing, University of St. La Salle, Bacolod City 6100, Philippines; r.flores@usls.edu.ph (R.F.) s.trajera@usls.edu.ph (S.M.T.).

³Faculty, Graduate Institute of Educational Administration and Policy, National ChengChi University, Taipei City 11605, Taiwan; gching@nccu.edu.tw (G.S.C.).

Abstract: The Responsible Parenthood and Reproductive Health Law of 2012 established a framework to promote reproductive health and rights in the Philippines. This study investigates the attitudes and common barriers to family planning among reproductive-age women in Southern Philippines. A quantitative approach was used, with a structured questionnaire administered to 70 women attending prenatal care services in Barangay Lag-asan, Bago City, Negros Occidental. Statistical analysis examined the relationships between attitudes, perceived barriers, and various sociodemographic factors. The findings reveal that the majority of participants maintain positive and optimistic attitudes toward family planning. While factors such as age, religion, family income, education level, duration of marriage, number of pregnancies, and employment status did not significantly influence attitudes, marital status was significantly associated with more favorable perceptions. Additionally, common barriers assessed across emotional, social, and cognitive domains did not significantly differ among the various demographic groups. These results suggest that, overall, positive perceptions prevail, although marital context appears to shape individual attitudes. The insights provided by this study underscore the need for enhanced government initiatives, increased funding, and culturally sensitive educational programs to improve the accessibility and awareness of family planning, ultimately promoting better reproductive and neonatal health outcomes.

Keywords: Attitudes and barriers, Family planning, Reproductive health, Southern Philippines, Women, Reproductive age.

1. Introduction

Family planning is a voluntary practice that enables individuals and couples to make informed and responsible decisions about their reproductive health, ultimately fostering the health and welfare of families and contributing to national development [1]. Beyond its societal benefits, family planning is particularly advantageous for women, as it allows them to recover after childbirth, manage personal health conditions, and provide sufficient care and support to their children [2, 3]. This improved allocation of time and resources also has positive implications for children's well-being, ensuring they receive better attention, security, and affection [4, 5]. In the Philippines, the Responsible Parenthood and Reproductive Health Law of 2012 provides a legislative backbone for reproductive health initiatives, underscoring the significance of family planning to achieve demographic dividends and meet Sustainable Development Goals by 2030 [6]. However, despite being the first country in Southeast Asia to adopt a family planning policy in 1969, the Philippines has struggled to sustain such efforts due to various sociocultural and religious barriers [7].

Currently, the Philippines is recorded as one of the highest fertility rates in the region, highlighting the urgent need for more robust and widespread family planning programs [8]. Societal norms and

© 2025 by the authors; licensee Learning Gate

* Correspondence: gching@nccu.edu.tw

History: Received: 4 December 2024; Revised: 14 January 2025; Accepted: 16 January 2025; Published: 13 February 2025

misconceptions often hinder women, particularly adolescents and unmarried individuals, from accessing and using effective family planning methods [9, 10]. Local leaders may also selectively implement public health policies, and health care professionals sometimes experience pressure that discourages them from distributing contraceptives [11]. These complex challenges indicate that understanding women's attitudes and the barriers they encounter is vital to formulating targeted strategies for improving family planning services in the Philippine context.

In light of these issues, this current study aims to determine the attitudes and common barriers to family planning methods among women of reproductive age in Barangay Lag-asan, Bago City, Negros Occidental; a district within the component city in the province of Negros Occidental in Southern Philippines. Specifically, the study seeks to: (1) describe the participants' sociodemographic characteristics: age, religion, marital status, family income, educational attainment, duration of marriage, number of pregnancies, and employment status; (2) examine their attitudes toward family planning methods overall and within subgroups as defined by these sociodemographic factors; (3) identify the common barriers faced in adopting such methods; and (4) assess whether significant relationships exist between these sociodemographic factors, participants' attitudes, and the identified barriers.

This study offers valuable insights that may benefit a range of stakeholders, including policymakers, health administrators, medical professionals, and women of reproductive age. Its findings can inform the Department of Health's initiatives to enhance family planning awareness through targeted educational programs, guiding updates to health policies that promote broader utilization of family planning methods. Administrators of City Health Offices and Rural Health Units may likewise draw on the results to strengthen leadership efforts, ensuring continuous quality improvement in community-based health programs. Moreover, medical professionals and nurses can better tailor their educational strategies, taking into account the specific sociodemographic profiles, attitudes, and barriers identified in this research; an approach that can lead to improved pregnancy outcomes, effective spacing, and reduced unintended pregnancies. More important, women of reproductive age may gain the knowledge and confidence needed to make informed decisions, helping them to lower the risks associated with high-risk or unintended pregnancies. Finally, the study's findings should serve as a foundation for future researches, providing direction for more comprehensive investigations into the attitudes and barriers affecting the accessibility and adoption of family planning methods within local community settings.

2. Literature Review

2.1. Policy Framework for Family Planning and Reproductive Health in the Philippines

Family planning is a key initiative of the Philippines Department of Health, offering couples the opportunity to make informed decisions about their desired number of children and optimal birth spacing [12]. This program empowers parents with the knowledge and choice to select family planning methods that are effective, safe, and appropriate for their social and financial capabilities, thereby embodying the principle of responsible parenthood [4]. The initiative plays a crucial role in promoting overall family welfare and contributing to the country's broader social and economic development. The National Family Planning Program is dedicated to providing effective legislative direction, comprehensive education, and accessible services, ensuring that Filipinos have access to safe, legal, effective, and morally acceptable family planning methods [13]. The program's objectives are further reinforced by the Responsible Parenthood and Reproductive Health Law of 2012, which has been pivotal in advancing reproductive health outcomes nationwide [6]. This legislative framework not only supports family planning education but also aligns with national development strategies, as evidenced by its recognition in the 0-10 Point Socioeconomic Agenda of the Duterte Administration, aimed at achieving the Sustainable Development Goals (SDG) 2030 and 'Ambisyon Natin 2040' [14].

According to the reports, the Responsible Parenthood and Reproductive Health Act of 2012, formally known as Republic Act 10354, was enacted on January 17, 2013, following a protracted 14-year debate and overcoming numerous challenges. On April 8, 2014, the Supreme Court confirmed the law's

Edelweiss Applied Science and Technology ISSN: 2576-8484 Vol. 9, No. 2: 1337-1352, 2025 DOI: 10.55214/25768484.v9i2.4767 © 2025 by the authors; licensee Learning Gate

legality and upheld its key provisions. This landmark legislation guarantees women's rights to maternal, reproductive, sexuality, and health education, including access to family planning methods, and mandates that authorities provide age and culturally appropriate health information for women of reproductive age [6, 13]. Such provisions are critical in ensuring that reproductive health services are both inclusive and effective in addressing the diverse needs of the population.

Advocacy groups, including the Reproductive Health Advocacy Network, have highlighted the significant influence of the Church and religious groups on Filipino decision-making regarding family planning. These groups have noted that while the law promotes a 'pro-life' stance and emphasizes the values of family and individual freedom of choice [15], there remains an ongoing dialogue about its implementation. Members of Catholic colleges and other religious organizations have reinforced the law's importance, emphasizing that it improves, protects, and advances health equality and civil rights in accordance with international human rights law [16]. This multifaceted approach underscores the critical need for policies that not only facilitate access to family planning but also address the cultural and social dynamics that influence health behaviors in the Philippines.

2.2. Attitudes of Women of Reproductive Age on Family Planning Methods

Attitude refers to the positive or negative feelings and tendencies an individual hold toward a concept, object, or idea. It encompasses beliefs and emotions that shape behaviors in relation to mental or psychological constructs [17]. In the context of family planning, these attitudes play a critical role in influencing how women perceive and decide upon various reproductive health options [18]. Women with higher levels of education and adequate knowledge of family planning tend to view these methods as beneficial. They often recognize that effective family planning can promote economic stability, enhance self-sufficiency, and foster greater confidence and control within their spousal relationships [19]. Such positive attitudes are associated with informed decision-making regarding the desired number of children and the appropriate methods to achieve optimal birth spacing [20].

Research indicates that age is a significant factor in the practice and utilization of family planning $\lfloor 21 \rfloor$. For instance, women over the age of 30 are more likely to effectively employ family planning methods compared to those under 18. This trend may be attributed to the accumulation of experience, increased awareness, and a heightened need for managing sexual and reproductive health as women mature. Moreover, variables such as marital status, occupational status, educational attainment, awareness, number of children, and monthly income are all related to the utilization of family planning among women aged 15 to 49 $\lfloor 22 \rfloor$. These all together are commonly affected factors that are included in financial planning within the regular households in the Philippines $\lfloor 23 \rfloor$. More important, incorrect and deficient information about family planning, along with negative attitudes and behaviors toward various methods, can lead to unplanned pregnancies, which in turn contribute to increased maternal and infant mortality rates $\lfloor 24 \rfloor$. Enhancing the dissemination of accurate information and fostering positive attitudes are therefore essential. Improved education and greater exposure to reliable information have the potential to increase the utilization of effective family planning methods, ultimately contributing to better community health outcomes $\lfloor 25 \rfloor$.

2.3. Common Barriers to Family Planning Methods Among Women of Reproductive Age

Globally, unplanned pregnancies remain a significant threat to women's reproductive health. In a study in Nigeria, Durowade, et al. [23] noted that despite extensive resources and programs devoted to family planning, utilization remains low. Their study conducted in a semi-urban community of Ekiti State found that although awareness of modern family planning methods was high (98.6%), only 50.5% of participants reported using them. Importantly, the study identified key barriers such as the desire for more children (39.5%), disapproval from partners (25.5%), and fear of side effects (14.6%) as major factors inhibiting contraceptive uptake. Similarly, research in Osogbo, Nigeria, as Asekun-Olarinmoye, et al. [24] and Price and Asgary [26] reported that the actual fear of side effects was the most commonly cited barrier, followed by ignorance and misinformation. Other identified barriers included

superstition and cultural influences, which together contributed to the low usage of family planning methods. These findings suggest that even when information is available, misconceptions and negative perceptions continue to impede effective family planning practices. Enhanced education and accurate information dissemination by healthcare providers are thus critical to address these barriers.

Further studies indicate that structural and socioeconomic factors play a crucial role in the discontinuation of family planning methods. In Bangladesh, for instance, younger women, particularly those with fewer children, exhibited higher discontinuation rates. Economic constraints, limited education, and inadequate access to reliable health services were associated with these trends. Such discontinuation often forces women to resort to less effective traditional methods, thereby perpetuating cycles of unintended pregnancies and financial strain on families [277]. Additional research from Honduras and other countries highlights a wide range of barriers, including fear of side effects, contraceptive failure, high costs, and logistical issues related to accessing family planning services [26]. Misconceptions, cultural beliefs, and spousal opposition further compound these challenges, leading to lower contraceptive prevalence and higher risks of maternal and infant mortality [27, 28]. These studies underscore the need for community-based, culturally sensitive interventions and robust health promotion strategies that address both the informational and structural barriers to family planning [29, 30].

2.4. Theoretical Framework and Synthesis

The literature underscores that women's attitudes and the barriers they face in utilizing family planning methods are complex and multifaceted. Central to understanding these dynamics is the Theory of Planned Behavior (TPB), which posits that behavioral intentions are shaped by attitudes, subjective norms, and perceived behavioral control that are critical predictors of actual behavior [31]. Recently, an increased interest in the utilization of TPB within healthcare behavioral research is observed [32]. Attitudes toward family planning, while influential, are only one aspect; the TPB emphasizes that social pressures and an individual's perceived ease or difficulty in performing a behavior also significantly determine whether family planning methods are adopted [33]. More importantly, utilization of this framework helps explain how both positive beliefs and external influences contribute to a woman's decision-making process regarding reproductive health.

More importantly, this framework helps explain how both positive beliefs and external influences contribute to a woman's decision-making process regarding reproductive health. For example, a study conducted in the Democratic Republic of the Congo applied the TPB using generalized structural equation modeling to unravel the complex sociocultural drivers behind the intention and ultimate decision to use family planning among women in the conflict-affected Kivu region [34]. This study highlighted that social barriers, compounded by poverty and years of conflict, significantly hinder adherence to family planning, thereby reinforcing the critical role of external social influences in shaping reproductive behaviors.

Complementing the TPB is the Health Promotion Model by Pender, et al. [35] which focuses on how individual characteristics and experiences shape health behaviors. This model asserts that healthpromoting actions, such as the use of family planning are influenced by a combination of personal factors (like education and socioeconomic status), perceived benefits, barriers, and self-efficacy, as well as interpersonal and situational influences [36]. Furthermore, the framework also highlights the critical role of nursing and healthcare providers in empowering women through education and tailored interventions, which is essential for fostering positive health outcomes and reducing unintended pregnancies. For instance, as study in Turkey noted the lack of open discussions and widespread misinformation about reproductive health significantly increase the risk of related problems [37] which highlight the need for additional comprehensive education in this area.

Together, these theoretical perspectives provide a robust framework for analyzing the factors that affect family planning uptake among women of reproductive age. They emphasize that while individual attitudes are important, a comprehensive understanding of family planning behavior must also consider

Edelweiss Applied Science and Technology ISSN: 2576-8484 Vol. 9, No. 2: 1337-1352, 2025 DOI: 10.55214/25768484.v9i2.4767 © 2025 by the authors; licensee Learning Gate

social norms, perceived control, and the broader context of health promotion and preventive care. By integrating these models, the present study aims to elucidate the interplay of personal, cultural, and systemic factors that shape family planning practices, thereby offering insights into how targeted interventions can enhance reproductive health outcomes.

3. Method

3.1. Study Design

The primary focus of this study is to determine the attitudes and common barriers to family planning methods among women of reproductive age. A descriptive correlational research design was chosen because it enables a comprehensive summary of study variables while investigating their interrelationships [38]. Employing a quantitative approach, the study utilized a researcher-modified questionnaire to collect numerical data that was analyzed to identify patterns, test causal relationships, and generalize findings to a broader population [39]. Significant analyses of differences and correlations were conducted to compare factors that affect the outcomes and to determine the relationships among the variables, thereby effectively addressing the study's objectives.

3.2. Participants of the Study

The participants of the current study were women of reproductive age, defined as single or married women, whether they are capable of conception, who have been consulting and attending prenatal care services within a six-month period. Participants ranged in age from 15 to 49 years and were categorized into three groups: adolescents (15–18 years), young adults (19–40 years), and middle-aged (41–49 years). In addition to age, sociodemographic variables such as religion, marital status, family income, educational attainment, duration of marriage, number of pregnancies, and employment status were also considered. All participants were residents of Barangay Lag-asan in Bago City, Negros Occidental, Philippines. A barangay is the smallest administrative division in the Philippines, similar to the likes of a village, neighborhood, or district. It serves as the basic political unit where local governance and community activities are organized and managed. Given the lack of previous studies on the attitudes and common barriers to family planning methods among women of reproductive age in this barangay, a purposive sampling method was employed based on the inclusion criteria [40], yielding a total of 70 participants.

3.3. Study Instrument

A modified questionnaire, adopted from previous studies by De Irala, et al. [41] and Sen, et al. [42], was used as the primary research instrument to assess attitudes and common barriers toward family planning methods. The questionnaire, comprising 40 questions, was divided into three parts: the sociodemographic profile of the participants, their attitudes toward family planning methods, and the common barriers they face in using these methods. For the attitudes section, a four-point [43] type scale was employed, with responses coded as follows: "strongly disagree" (1), "disagree" (2), "agree" (3), and "strongly agree" (4). The total score was computed by summing the items within this domain.

Given that the original instrument was modified, face and content validity were established through evaluation by three experts: a Public Health Nursing specialist with a Master's degree in Nursing, an academic researcher with a Doctoral degree, and a quality assurance specialist with a Master's degree in Nursing. Using the Good and Scates [44] criteria, the validation process yielded a result of 4.56, indicating that the instrument was valid. Additionally, the reliability of the questionnaire was confirmed through pilot testing with 20 women of reproductive age (not included in the main study) at the Barangay Health Station. The reliability indices, as measured by Cronbach [45] Alpha, were .98 for the attitudes scale and .99 for the common barriers scale, demonstrating excellent internal consistency [46].

3.4. Data Gathering Procedure

After the study protocol was approved by the ethics committee and the validity and reliability of the questionnaire were established, a formal letter was sent to the City Health Officer of the Bago City Health Office requesting permission to conduct the research. Coordination was then established with the Public Health Nurse Supervisor and the Inter-Agency Task Force on COVID-19 to ensure adherence to the required health guidelines and protocols. Upon receiving approval, the participants were approached for their consent to participate in the study. The primary researcher personally distributed the questionnaires to the participants at Barangay Lag-asan Health Station, ensuring that a translated version in the local dialect was available for those who could not fully comprehend English. Each participant completed the questionnaire in less than 30 minutes. Throughout the data collection process, strict COVID-19 protocols were observed, including sanitation upon entry, wearing masks and face shields, and maintaining social distancing.

3.5. Statistical Treatment and Data Analysis

The collected data were tabulated and analyzed using Excel Spreadsheet and SPSS software. For determining the sociodemographic profiles (age, religion, marital status, family income, educational attainment, duration of marriage, number of pregnancies, and employment status), as well as the attitudes toward family planning methods and the common barriers encountered, frequency distributions and percentages were computed. To assess the relationships between the participants' sociodemographic characteristics and their attitudes towards family planning methods, as well as between their sociodemographic profiles and the common barriers, the Chi-Square Test of Independence was employed. This statistical approach enabled the identification of significant associations among the variables, thereby providing a comprehensive analysis of the data in relation to the study objectives [37].

4. Results and Discussions

4.1. Sociodemographic Profile of Participants

Table 1 shows the study included a total of 70 participants. Regarding age distribution, 8.6% (n = 6) of the respondents were adolescents aged 15–18 years, while the majority, 91.4% (n = 64), were young to middle-aged women between 19 and 49 years. In terms of religion, 80.0% (n = 56) identified as Roman Catholic, 17.1% (n = 12) as Non-Catholic, and 2.9% (n = 2) either refused to disclose or provided no response. With respect to marital status, 85.7% (n = 60) of the participants were married, 12.9% (n = 9) were single, and 1.4% (n = 1) refused to answer. Concerning family income, 48.6% (n = 34) reported earning between PHP (exchange rate 1 US dollar = PHP 50) 9,520 and PHP 19,040, 37.1% (n = 26) earned PHP 9,520 or below, and 14.3% (n = 10) earned between PHP 19,040 and PHP 38,080. In terms of educational attainment, the majority (67.1%, n = 47) had attained a college level education, 31.4% (n = 22) had completed high school, and 1.4% (n = 1) refused to disclose. Regarding the duration of marriage, 44.3% (n = 31) of the respondents had been married for 4–6 years, 28.6% (n = 20) for 0–3 years, 12.9% (n = 9) for 7–10 years, and 14.3% (n = 10) were not married. The number of pregnancies reported by participants indicated that 47.1% (n = 33) had experienced 3–4 pregnancies, 34.3% (n = 24) had 1–2 pregnancies, and 18.6% (n = 13) had 5–7 pregnancies. Finally, regarding employment status, 42.9% (n = 30) were employed, whereas 57.1% (n = 40) were unemployed.

The demographic profile of the participants, as detailed in Table 1, provides important context for understanding the attitudes and barriers toward family planning methods highlighted in the literature. Most participants were young to middle-aged women (19–49 years old), predominantly Roman Catholic, and largely married. These characteristics align with previous studies that indicate age and marital status significantly influence reproductive health behaviors and decision-making. For instance, the literature suggests that married women tend to have more positive attitudes towards family planning, likely due to increased awareness of the benefits of planned pregnancies and the need for effective birth spacing.

Edelweiss Applied Science and Technology ISSN: 2576-8484 Vol. 9, No. 2: 1337-1352, 2025 DOI: 10.55214/25768484.v9i2.4767 © 2025 by the authors; licensee Learning Gate Additionally, the high level of educational attainment observed; wherein a substantial proportion of participants had reached college level, supports the findings from earlier research indicating that higher education is associated with better knowledge and more favorable attitudes toward family planning. Socioeconomic factors, such as family income and employment status, further contextualize the challenges and barriers reported in the literature, as these variables can affect access to accurate information and healthcare services. The reported number of pregnancies and duration of marriage also provide insight into reproductive histories that, according to previous studies, may correlate with the perceived need for and utilization of family planning methods. Overall, these demographic characteristics reinforce the theoretical frameworks discussed in the literature review, underscoring the interplay between sociodemographic factors and the attitudes and barriers that shape family planning practices among women of reproductive age.

Table 1.

Demographics	Frequency (N = 70)	%
Age		
15-18 years old	6	8.6
19-49 years old	64	91.4
Total	70	100.0
Religion		
Refusal	2	2.9
Roman Catholic	56	80.0
Non-Catholic	12	17.1
Total	70	100.0
Marital Status		
Refusal	1	1.4
Single	9	12.9
Married	60	85.7
Total	70	100.0
Family Income (in Philippine Pesos)		
19,040 - 38,080	10	14.3
9,520 - 19,040	34	48.6
9,520 and below	26	37.1
Total	70	100.0
Educational Level		
Refusal	1	1.4
High School Level	22	31.4
College Level	47	67.1
Total	70	100.0
Years in Marriage		
Not Married	10	14.3
0 - 3 years	20	28.6
4 - 6 years	31	44.3
7-10 years	9	12.9
Total	70	100.0
Number of Pregnancy		
1 - 2 pregnancy	24	34.3
3 - 4 pregnancy	33	47.1
5 - 7 pregnancy	13	18.6
Total	70	100.0
Employee Status		
Employed	30	42.9
Unemployed	40	57.1
Total	70	100.0

Demographic profile of the participants.

Note: N=total number of participants.

Edelweiss Applied Science and Technology ISSN: 2576-8484 Vol. 9, No. 2: 1337-1352, 2025 DOI: 10.55214/25768484.v9i2.4767 © 2025 by the authors; licensee Learning Gate

4.2. Attitudes Toward Family Planning Methods

Table 2 shows the various attitudes toward family planning methods mean scores of the different demographics and their subgroups. For **age**, the mean attitude score among younger participants (15–18 years old) was 3.17 (SD = 0.37), whereas women aged 19–49 years exhibited a higher mean score of 3.53 (SD = 0.50), resulting in an overall mean score of 3.50 (SD = 0.50). This finding suggests that older women tend to hold more positive attitudes toward family planning methods compared to their younger counterparts. These results align with previous research indicating that increased age is associated with enhanced awareness and more favorable perceptions toward reproductive health practices [17]. The greater maturity and life experience of older women may contribute to their more informed and positive outlook on family planning.

Table 2.

Mean attitude scores on family planning methods by demograph
--

Demographics	Frequency (N = 70)	Mean	Standard Deviation
Age			
15-18 years old	6	3.17	0.37
19-49 years old	64	3.53	0.50
Total	70	3.50	0.50
Religion			
Roman Catholic	56	3.52	0.50
Non-Catholic	12	3.33	0.47
Total	68	3.49	0.50
Marital Status			
Single	10	3.20	0.40
Married	59	3.54	0.50
Total	69	3.49	0.50
Family Income (in Philippine Pesos)			
19,040 - 38,080	10	3.40	0.49
9,520 - 19,040	34	3.56	0.50
9,520 and below	26	3.46	0.50
Total	70	3.50	0.50
Educational Level			
High School Level	22	3.50	0.50
College Level	47	3.49	0.50
Total	69	3.50	0.50
Years in Marriage			
Not Married	9	3.22	0.42
0 - 3 years	21	3.57	0.49
4 - 6 years	31	3.42	0.49
7-10 years	9	3.33	0.47
Total	70	3.43	0.50
Number of Pregnancy			
1 - 2 pregnancy	24	3.42	0.49
3 - 4 pregnancy	33	3.55	0.50
5 - 7 pregnancy	13	3.54	0.50
Total	70	3.50	0.50
Employee Status			
Employed	30	3.57	0.50
Unemployed	40	3.45	0.50
Total	70	3.50	0.50

Note: N=total number of participants.

For religion, among the religious subgroups, Roman Catholic participants (n = 56) demonstrated a mean attitude score of 3.52 (SD = 0.50), while Non-Catholic respondents (n = 12) recorded a slightly lower mean of 3.33 (SD = 0.47), with an overall mean of 3.49. Although the difference is modest, it suggests that religious affiliation might play a role in shaping attitudes toward family planning. The

literature has highlighted that while religious beliefs can sometimes pose barriers, informed individuals; even within predominantly Catholic communities, often develop positive attitudes when provided with accurate and comprehensive information [4]. For marital status, it appears to be a significant factor in shaping attitudes toward family planning. Single women (n = 10) had a mean attitude score of 3.20 (SD = 0.40), whereas married women (n = 59) showed a notably higher mean of 3.54 (SD = 0.50), resulting in an overall mean of 3.49. This disparity is consistent with previous findings which suggest that married women, who are more likely to be actively involved in family planning decisions due to their reproductive responsibilities, tend to have a more favorable view of family planning methods [47]. The positive attitudes among married respondents likely reflect a greater perceived need for effective birth spacing and family health management.

For family income, the analysis by family income revealed relatively consistent attitudes across income levels. Women earning between PHP 9,520 and PHP 19,040 (n = 34) had the highest mean attitude score of 3.56 (SD = 0.50), while those in the highest income bracket (PHP 19,040–38,080; n =10) and the lowest income group (PHP 9,520 and below; n = 26) had mean scores of 3.40 (SD = 0.49) and 3.46 (SD = 0.50), respectively, with an overall mean of 3.50. These findings indicate that while family income may influence access to information and services, its impact on attitudes toward family planning appears minimal. This observation is consistent with other studies reporting that sociodemographic factors such as income do not necessarily dictate women's perceptions or attitudes regarding family planning methods. For educational level, the data reveal almost identical mean attitude scores across educational levels, with high school graduates (n = 22) and college graduates (n = 47) scoring 3.50 (SD = 0.50) and 3.49 (SD = 0.50), respectively, leading to an overall mean of 3.50. This consistency suggests that educational attainment, within the context of this study, does not significantly differentiate women's attitudes toward family planning. This result is supported by literature indicating that while education is critical for understanding reproductive health, its influence on attitude formation may be moderated by other factors such as cultural norms and marital status [48].

For years in marriage, the attitude scores varied with the duration of marriage. Women who were not married (n = 9) had a mean score of 3.22 (SD = 0.42), those married for 0–3 years (n = 21) had the highest mean at 3.57 (SD = 0.49), followed by women married for 4–6 years (n = 31) with a mean of 3.42 (SD = 0.49), and those married for 7–10 years (n = 9) with a mean of 3.33 (SD = 0.47). The overall mean score for this demographic was 3.43 (SD = 0.50). These results suggest that women in the early years of marriage tend to have a more positive attitude toward family planning, possibly due to an increased focus on initiating and spacing pregnancies. This pattern corroborates previous findings that marital experience and the duration of marital relationships can influence reproductive decision-making and attitudes [47]. As for the number of pregnancies, when grouped by the number of pregnancies, the mean attitude scores were 3.42 (SD = 0.49) for women with 1–2 pregnancies (n = 24), 3.55 (SD = 0.50) for those with 3–4 pregnancies (n = 33), and 3.54 (SD = 0.50) for women with 5–7 pregnancies (n = 13), yielding an overall mean of 3.50 (SD = 0.50). The relatively uniform scores across these groups indicate that the number of pregnancies does not significantly affect attitudes toward family planning. This finding aligns with literature that suggests while reproductive history is an important factor in decision-making, its direct influence on attitudes may be less pronounced than other sociodemographic factors.

Lastly, for employment status, the mean attitude score for employed women (n = 30) was 3.57 (SD = 0.50), slightly higher than that of unemployed women (n = 40), who scored an average of 3.45 (SD = 0.50), resulting in an overall mean of 3.50. This difference implies that employment, which may be associated with greater economic independence and access to information, is linked to a more positive attitude toward family planning. Such findings are consistent with previous research indicating that employment status can empower women to make more informed reproductive choices. Overall, these results indicate that while there are subtle variations in attitudes toward family planning across different demographic groups, the overall positive attitude remains consistent across the sample. The findings underscore the importance of considering sociodemographic factors: such as age, marital status,

Edelweiss Applied Science and Technology ISSN: 2576-8484 Vol. 9, No. 2: 1337-1352, 2025 DOI: 10.55214/25768484.v9i2.4767 © 2025 by the authors; licensee Learning Gate

and employment, in designing targeted interventions and educational programs to further enhance family planning uptake and informed decision-making.

4.3. Common Barriers to Family Planning Adoption

Table 3 shows the mean common barriers to family planning adoption by demographic profile, as measured on a Likert scale where lower scores indicate that respondents generally disagree that such barriers exist. Overall, the mean common barrier score for the total sample is 1.57 (SD = 0.50), indicating that, on average, participants do not perceive significant barriers to family planning adoption. For age, adolescents (15–18 years old) recorded a higher mean score of 1.83 (SD = 0.37), suggesting that this group perceives slightly more barriers compared to older women, who had a mean score of 1.55 (SD = 0.50). These findings are consistent with literature suggesting that younger women, who may have less exposure to reproductive health education and less experience in navigating healthcare systems, might be more susceptible to perceiving obstacles [23]. In contrast, women aged 19–49, with a mean closer to 1.55, appear to overcome these barriers more readily, possibly due to greater experience and access to information.

For religion, Roman Catholics (n = 56) and Non-Catholics (n = 12) reported virtually identical mean scores (1.57 and 1.58, respectively). This similarity suggests that, despite potential doctrinal influences, both groups tend to minimize the perception of common barriers when they are well-informed. These results align with previous findings indicating that when accurate reproductive health information is provided, religious affiliation does not significantly hinder the acceptance of family planning methods [4]. For marital status, when considering marital status, single women (n = 10) had a slightly higher mean barrier score of 1.60 (SD = 0.49) compared to married women (n = 59), who scored 1.58 (SD = 0.50). Although the difference is minimal, it suggests that single women may perceive marginally more barriers than their married counterparts. This pattern is consistent with studies showing that married women, who are more likely to actively engage in reproductive decision-making, generally report fewer perceived obstacles [1].

Demographics	Frequency $(N = 70)$	Mean	Standard deviation
Age			
15-18 years old	6	1.83	0.37
19-49 years old	64	1.55	0.50
Total	70	1.57	0.50
Religion			
Roman Catholic	56	1.57	0.50
Non-Catholic	12	1.58	0.49
Total	68	1.57	0.50
Marital Status			
Single	10	1.60	0.49
Married	59	1.58	0.50
Total	69	1.56	0.50
Family Income (in Philippine Pesos)			
19,040 - 38,080	10	1.40	0.49
9,520 - 19,040	34	1.71	0.46
9,520 and below	26	1.46	0.50
Total	70	1.57	0.50
Educational Level			
High School Level	22	1.41	0.49
College Level	47	1.64	0.48
Total	69	1.54	0.49
Years in Marriage			
Not Married	9	1.56	0.50
0 - 3 years	21	1.50	0.50
4 - 6 years	31	1.61	0.49
7-10 years	9	1.56	0.50
Total	70	1.57	0.50
Number of Pregnancy			
1 - 2 pregnancy	24	1.46	0.50
3 - 4 pregnancy	33	1.61	0.49
5 - 7 pregnancy	13	1.69	0.46
Total	70	1.57	0.50
Employee Status			
Employed	30	1.70	0.56
Unemployed	40	1.48	0.50
Total	70	1.57	0.50

 Table 3.

 Mean common barriers to family planning adoption by demographic profile.

Note: N=total number of participants.

While, for family income, it appears to influence perceived barriers modestly. Women in the highest income bracket (PHP 19,040–38,080) reported the lowest mean barrier score of 1.40 (SD = 0.49), indicating fewer perceived barriers, while those in the middle income group (PHP 9,520–19,040) reported a higher mean score of 1.71 (SD = 0.46). Those in the lowest income bracket (PHP 9,520 and below) had a mean of 1.46 (SD = 0.50). The variability in these scores suggests that economic factors may play a role in shaping perceptions, but overall, the differences are relatively small. This finding is in line with literature indicating that although income influences access, it does not drastically change perceptions regarding the existence of common barriers when other forms of support and information are provided.

For educational level, participants with a high school education (n = 22) had a lower mean score (1.41, SD = 0.49) compared to those with a college education (n = 47), who reported a mean of 1.64 (SD = 0.48). The overall mean for this category was 1.54 (SD = 0.49). The slightly higher score among college graduates may reflect a greater critical evaluation of barriers due to higher exposure to detailed health information; however, both groups' scores remain low, indicating that education overall supports a low perception of barriers; a finding consistent with previous studies as noted in the literature review.

For years in marriage, analysis by duration of marriage shows relatively consistent scores across groups. Women who were not married (n = 9) had a mean score of 1.56 (SD = 0.50), those married for 0–3 years (n = 21) scored 1.50 (SD = 0.50), 4–6 years (n = 31) reported 1.61 (SD = 0.49), and those married for 7–10 years (n = 9) scored 1.56 (SD = 0.50). The overall mean of 1.57 (SD = 0.50) indicates that duration of marriage does not substantially alter the perception of common barriers. This stability aligns with the literature, which suggests that sustained marital relationships and the ongoing exchange of reproductive health information tend to maintain a consistently low perception of barriers over time.

For the number of pregnancies, women with 1-2 pregnancies (n = 24) had a mean score of 1.46 (SD = 0.50), those with 3-4 pregnancies (n = 33) had a mean of 1.61 (SD = 0.49), and those with 5-7 pregnancies (n = 13) reported a mean of 1.69 (SD = 0.46). The overall mean remains at 1.57 (SD = 0.50). These results indicate a slight trend toward perceiving more barriers with an increased number of pregnancies, which may be due to cumulative challenges over time; however, the differences are not pronounced, suggesting that reproductive history does not substantially influence perceived barriers when adequate information is available. Finally, employment status revealed that employed women (n =30) reported a higher mean barrier score of 1.70 (SD = 0.56) compared to unemployed women (n = 40), who scored 1.48 (SD = 0.50). The overall mean remains 1.57 (SD = 0.50). This difference may indicate that employed women, who are likely balancing additional responsibilities and stresses, perceive slightly more obstacles in accessing family planning services. This finding is supported by previous research, which has shown that employment can impact perceptions of access to healthcare, even if the overall barriers remain minimal. Overall, Table 3 and the subsequent analyses demonstrate that, across various demographic groups, participants generally perceive low levels of common barriers to family planning adoption. These findings reinforce the literature that indicates when women are provided with accurate information and adequate support, potential barriers are minimized, allowing for more effective family planning practices.

4.4. Relationships between Sociodemographic Factors, Attitudes, and Barriers

The analysis of the relationship between the level of attitude toward family planning and various sociodemographic variables revealed that almost all the factors did not significantly influence attitudes. Only, marital status emerged as a significant factor ($\chi^2 = 4.265$, p = 0.039) with a Cramer's V value of 0.241, suggesting that married women tend to hold more positive attitudes toward family planning than their single counterparts. In other words, regardless of age, religion, family income, educational level, duration of marriage, number of pregnancies, or employment status, the overall attitude toward family planning remained consistently positive. However, marital status did stand out as a factor, with married women exhibiting more favorable attitudes toward family planning compared to single women. This suggests that the marital context plays a meaningful role in shaping how women perceive and approach family planning decisions. This finding aligns with previous studies that have shown marital context to play a pivotal role in shaping reproductive decisions, possibly because married women are more engaged in discussions and planning regarding family size and spacing.

In contrast, when examining the perceived common barriers to family planning adoption, no significant differences were observed across the various sociodemographic variables. This indicates that factors such as age, religion, income, education, marital duration, number of pregnancies, and employment do not appear to influence how women perceive the obstacles to using family planning methods. The implications of these findings are twofold. First, the overall positive attitude toward family planning across diverse demographic groups underscores the success of existing educational and support programs in disseminating accurate reproductive health information. Second, the significant role of marital status suggests that interventions might be particularly effective if they are tailored to address the unique needs of single women, who may not have the same level of engagement or support in making reproductive decisions as their married counterparts. Overall, the consistency in the perception of barriers across groups points to the potential for universal strategies in overcoming

obstacles to family planning, while still recognizing the need for targeted support where demographic differences, such as marital status, are evident.

5. Conclusion

Family planning is a voluntary practice central to women's empowerment and sustainable development, and the findings from this study underscore its importance. Among the 70 reproductiveage women attending prenatal care services in Barangay Lag-asan, Bago City, Negros Occidental, positive and optimistic attitudes toward family planning prevailed, with marital status emerging as the only significant sociodemographic factor influencing these attitudes. Moreover, common barriers across emotional, social, and cognitive domains were not perceived as major hindrances to accessing family planning methods. These results imply that current educational efforts and accessible services are fostering favorable perceptions, yet there remains a need to reinforce these gains through targeted interventions. It is recommended that the Department of Health increase funding and strengthen healthcare systems to ensure the continuous availability of safe and effective family planning supplies, particularly in underserved and remote areas. City and municipal health offices should prioritize the delivery of culturally sensitive educational programs that engage both women and their partners, addressing any lingering misconceptions and ensuring that accurate, comprehensive information reaches all community members. Public health nurses must receive regular training to effectively counsel and support families in making informed reproductive health decisions. Finally, future research should explore the attitudes and barriers among adolescents and men to provide a more holistic approach to family planning initiatives. These strategies, collectively, are expected to enhance reproductive health outcomes and contribute to the broader social and economic development of the community.

5.1. Limitations of the Study

Despite its valuable insights, this study is not without limitations. The sample size was relatively small and limited to women attending prenatal care services at a single health station, which may restrict the generalizability of the findings to other populations or settings. Additionally, the reliance on self-reported data introduces the possibility of response bias, as participants may have provided socially desirable answers regarding their attitudes and behaviors. Future studies should consider incorporating larger, more diverse samples and employing mixed-methods approaches to triangulate data and further validate these findings. Addressing these limitations will help in refining the understanding of family planning attitudes and barriers, ultimately supporting more effective policy and program development.

Funding:

This study received no specific financial support.

Institutional Review Board Statement:

All participants provided informed consent prior to taking part in this study.

Transparency:

The authors confirm that the manuscript is an honest, accurate and transparent account of the study that no vital features of the study have been omitted and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

Competing Interests:

The authors declare that they have no competing interests.

Authors' Contributions:

Conceptualization, R.F. and S.M.T.; methodology, R.F. and S.M.T.; software, G.S.C.; validation, R.F., S.M.T. and G.S.C.; formal analysis, R.F.; investigation, R.F., S.M.T. and G.S.C.; resources, R.F., S.M.T. and G.S.C.; data curation, R.F.; writing - original draft preparation, R.F.; writing - review and editing, R.F., S.M.T. and G.S.C.; visualization, G.S.C.; supervision, S.M.T.; project administration, R.F. and S.M.T.; funding acquisition, R.F., S.M.T. and G.S.C. All authors have read and agreed to the published version of the manuscript.

Acknowledgments:

The authors extend their sincere gratitude to the reviewers for their invaluable feedback and constructive insights, which significantly enhanced the quality of this work. The authors also offer their deepest appreciation to all the participants who generously contributed their time and perspectives in answering the survey questionnaire, making this study possible.

Copyright:

 \bigcirc 2024 by the authors. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<u>https://creativecommons.org/licenses/by/4.0/</u>).

References

- [1] A. Kasa Semachew, M. Tarekegn, and N. Embiale, "Knowledge, attitude and practice towards family planning among reproductive age women in a resource limited settings of Northwest Ethiopia," *BMC research notes*, vol. 11, pp. 1-6, 2018. https://doi.org/10.1186/s13104-018-3689-7
- [2] S. S. Ricci, *Essentials of maternity, newborn, and women's health nursing*. Philadelphia: Lippincott Williams & Wilkins, 2024.
- [3] A. N. Wilson *et al.*, "Australian women's experiences of receiving maternity care during the COVID-19 pandemic: A cross-sectional national survey," *Birth*, vol. 49, no. 1, pp. 30-39, 2022. https://doi.org/10.1111/birt.12569
- [4] Department of Health, *The Philippine clinical standards manual on family planning 2014 Edition*. Manila: Department of Health, 2014.
- [5] K. Thapa, S. Amatya, A. Thapa, and M. Greeley, "Post-pregnancy family planning in Southeast Asia with a focus on novel training techniques," *Best Practice & Research Clinical Obstetrics & Gynaecology*, vol. 94, p. 102479, 2024. https://doi.org/10.1016/j.bpobgyn.2024.102479
- [6] V. T. Siy Van, J. Uy, J. Bagas, and V. G. T. Ulep, "Trends in national-level governance and implementation of the Philippines' Responsible Parenthood and Reproductive Health Law from 2014 to 2020," *Global Health: Science and Practice*, vol. 9, no. 3, pp. 548-564, 2021. https://doi.org/10.9745/GHSP-D-21-00184
- [7] National Economic and Development Authority, "Gov't to strengthen population, family planning program," Retrieved: https://www.neda.gov.ph/govt-to-strengthen-population-family-planning-program. [Accessed February 3, 2025], 2019.
- [8] K. Tabei, E. S. S. Cuisia-Cruz, C. Smith, and X. Seposo, "Association between teenage pregnancy and family factors: An analysis of the Philippine National Demographic and Health Survey 2017," *Healthcare*, vol. 9, no. 12, p. 1720, 2021. https://doi.org/10.3390/healthcare9121720
- [9] S. Pachauri and K. Santhya, "Reproductive choices for Asian adolescents: A focus on contraceptive behavior," International Family Planning Perspectives, vol. 24, no. 4, pp. 186-195, 2002. https://doi.org/10.2307/3088221
- [10] A. E. Lantiere, M. A. Rojas, C. Bisson, E. Fitch, A. Woodward, and E. L. Stevenson, "Men's involvement in sexual and reproductive health care and decision making in the Philippines: A systematic review of the literature," *American Journal of Men's Health*, vol. 16, no. 4, p. 15579883221106052, 2022. https://doi.org/10.1177/15579883221106052
- [11] M. Nagai, S. Bellizzi, J. Murray, J. Kitong, E. I. Cabral, and H. L. Sobel, "Opportunities lost: Barriers to increasing the use of effective contraception in the Philippines," *PloS One*, vol. 14, no. 7, p. e0218187, 2019. https://doi.org/10.1371/journal.pone.0218187
- [12] R. B. Lee, L. P. Nacionales, and L. Pedroso, "The influence of local policy on contraceptive provision and use in three locales in the Philippines," *Reproductive Health Matters*, vol. 17, no. 34, pp. 99-107, 2009. https://doi.org/10.1016/S0968-8080(09)34472-9
- [13] T. L. Nazareno, "The responsible parenthood and reproductive health act of 2012: An analysis of the potential effects of family planning and sex education requirements in the Philippines," *Women's Rights Law Reporter*, vol. 35, no. 1, pp. 95-124, 2013.
- R. E. Ofreneo and R. Castillo, Social protection for all Filipinos: Can the Philippine development Plan 2017–2022 deliver? Quezon City: UP Center for Integrative and Development Studies, 2020.

Edelweiss Applied Science and Technology ISSN: 2576-8484 Vol. 9, No. 2: 1337-1352, 2025 DOI: 10.55214/25768484.v9i2.4767 © 2025 by the authors; licensee Learning Gate

- [15] L. G. F. Lansang, "Conversion to conversation: The search for a Christian imperative in the public sphere and the discourse on artificial contraceptives in the Philippines," *Philippine Political Science Journal*, vol. 40, no. 3, pp. 262-287, 2019. https://doi.org/10.1163/2165025X-12340016
- [16] C. A. Luczon and J. S. Francisco, "Commentary: Sustained advocacy produces success in the Philippines," *Global Public Health*, vol. 10, no. 2, pp. 271-272, 2015. https://doi.org/10.1080/17441692.2014.986174
- [17] N. Sensoy, Y. Korkut, S. Akturan, M. Yilmaz, C. Tuz, and B. Tuncel, "Factors affecting the attitudes of women toward family planning," *Fam Plann*, vol. 13, no. 33, p. 2, 2018. https://doi.org/10.5772/intechopen.73255
- [18] R. Haque, K. Alam, S. M. Rahman, S. A. Keramat, and M. K. Al-Hanawi, "Women's empowerment and fertility decision-making in 53 low and middle resource countries: A pooled analysis of demographic and health surveys," *BMJ open*, vol. 11, no. 6, p. e045952, 2021. https://doi.org/10.1136/bmjopen-2020-045952
- [19] A. Sonield, K. Hasstedt, M. L. Kavanaugh, and R. Anderson, *The social and economic benefits of women's ability to determine whether and when to have children*. New York: Guttmacher Institute, 2013.
- [20] H. Kc, M. Shrestha, N. Pokharel, S. R. Niraula, P. Pyakurel, and S. B. Parajuli, "Women's empowerment for abortion and family planning decision making among marginalized women in Nepal: A mixed method study," *Reproductive health*, vol. 18, pp. 1-11, 2021. https://doi.org/10.1186/s12978-021-01087-x
- [21] D. B. Loe, T. Ratnawati, and U. Pristiana, "The influence of financial technology, personality traits, and financial literacy on financial attitude, personal saving orientation, and family financial planning, moderated by financial quotient among naval families."A study of Hera naval base, Timor-Leste"," *Edelweiss Applied Science and Technology*, vol. 8, no. 6, pp. 1577-1597, 2024. https://doi.org/10.55214/25768484.v8i6.2280
- [22] J. Niemeyer Hultstrand, K. Omer Abuelgasim, T. Tydén, M. Jonsson, N. Maseko, and M. Målqvist, "The perpetuating cycle of unplanned pregnancy: Underlying causes and implications in Eswatini," *Culture, Health & Sexuality*, vol. 23, no. 12, pp. 1656-1671, 2021. https://doi.org/10.1080/13691058.2020.1791359
- [23] K. A. Durowade *et al.*, "Barriers to contraceptive uptake among women of reproductive age in a semi-urban community of Ekiti State, Southwest Nigeria," *Ethiopian Journal of Health Sciences*, vol. 27, no. 2, pp. 121-128, 2017. https://doi.org/10.4314/ejhs.v27i2.4
- [24] E. Asekun-Olarinmoye, W. Adebimpe, J. Bamidele, O. Odu, I. Asekun-Olarinmoye, and E. Ojofeitimi, "Barriers to use of modern contraceptives among women in an inner city area of Osogbo metropolis, Osun state, Nigeria," *International Journal of Women's Health*, pp. 647-655, 2013. https://doi.org/10.2147/IJWH.S47604
- [25] R. Alam Mahumud *et al.*, "Prevalence and associated factors of contraceptive discontinuation and switching among Bangladeshi married women of reproductive age," *Open Access Journal of Contraception*, vol. 6, pp. 13-19, 2015. https://doi.org/10.2147/OAJC.S76070
- [26] J. Price and R. Asgary, "Women's health disparities in Honduras: Indicators and determinants," Journal of Women's Health, vol. 20, no. 12, pp. 1931-1937, 2011. https://doi.org/10.1089/jwh.2010.2615
- [27] S. Mohamed, C. M'mayi, and E. Nyavanga, "Understanding the socio-economic determinants of family planning service utilization among women of reproductive age in Eldas sub-county: A mixed-methods study," *Academic Journal of Health Systems and Reforms*, vol. 11, no. 2, pp. 145–161, 2024.
- [28] R. Stevens, K. Machiyama, C. V. Mavodza, and A. M. Doyle, "Misconceptions, misinformation, and misperceptions: A case for removing the "mis-" when discussing contraceptive beliefs," *Studies in Family Planning*, vol. 54, no. 1, pp. 309-321, 2023. https://doi.org/10.1111/sifp.12232
- [29] S. Ahmed, Q. Li, L. Liu, and A. O. Tsui, "Maternal deaths averted by contraceptive use: an analysis of 172 countries," *The Lancet*, vol. 380, no. 9837, pp. 111-125, 2012. https://doi.org/10.1016/S0140-6736(12)60478-4
- [30] I. B. Idris, S. S. Syed Soffian, M. Baharom, U. M. Baharuddin, S. Hashim, and A. M. Nawi, "Influence of sociocultural beliefs and practices on contraception: A systematic review," *Women & Health*, vol. 62, no. 8, pp. 688-699, 2022. https://doi.org/10.1080/03630242.2022.2117764
- [31] I. Ajzen, "The Theory of planned behavior," Organizational Behavior and Human Decision Processes, vol. 50, no. 2, pp. 179-211, 1991. https://doi.org/10.1016/0749-5978(91)90020-T
- [32] J. Horne, J. Madill, and J. Gilliland, "Incorporating the 'Theory of Planned Behavior'into personalized healthcare behavior change research: a call to action," *Personalized Medicine*, vol. 14, no. 6, pp. 521-529, 2017. https://doi.org/10.2217/pme-2017-0038
- [33] A. L. DeMaria, B. Sundstrom, A. A. Faria, G. Moxley Saxon, and J. Ramos-Ortiz, "Using the theory of planned behavior and self-identity to explore women's decision-making and intention to switch from combined oral contraceptive pill (COC) to long-acting reversible contraceptive (LARC)," *BMC Women's Health*, vol. 19, pp. 1-10, 2019. https://doi.org/10.1186/s12905-019-0772-8
- [34] W. A. Bapolisi, G. Bisimwa, and S. Merten, "Barriers to family planning use in the Eastern Democratic Republic of the Congo: An application of the theory of planned behaviour using a longitudinal survey," *BMJ Open*, vol. 13, no. 2, p. e061564, 2023. https://doi.org/10.1136/bmjopen-2022-061564
- [35] N. J. Pender, C. L. Murdaugh, and M. A. Parsons, *Health promotion in nursing practice*. Boston: Pearson, 2011.
- [36] M. A. B. Smith, "Teen incentives program: Evaluation of a health promotion model for adolescent pregnancy prevention," *Journal of Health Education*, vol. 25, no. 1, pp. 24-29, 1994. https://doi.org/10.1080/10556699.1994.10602996

Edelweiss Applied Science and Technology ISSN: 2576-8484 Vol. 9, No. 2: 1337-1352, 2025 DOI: 10.55214/25768484.v9i2.4767 © 2025 by the authors; licensee Learning Gate

- [37] Z. Y. Aksu and T. P. E. Şahin, "Promoting women's reproductive health: Assessing the impact of health promotion model training on attitudes and self-efficacy," *Top Academic Journal of Nursing Sciences*, vol. 6, no. 3, pp. 1-17, 2021.
- [38] L. Cohen, L. Manion, and K. Morrison, *Research methods in education*. New York: Routledge, 2007.
- [39] A. Efthymiou, N. Middleton, A. Charalambous, and E. Papastavrou, "The association of health literacy and electronic health literacy with self-efficacy, coping, and caregiving perceptions among carers of people with dementia: Research protocol for a descriptive correlational study," *JMIR Research Protocols*, vol. 6, no. 11, p. e8080, 2017. https://doi.org/10.2196/resprot.8080
- [40] S. Campbell et al., "Purposive sampling: Complex or simple? Research case examples," Journal of Research in Nursing, vol. 25, no. 8, pp. 652-661, 2020. https://doi.org/10.1177/1744987120927206
- [41] J. De Irala, C. L. del Burgo, C. M. L. de Fez, J. Arredondo, R. T. Mikolajczyk, and J. B. Stanford, "Women's attitudes towards mechanisms of action of family planning methods: Survey in primary health centres in Pamplona, Spain," *BMC Women's Health*, vol. 7, pp. 1-10, 2007. https://doi.org/10.1186/1472-6874-7-10
- [42] S. Sen, A. Cetinkaya, and A. Cavuslar, "Perception scale of barriers to contraceptive use: A methodological study," *Fertility Research and Practice*, vol. 3, p. 11, 2017. https://doi.org/10.1186/s40738-017-0038-9
- [43] R. Likert, A technique for the measurement of attitudes. New York: Columbia University Press, 1932.
- [44] C. V. Good and D. F. Scates, *Methods of research: Educational, psychological, sociological.* New York: Appleton-Century-Crofts, 1954.
- [45] L. J. Cronbach, "Coefficient alpha and the internal structure of tests," *Psychometrika*, vol. 16, pp. 197-334, 1951. https://doi.org/10.1007/BF02310555
- [46] J. Nunnally and I. H. Bernstein, *Psychometric theory*, 3rd ed. New York: McGraw-Hill, 1994.
- [47] A. S. Kasa, M. Tarekegn, and N. Embiale, "Knowledge, attitude and practice towards family planning among reproductive age women in a resource limited settings of Northwest Ethiopia," *BMC Research Notes*, vol. 11, p. 577, 2018. 10.1186/s13104-018-3689-7
- [48] N. Sensoy, Y. Korkut, S. Akturan, M. Yilmaz, C. Tuz, and B. Tuncel, "Factors affecting the attitudes of women toward family planning," in Family planning, Z. O. Amarin Ed. London: IntechOpen, 2018.